



# INTERNATIONAL CONGRESS ON Covid-19 World Experiences

Zahedan, IR.Iran | 10-12 May 2023

STUDENT SECTION

## Issues:

- 1 Covid-19 ;an emerging disease**  
(Etiology, Epidemiology, Social, Political & Economical Aspects, Complementary medicine, ...)
- 2 Prevention of Covid-19**  
(Health education, Vaccination, Health Management, ...)
- 3 Diagnosis of Covid-19**  
(Medical semiology, Laboratory, Radiological, ...)
- 4 Treatment of Covid-19**  
(Outpatient, Inpatient, ICU, Nursing Care, Pediatrics, Emergencies, Obstetrics/Gynecology, Midwifery, Mental Health, ...)
- 5 Rehabilitation & Complications of Covid-19**  
(Physiotherapy, Managemnt of opportunistic infection, Covid-19 sequels, ...)

**Submission Dead Line**

**06 Mar 2023**



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# 1<sup>st</sup> INTERNATIONAL CONGRESS ON COVID-19 WORLD EXPERIENCES

ZAHEDAN, I.R. IRAN May 10-12, 2023

اولین کنگره بین المللی

تجارب جهانی در کوید ۱۹

زاهدان ۲۲-۲۰ اردیبهشت ۱۴۰۲





**رئیس کنگره:**

**دکتر یونس پناهی**

**نائب رئیس کنگره:**

**دکتر مبین غزنوی**

**دبیر علمی:**

**دکتر محمد کاظم مومنی**

**دبیر اجرایی:**

**دکتر ایرج ضاربان**



**مدیر کنگره: دکتر فرامرز دهمرده**

**رئیس دبیرخانه: دکتر مهدیه دنیا داری**

**روابط عمومی : دکتر هادی عباسی**

**روابط بین الملل : دکتر سید مهدی طباطبایی**

**کمیته اسکان و تغذیه: دکتر علی نویدیان**

**کمیته دانشجویی : دکتر طاهره صفری**

**کمیته مستند سازی : اطهره نذری پنجمی**

**کمیته مالی و تدارکات : دکتر مهدی زند محیقی**

**فناوری و اطلاعات : مهندس عباس کیفا**

**کمیته تشریفات : دکتر عبدالرشید فزاعی فیض آباد**

**کمیته حمل و نقل و ترابری : حمید اسماعیل پور**



## اعضا دیرفانه کنگره

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عبدارشید فزاعی فیض آباد	محمد فمری قلعه نو	اکرم ممیدی
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غلامرضا زمانیان	مهدی زند مقیقی	ممیده سراوانی
ابوالفضل شیرازی	زهره صفایی	طاہره صفری
ایرج ضاربان	سید مهدی طباطبایی	محمد هادی عباسی
محمد مسین عبدالکریمی	عباس کیفا	مهدیه کیفایی
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علی نویدیان	عبدالناصر هاشم زهی	مامد واعظی



## کمیته علمی کنگره:

دکتر مسین انصاری

دکتر علیرضا انصاری مقدم

دکتر نور محمد بفشانی

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دکتر نرجس سرگلزایی

دکتر غلامرضا سلیمانی

دکتر شهرام شهرکی زاهدانی

دکتر طاهره صفری

دکتر ایرج ضاربان

دکتر ممسن طاهری

دکتر سید مهدی طباطبایی

دکتر علی عبدالرزاق

دکتر مبین غزنوی

دکتر مرضیه قاسمی

دکتر مهناز قلچہ

دکتر ممیدرضا کوهپایه

دکتر نزار علی مولایی

دکتر محمد کاظم مومنی



## هیات داوران:

دکتر جمشید اردنی	دکتر مهدی اسماعیل پور
دکتر علیرضا انصاری مقدم	دکتر شهرام برمییان
دکتر مسینعلی فزاعی	دکتر صفورا فزاییان
دکتر علیرضا رامت دهمرده	دکتر شیرین سراوانی
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دکتر نرگس سرگلزایی	دکتر علیرضا سلیمی فراشادی
دکتر زهرا شهرکی قدیمی	دکتر مسین شهریاری
دکتر سید نصرالدین طباطبایی	دکتر سمانه عبدالحی
دکتر مرضیه قاسمی	دکتر ممیدرضا کوهپایه
دکتر فرزانه گرگانی	دکتر زهرا محمد قاسمی
دکتر مهدی مممدی	دکتر نزار علی مولایی
دکتر محمد کاظم مومنی	دکتر عقیل میری
دکتر شهین نصرت زهی	دکتر مهین نصرت زهی
دکتر محمد مهدی وامدی	

## بخش دانشجویی:

معصومه صدراپی

دبیر کل: نیما رمیمی

میکرا عبدالمهی

دبیر اجرایی: اطره نذری پنجهکی

مهدی قدرت آبادی

دبیر علمی: میثم زینلی بوجانی

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پویا رئوفی فیلگان

مهدیه شاهبازی

شقایق زیارتی

محمد علی شمس الدین



## سخن دبیر علمی:

بیماری کووید ۱۹ مهمان ناخوانده ای که در آخرین روزهای سال ۲۰۱۹ پای به عرصه بهداشت و سلامت گذاشت و علیرغم تصور بسیاری که آن را گذرا و موقت می پنداشتند توانست جایگاه خود را محکم نموده و ماندگار شود و بر تمام شئون زندگی انسان موثر واقع شود. در طرف مقابل هم این انسان آگاه و اندیشمند سعی و تلاش وافرهمه جانبه ای را به کار بست تا بتواند بر این مهمان ناخوانده غلبه یابد و آن را تحت کنترل درآورد و این پیکار بی امان موجب خلق لحظه های متفاوت از اضطراب و نگرانی تا شادی و سرور گردید و شکست ها و پیروزی های مهمی را رقم زد و همه ما شاهد روزهای پر از استرس، غم و دلتنگی بیماری و مرگ عزیزان و بیمارانمان بودیم و پس از آن هم در سایه تلاش تمام دست اندرکاران اعم از کادر سلامت و نیز دانشمندان در تمام دنیا نظاره گر مهار و کنترل این بیماری شدیم. اکنون پس از گذشت بیش از ۳ سال از شروع این پاندمی، بر آن شدیم تا مروری داشته باشیم بر تجربیات کسب شده توسط شما اساتید، دانشمندان و دانشجویان عزیز که دست در دست هم موجب کنترل کوید ۱۹ شده اید. دانشگاه علوم پزشکی و خدمات بهداشتی درمانی زاهدان مفتخر است که در قالب اولین کنگره بین المللی تجارب جهانی در کوید ۱۹ که به پیشنهاد وزارت محترم بهداشت و درمان و آموزش پزشکی جمهوری اسلامی ایران و به همت ریاست محترم و اعضای هیات رئیسه دانشگاه و با تلاش اعضای دبیرخانه این کنگره برنامه ریزی گردیده است میزبان شما اعضای هیات علمی و محققان عزیز از سراسر دنیا باشد.

با تشکر

دکتر محمد کاظم مومنی

دبیر علمی کنگره

## سخن دبیر اجرایی:

ضمن گرامیداشت یاد و خاطره شهدای مدافع سلامت و تجلیل از ایثار و مجاهدت های کادر بهداشت و درمان ، این عزیزان با افتخار خاطر در دوره دو ساله و نیم پاندمی کرونا همچون گذشته در ادای دین خود به این آب و خاک و ملت عزیزمان سربلند و پیروز بوده اند.

خداوند را شاکریم که در اولین کنگره بین المللی تجارب کووید ۱۹ میزبان پزشکان، محققان، دانشمندان و همچنین مدیران و صاحبان فرایندهای بهداشتی و درمانی از سراسر دنیا و کشور خواهیم بود. از هم اکنون مقدم فعالان حوزه فناوری سلامت، اعم از تجهیزات پزشکی، تولیدات دارویی و خدمات پزشکی، بهداشتی و بیمه ای را در این کنگره گرامی می داریم.

با احترام

دکتر ایرج ضاربان

دبیر اجرایی کنگره

چهارشنبه ۲۰ اردیبهشت ۱۴۰۲ سالن امام (رضاع)

افتتاحیه

ردیف	ساعت	نام سخنران	عنوان
۱	۸-۸/۱۰	دکتر مهدی مهدوی پناه	تلاوت قرآن مجید
۲	۸/۱۰-۸/۱۵	--	سرود جمهوری اسلامی ایران
۳	۸/۱۵-۸/۲۵	دکتر محمد کاظم مومنی	گزارش کار کنفرس
۴	۸/۲۵-۸/۳۵	دکتر مبین غزنوی	فیر مقدم
۵	۸/۳۵-۸/۴۵	دکتر یونس پناهی	سفن آغازین
۶	۸/۴۵-۹	دکتر مصطفی قانع	سیرتجویز داروهای کوید۱۹ در ایران و بار اقتصادی آن
۷	۹-۹/۳۰	دکتر کیوان زندگی	Anti covid drugs(online)

چهارشنبه ۲۰ اردیبهشت ۱۴۰۲ سالن امام (رضاع)

پنل گروه مراقبت های ویژه

ردیف	ساعت	نام سخنران	عنوان
۱	۱۰/۳۰-۱۰/۵۰	دکتر سید محمد رضا هاشمیان	اکسیژن درمانی برون پیکری (ECMO)
۲	۱۰/۵۰-۱۱/۱۰	دکتر عطا محمدپور	هموپرفیوژن در کوید ۱۹
۳	۱۱/۱۰-۱۱/۳۰	دکتر محمد تقی بیک محمدی	پیش بینی مورتالیتی و موربیدیتی در کوید ۱۹
۴	۱۱/۳۰-۱۱/۵۰	دکتر شهرام امینی	عفونت های قارچی در کوید ۱۹
۵	۱۱/۵۰-۱۲/۱۰	دکتر علی امیرسوادکوهی	درمان های ممایتی تنفسی در کوید ۱۹
۶	۱۲/۱۰-۱۲/۳۰	دکتر جمشید اردنی	اکسیژن درمانی با جریان بالا از طریق بینی (HFNO)

چهارشنبه ۲۰ اردیبهشت ۱۴۰۲ سالن شماره یک

کارگاه توانمند سازی اعضا هیات علمی

ساعت برگزاری	نام کارگاه	مدرس
۱۴-۱۶	مهارت های ارتباطی (مدیریت رفتار در پسا کووید)	دکتر بهزاد ریگی کوه

چهارشنبه ۲۰ اردیبهشت ۱۴۰۲ سالن امام (رضا)ع

پنل گروه دارو درمانی

ردیف	ساعت	نام سخنران	عنوان
۱	۱۴/۱۴/۲۰	دکتر محمد ستایش	معرفی تعدادی از مفردات گیاهی موثر بر کرونا
۲	۱۴/۲۰-۱۴/۴۰	دکتر مرتضی مجاهدی	میزان استفاده جوامع مختلف ایرانی از داروهای گیاهی در همه گیری کوید
۳	۱۴/۴۰-۱۵	دکتر مرضیه قرائتی	تأثیر اسطوفودوس در درمان کوید
۴	۱۵-۱۵/۲۰	دکتر غلامرضا مقیمی	The effect of phytopaj in patient whit covid 19 :randomized clinical trail
۵	۱۵/۲۰-۱۵/۴۰	دکتر سعید اسماعیلی	ظرفیت طب سنتی در پیشگیری و درمان کرونا
۶	۱۵/۴۰-۱۶	دکتر فبیسته جوهرچی	فارماکوتراپی در کووید ۱۹

چهارشنبه ۲۰ اردیبهشت ۱۴۰۲ سالن امام (رضا)ع

پنل شرکت های دانش بنیان

ردیف	ساعت	نام سخنران	نام استارت آپ
۱	۱۶/۳۰-۱۶/۵۰	محمد صادق میری	استودیو سلام
۲	۱۶/۵۰-۱۷/۱۰	آرش برجی فانی	هوم کا
۳	۱۷/۱۰-۱۷/۳۰	امد طاهر فانی	استودیو هلثیو
۴	۱۷/۳۰-۱۷/۵۰	ابوالفضل ساجدی	پذیرش ۲۴
۵	۱۷/۵۰-۱۸/۱۰	مسین کلهر	IN 1 MINE
۶	۱۸/۱۰-۱۸/۳۰	رضا جمیلی	نشریه متورپرس

چهارشنبه ۲۰ اردیبهشت ۱۴۰۲ سالن شماره یک

ارائه مقالات بصورت سخنرانی

ردیف	ساعت	نام سخنران	عنوان
۱	۱۶/۳۰-۱۶/۵۰	بابک دانشفرد	A randomized placebo-controlled trial on Mocoziif Syrup for Covid-19
۲	۱۶/۵۰-۱۷/۱۰	علیرضا میران	Effectiveness of Coronavirus Disease 2019 Vaccines in Preventing Infection, Hospital Admission, and Death: A Historical Cohort Study Using Iranian Registration Data During Vaccination Program
۳	۱۷/۱۰-۱۷/۳۰	مریم مظاهری	Side effects and Symptomatic Infections that Emerged following COVID-19 Vaccination among 12-18 Years Old Iranian People in 2021-2022
۴	۱۷/۳۰-۱۷/۵۰	فاطمه قویدل	Comparison of Stress and Job Burnout of Nurses in the Wards of Patients with COVID-19 and non-COVID-19 in Aja Affiliated Hospitals
۵	۱۷/۵۰-۱۸/۱۰	مهسا یارالهی	Vaccination and Loneliness in Older Adults during the COVID-19 Pandemic
۶	۱۸/۱۰-۱۸/۳۰	ساناز سلیمانی	Pediatric and Adolescent COVID-19 Vaccination Side Effects: A Retrospective Cohort Study of The Iranian Teenage Group in 2021

چهارشنبه ۲۰ اردیبهشت ۱۴۰۲ سالن شماره دو

ارائه مقالات بصورت سخنرانی

ردیف	ساعت	نام سخنران	عنوان
۱	۱۶/۳۰-۱۶/۵۰	مهلا پرهیزگار	The effect of corticosteroids on the treatment of Covid-19
۲	۱۶/۵۰-۱۷/۱۰	اطهره نذری پنجکی	Could we predict the prognosis of the COVID-19 disease? A large study in the south-east of Iran
۳	۱۷/۱۰-۱۷/۳۰	مهلا پرهیزگار	An overview of the effects of Covid19 on thyroid disorders: A systematic review
۴	۱۷/۳۰-۱۷/۵۰	طاهره شفق	Are the demographic characteristics, underlying conditions, and comorbidities of covid-19 patients affecting their disease symptoms?
۵	۱۷/۵۰-۱۸/۱۰	الهه طالبی قانع	Comparison the features of COVID-19 and healthy pregnant women in the west of Iran
۶	۱۸/۱۰-۱۸/۳۰	علی فواجه	Neurological complication of covid19 in children
۷	۱۸/۳۰-۱۸/۵۰	الهه طالبی قانع	Comparison the features of COVID-19 and healthy pregnant women in the west of Iran



چهارشنبه ۲۰ اردیبهشت ۱۴۰۲ سالن شماره سه

ارائه مقالات بصورت سخنرانی

ردیف	ساعت	نام سخنران	عنوان
۱	۱۶/۳۰-۱۶/۵۰	علیرضا آتش پنبه	Virtual Education and Medical Students' Study Habits during COVID-19: Differences and Commonalities
۲	۱۶/۵۰-۱۷/۱۰	سعید ابراهیمی	The role of chatbots in the management of the covid-19 pandemic and beyond: a systematic review
۳	۱۷/۱۰-۱۷/۳۰	کیاوش ایرانخواه	Changes in food intake before and after the corona pandemic among Iranian Households
۴	۱۷/۳۰-۱۷/۵۰	منصور کرجی بانی	Trends in anthropometric indices and food pattern consumption before and during the COVID-19 pandemic among middle aged in Zahedan, A longitudinal study in South-east of Iran
۵	۱۷/۵۰-۱۸/۱۰	منصور شهرکی	Nutrition and covid 19
۶	۱۸/۱۰-۱۸/۳۰	مریم مهارت	Changes in Dietary habits and Weight Status during the COVID-19 pandemic and its association with socioeconomic status among Iranians adults.

چهارشنبه ۲۰ اردیبهشت ۱۴۰۲ سالن شماره چهار

ارائه مقالات بصورت سخنرانی

ردیف	ساعت	نام سخنران	عنوان
۱	۱۶/۳۰-۱۶/۵۰	سارا مقیمی	Investigating factors related to the acceptance of covid-19 vaccination using the health belief model among pregnant and lactating women referring to comprehensive health service centers in Zahedan
۲	۱۶/۵۰-۱۷/۱۰	سمیرا محمدی پور	The health response of Iranians population to the use of face masks during the covid-19 epidemic
۳	۱۷/۱۰-۱۷/۳۰	کیان رف رافعی	Survey in efficacy of health knowledge in the management of the Covid-19 pandemic crisis
۴	۱۷/۳۰-۱۷/۵۰	زهرا عرب برزو	Attitude of Iranian adults regarding the corona vaccine
۵	۱۷/۵۰-۱۸/۱۰	سمیه علیرضایی	Birth attendants' lived experiences of caring for pregnant women suspected to or diagnosed with Covid 19 in labor and delivery ward based on a phenomenological approach
۶	۱۸/۱۰-۱۸/۳۰	نوشین رومانی	Protection Motivation and Beliefs in Preventive Behaviors of COVID-19 among Health Care Providers in Guilan Province: A Theory-Based Study
۷	۱۸/۳۰-۱۸/۵۰	منیره فقیری گنجی	Teachers' experience of virtual learning during the COVID-19 pandemic: A qualitative study

پنج شنبه ۲۱ اردیبهشت ۱۴۰۲ سالن امام (رضا)ع

پنل گروه فوق تخصصی ریه

ردیف	ساعت	نام سخنران	عنوان
۱	۸-۸/۱۰	دکتر ابوالفضل مظفری	تعریف و شیوع LONG COVID
۲	۸/۱۰-۸/۱۵	دکتر ساسان توانا	یافته های سی تی اسکن در PCF و افتراق از ILD
۳	۸/۱۵-۸/۳۰	دکتر مهرنازاسدی	یافته های فیزیولوژیک PCF
۴	۸/۳۰-۸/۴۵	دکتر محمدجواد فلامی	PCF Predictor های
۵	۸/۴۵-۹/۲۰	دکتر علی علویان	درمان PCF
۶	۹/۲۰-۱۰	دکتر رامین سامی	بازتوانی ریه در PCF

پنج شنبه ۲۱ اردیبهشت ۱۴۰۲ سالن امام (رضا)ع

پنل گروه آمار و اپیدمیولوژی

ردیف	ساعت	نام سخنران	عنوان
۱	۱۰/۳۰-۱۰/۵۰	دکتر علی اکبر مقدوست	مروری بر اپیدمیولوژی کوید ۱۹ در ایران و جهان
۲	۱۰/۵۰-۱۱/۱۰	دکتر فرید نجفی	همبستگی جهانی در تمقیقات کوید و نقش نظام های ملی در کنترل
۳	۱۱/۱۰-۱۱/۳۰	دکتر امسان مصطفوی	چقدر برای پاندمی های آینده آماده ایم؟
۴	۱۱/۳۰-۱۱/۵۰	دکتر سعید یونسین	اینفودمیک در پاندمی کرونا
۵	۱۱/۵۰-۱۲/۱۰	دکتر مصطفی صالمی وزیری	منشا احتمالی سارس کوید ۱۹
۶	۱۲/۱۰-۱۲/۳۰	دکتر بابک عشرتی	روند کرونا در ایران

پنجشنبه ۲۱ اردیبهشت ۱۴۰۲ سالن شماره یک

کارگاه توانمند سازی اعضا هیات علمی

ساعت برگزاری	نام کارگاه	مدرس
۸-۱۰	استدلال بالینی	دکتر نزار علی مولایی- دکتر الهام شیخی غیور - دکتر مریم رضوی

پنجشنبه ۲۱ اردیبهشت ۱۴۰۲ سالن امام رضا(ع)

ساعت برگزاری	نام سخنران	عنوان
۱۴-۱۴/۴۰	دکتر رابین ناندی	UNICEF Support to Addressing Risk of Communicable Diseases in IRI

پنج شنبه ۲۱ اردیبهشت ۱۴۰۲ سالن امام رضا(ع)

پنل گروه ایمونولوژی آلرژی

ردیف	ساعت	نام سخنران	عنوان
۱	۱۴/۴۰-۱۵	دکتر میبب غزنوی	Evaluation of short-term effects of Celecoxib on clinical improvement of COVID-19 patients
۲	۱۵-۱۵/۲۰	دکتر محمد فریدونی	The role of Pro and post inflammatory cytokins for therapeutic purposes
۳	۱۵/۲۰-۱۵/۴۰	دکتر عبدالله جعفرزاده	The role of INF-a,b,and g
۴	۱۵/۴۰-۱۶	دکتر مسینعلی فزائی	Introduction and innate immunity and TLRs

پنج شنبه ۲۱ اردیبهشت ۱۴۰۲ سالن امام رضا(ع)

پنل بیوتروریسم

ردیف	ساعت	نام سخنران	عنوان
۱	۱۶/۳۰-۱۶/۵۰	دکتر علی کرمی	بیو تروریسم
۲	۱۶/۵۰-۱۷/۱۰	دکتر محمد ابراهیم مینایی	تملیل تهدیدات زیستی آینده
۳	۱۷/۱۰-۱۷/۳۰	دکتر رضا رنجبر	تملیل تهدیدات زیستی با تمرکز بر بیماری نوظهور کوید ۱۹
۴	۱۷/۳۰-۱۷/۵۰	دکتر روح الله درستکار	چرایی شیوع کوید ۱۹ و پیش بینی پاندمی های آینده
۵	۱۷/۵۰-۱۸/۱۰	دکتر مجتبی سعادت	تملیلی بر ابعاد بیوتروریستی ویروس کرونا (آنلاین)

پنج شنبه ۲۱ اردیبهشت ۱۴۰۲ سالن شماره یک

ارائه مقالات بصورت سخنرانی

ردیف	ساعت	نام سخنران	عنوان
۱	۱۶/۳۰-۱۶/۵۰	علیرضا میراممدی زاده	Correlation between diabetes and COVID-19 Indices: A global level Ecological Study
۲	۱۶/۵۰-۱۷/۱۰	محمّد رضا هدایت مقدم	Epidemiology of SARS-CoV-2 infection in Northeastern Iran: Analysis of Data from the Third to the Sixth Wave of COVID-19
۳	۱۷/۱۰-۱۷/۳۰	اسحاق برفر	Sex and age differences in hospitalization and mortality rates due to COVID-19 from 20 March 2020 until 20 March 2022 in Iran: A population-based study
۴	۱۷/۳۰-۱۷/۵۰	علیرضا میران	Temperature and COVID-19 Incidence: An ecologic study
۵	۱۷/۵۰-۱۸/۱۰	علیرضا میراممدی زاده	Correlation between Social capital and COVID-19 indices: A global level ecologic study
۶	۱۸/۱۰-۱۸/۳۰	مجتبی کندی	Access to COVID-19 Information in Rural Communities
۷	۱۸/۳۰-۱۸/۵۰	مهسا یارالهی	Prevalence and Risk Factors for Post-Traumatic Stress in COVID-19 survivors in Iran

پنج شنبه ۲۱ اردیبهشت ۱۴۰۲ سالن شماره دو

ارائه مقالات بصورت سخنرانی

ردیف	ساعت	نام سخنران	عنوان
۱	۱۶/۳۰-۱۶/۵۰	رامین سراوانی	Association of polymorphisms in tumor necrosis factors with SARS-CoV-2 infection and mortality rate: A case-control study and in silico analyses
۲	۱۶/۵۰-۱۷/۱۰	فاطمه حاجی قاسمی	Identification of CD8+ T cells epitopes on SARS-COV-2 for Iranian common MHCI alleles by immunoinformatic
۳	۱۷/۱۰-۱۷/۳۰	علیرضا سلیمی فراشاد	Assessment of Laboratory Errors for Laboratory Diagnosis of COVID-19 in the Pre-Test Phase
۴	۱۷/۳۰-۱۷/۵۰	سعید ابراهیمی	Telemedicine for the management of COPD patients in the covid-19 pandemic
۵	۱۷/۵۰-۱۸/۱۰	جمشید مسین زهی	Prevention of covid-19 by seeking the support of social capitals based on the health belief model
۶	۱۸/۱۰-۱۸/۳۰	زهره فتمیان دستجردی	Factors associated with preventive behaviors of COVID-19 among adolescents: Applying the health belief model

پنج شنبه ۲۱ اردیبهشت ۱۴۰۲ سالن شماره سه

ارائه مقالات بصورت سخنرانی

ردیف	ساعت	نام سخنران	عنوان
۱	۱۶/۳۰-۱۶/۵۰	عبدالرشید فزاعی فیض آباد	Critical Discourse Analysis of the COVID-19 pandemic: Participants Representation in Iranian Mass Media
۲	۱۶/۵۰-۱۷/۱۰	نیما رمیمی	The Effect of Influenza Vaccination on COVID-19 Morbidity, Severity and Mortality: Systematic Review and Meta-Analysis
۳	۱۷/۱۰-۱۷/۳۰	زهرا رفیعی	Relationship between breastfeeding and transmission of covid-19: A systematic review
۴	۱۷/۳۰-۱۷/۵۰	جمشید اردنی اول	Investigation of pregnancy outcomes in women with Covid19 Admitted to the intensive care unit
۵	۱۷/۵۰-۱۸/۱۰	شیرین سراوانی	Oral Manifestation of COVID-19
۶	۱۸/۱۰-۱۸/۳۰	محمد رضا هدایتی مقدم	Humoral Immunity in People Living With HTLV-1 Infection Vaccinated Against SARS-Cov-2: A Retrospective Cohort Study

پنج شنبه ۲۱ اردیبهشت ۱۴۰۲ سالن شماره چهار

ارائه مقالات بصورت سخنرانی

ردیف	ساعت	نام سخنران	عنوان
۱	۱۶/۳۰-۱۶/۵۰	سید تقی میدری	The psychological toll of the COVID-19 pandemic on dental care providers in Iran: a multicenter cross-sectional study
۲	۱۶/۵۰-۱۷/۱۰	نوشین پیمان	Spiritual health and quality of life during home quarantine since the outbreak of COVID-19 in the city of Babol, Iran
۳	۱۷/۱۰-۱۷/۳۰	نزار علی مولایی	Effectiveness of noninvasive ventilation in patients with severe COVID 19 virus infection with respiratory failure
۴	۱۷/۳۰-۱۷/۵۰	سمیرا محمدی	Exposure to the COVID-19 news on social media and psycho-behavioral changes response among Iranian
۵	۱۷/۵۰-۱۸/۱۰	ممسن فسروری	A narrative review of research on healthcare staff's burnout during the COVID-19 pandemic
۶	۱۸/۱۰-۱۸/۳۰	مهناز امینی	Effectiveness of Internet- Based Cognitive – Behavioral Therapy For Insomnia During Quarantine of SARS-COV-2 Pandemic : A Controlled Trial
۷	۱۸/۳۰-۱۸/۵۰	روژان فصری	The Prevalence of Mental Problems in Pregnant Women with COVID-19 in Northwestern Iran in 2021



جمعه ۲۲ اردیبهشت ۱۴۰۲ سالن امام (رضا)ع

پنل گروه ویروس شناسی

ردیف	ساعت	نام سخنران	عنوان
۱	۸-۸/۲۰	دکتر علی جان تهرانی	ویروس شناسی کوید ۱۹ تجربه ویرولوژیست ها از پاندمی اخیر
۲	۸/۲۰-۸/۴۰	دکتر مصطفی صالمی وزیری	نظام مراقبت ژنومی کوید ۱۹ در ایران
۳	۸/۴۰-۹	دکتر علی ملکی	پالاش های تشفیص مولکولی کوید ۱۹ و دستاوردهای کشوری آن
۴	۹-۹/۲۰	دکتر محمد کاظم شاه کرمی	تاثیر متقابل کوید ۱۹ و صنعت واکسن
۵	۹/۲۰-۹/۴۰	دکتر علی کارگر فیرآباد	تاثیر متقابل کوید ۱۹ و شرکت های دانش بنیان
۶	۹/۴۰-۱۰	دکتر سیامک سمیعی میراب	پاندمی کوید ۱۹ و تجربه تشکیل شبکه آزمایشگاهی تشفیص مولکولی

جمعه ۲۲ اردیبهشت ۱۴۰۲ سالن امام (رضا)ع

سخنرانان ویژه

ردیف	ساعت	نام سخنران	عنوان
۱	۱۰/۳۰-۱۱/۱۰	دکتر محمد رضا مدرسی	Post COVID-19 syndrome in children
۲	۱۱/۱۰-۱۱/۵۰	دکتر فاطمه رفشانی	تجارب جهانی در آموزش بهداشت در پاندمی کوید ۱۹
۳	۱۱/۵۰-۱۲/۳۰	دکتر مجید سرتیپی	بررسی اثر مصرف مواد مخدر بر شدت بیماری کوید ۱۹
۴	۱۲/۲۰-۱۲/۴۰	دکتر قربانعلی بندانی	تجارب بهداری رزم در کوید

جمعه ۲۲ اردیبهشت ۱۴۰۲ سالن شماره یک

کارگاه توانمند سازی اعضا هیات علمی

ساعت برگزاری	نام کارگاه	مدرس
۸-۱۰	استدلال بالینی	دکتر نزار علی مولایی- دکتر الهام شیخی غیور- دکتر مریم رضوی

جمعه ۲۲ اردیبهشت ۱۴۰۲ سالن امام (رضا) ع

### پنل گروه روانپزشکی و روانشناسی بالینی

ردیف	ساعت	نام سخنران	عنوان
۱	۱۴/۲۰-۱۴	دکتر منصور شکیبا	چالش های دارودرمانی، مشکلات روان پزشکی بیماران کوید
۲	۱۴/۲۰-۱۴/۴۰	دکتر داوود ممبی	مشاوره روان پزشکی در بخش های کوید ۱۹
۳	۱۴/۴۰-۱۵	دکتر نورمحمد بفتشانی	پیامدهای روان شناسی کوید ۱۹
۴	۱۵-۱۵/۲۰	دکتر محبوبه فیروزکوهی	اضطراب ناشی از کووید ۱۹ در نوجوانان و کودکان
۵	۱۵/۲۰-۱۵/۴۰	دکتر حمید پورشریفی	مدافله در بمران و پیشگیری از فودکشی در پاندمی کوید ۱۹
۶	۱۵/۴۰-۱۶	دکتر بهزاد ریگی	حمایت های روانی اجتماعی در دوران قرنطینه

جمعه ۲۲ اردیبهشت ۱۴۰۲ سالن امام (رضا) ع

### افتتاحیه

ردیف	ساعت	نام سخنران	عنوان
۱		دکتر سید جعفر مسین	"COVID-19 Pandemic-Lessons learnt and way forward"
۲		دکتر میبب غزنوی	تقدیر تشکر
۳		دکتر ایرج ضاربان	ارایه گزارش
۴		سردار کرمی	(استاندار سیستان و بلوچستان)
۵			تقدیر و اهدا جوایز
۶			مشن پایان کنگره

## A randomized placebo-controlled trial on Mocoziif Syrup for Covid-19

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**Introduction:** Covid-19 pandemic has brought a huge burden on healthcare systems. Meanwhile, many complementary treatments have shown their beneficial effects on disease control. Mocoziif is a natural product containing extract of *Trachyspermum ammi* and *Ziziphus jujube* which was evaluated in this clinical trial.

**Method:** In this placebo-controlled clinical trial, Covid-19 outpatients were randomized to receive 20cc of either drug or placebo syrup three times a day before meal for 4 consecutive days coincided with receiving Remdesivir. Their fatigue, appetite, dyspnea, cough severity, and lab data were assessed before and after the intervention and analyzed with SPSS software.

**Results:** At the pilot stage, 44 patients completed the study. Data analysis revealed that dyspnea ( $p=0.029$ ) and lymphocyte percentage ( $p=0.028$ ) have been improved in the drug group comparing to the placebo. Improvement of other variables including fatigue were not statistically significant. Investigation is ongoing and no adverse effect has been reported till now.

**Conclusion:** It seems that Mocoziif syrup could improve some of the Covid-19 complications including dyspnea and boost the immunity. However, further investigations are needed to confirm its effects and underlying mechanisms.

**Keywords:** Covid-19; Dyspnea; Fatigue; Mocoziif; *Trachyspermum copticum*



**Title: “Effectiveness of COVID-19 Vaccines in Preventing Infection, Hospital Admission and Death: A Historical Cohort Study Using Iranian Registration Data During Vaccination program”**

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**Background:** There are some concerns about the effectiveness of the inactivated and vector-based vaccines against SARS-CoV-2 in the real-world settings with the emergence of new mutations, especially variants of concern. Data derived from administrative repositories during mass-vaccination campaigns or programs are of interest to study vaccine effectiveness (VE).

**Methods:** Using 4-repository administrative data linkage, we conducted a historical cohort study on a target population of 1,882,148 inhabitants aged at least 18 years residing in Southern Iran.

**Results:** We estimated 71.9% [95% CI: 70.7-73.1%], 81.5% [95% CI: 79.5-83.4%], 67.5% [95% CI: 59.5-75.6%], and 86.4% [95% CI: 84.1-88.8%] hospital admission reduction for those who received the full vaccination schedule of BBIBP-CorV (Sinopharm), ChAdOx1-S/nCoV-19 vaccine (AZD1222, Oxford–AstraZeneca), rAd26-rAd5 (Gam-COVID-Vac, Sputnik V), and BIV1-CovIran (COVIran Barekat) vaccines, respectively. A high reduction in mortality – at least 85% – was observed in all age subgroups of fully immunized population.

**Conclusion:** The pragmatic implementation of a vaccination plan including all available vaccine options in the Iranian population was associated with a significant reduction in COVID-19 detected infections as well as hospital admissions and deaths associated with COVID-19.

**Keywords:** COVID-19; SARS-CoV-2; COVID 19 Vaccines; Vaccine; Effectiveness; Real-world; Cohort.

COVID-19 detected infections, as well as in hospital admissions and deaths related to the COVID-19 diagnosis.



## Side effects and Symptomatic Infections that Emerged following COVID-19 Vaccination among 12-18 Years Old Iranian People in 2021-2022

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**Background:** People under 18 play an important role in contracting and transmitting SARS-COV-2 infection to others, particularly since most countries do not have sufficient vaccination coverage in this age range. The present study was aimed at detecting possible side effects and the symptomatic infections after receiving the COVID-19 vaccines among 12-18 years old people.

**Methods:** In this prospective cohort study conducted in 2021 and 2022 in Dezful, Iran, 1,000 vaccinated people aged 12-18 years have been evaluated (53.1% men, 46.9% women) and then were followed up for a 6-month period. All side effects and symptomatic infections following the first and second doses of the PastoCovac and Sinopharm vaccines, as well as a history of SARS-COV-2 infection, were recorded. The results were analyzed by SPSS 16.

**Results:** Seven point six percent and 92.4% had received PastoCovac and Sinopharm vaccines, respectively. The side effects of PastoCovac vaccination were 1.9 times, but in both vaccines, the most common one was local pain at the injection site and the least common side effect was skin rash. The chance of emerging any side effect caused by these vaccines after the first and second dose in women was 2.3 and 1.9 times that of men, respectively. No life-threatening side effects were reported. Within a 6-month period follow-up, 11.6% and 14.3% of people after receiving the first and second dose of vaccine were re-infected, and 31.3% had a history of at least one episode of SARS-COV-2 infection prior to receiving the vaccine. Wearing masks played an important role in reducing the risk of re-infection in vaccinated individuals within 6 months.

**Conclusion:** It seems that PastoCovac and Sinopharm vaccines are safe for people aged 12-18 years. Injecting two doses does not prevent re-infection at all. So, it is necessary to follow COVID-19 prevention protocols, in particular wearing masks.

**Keywords:** PastoCovac vaccine, Sinopharm vaccine, SARS-COV-2 infection, Side effects, COVID-19 prevention protocols, Vaccine safety



## Comparison of Stress and Job Burnout of Nurses in the Wards of Patients with COVID-19 and non-COVID-19 in Aja Affiliated Hospitals

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**Background and Aim:** Job burnout is one of the major unavoidable consequences of job stress. Nurses experience the most occupational stress due to job problems and difficult working conditions and are exposed to high job burnout. Therefore, the purpose of this study was to compare stress and job burnout in nurses in the wards of patients with COVID-19 and non-COVID-19 patients.

**Methods:** This research is a cross-sectional (descriptive-analytical) study that was conducted in 1400. Its statistical population included caring nurses in the wards of patients with COVID-19 and non-COVID-19 patients in Aja affiliated hospitals in Tehran. A total of 96 nurses were selected as the research sample. The data were collected using the demographic information form and HSE (Health and Safety Executive) occupational stress and burnout questionnaires of Copenhagen and were analyzed using the SPSS.v25 software, descriptive and inferential statistics, and independent t-test.

**Results:** The results of the independent t-test showed that there is a significant difference between the burnout dimensions of the two groups of nurses, and in nurses, the wards of patients with COVID-19 were higher than the wards of non-COVID-19 patients ( $P = 0.03$ ). The results of the independent t-test did not show any significant difference between the work-stress dimensions of the two groups. The results of Pearson's correlation test in non-COVID-19 patient's departments, between nurses' burnout with role dimension ( $r = 0.03$ ) and demand dimension ( $r = 0.02$ ) and between burnout with patients and control dimension ( $r = 0.004$ ) and the demand dimension ( $r = 0.007$ ) was significant. In the wards of patients with COVID-19, the Pearson test results showed a significant difference between personal burnout and the demand dimension ( $r = 0.01$ ).

**Conclusion:** Considering the importance of work environment tensions and their effect on nurses' burnout, it is suggested that the authorities should plan appropriately to reduce the factors of nurses' burnout via psychotherapy consultations, holding programs Fun and morale-giving, reducing consecutive shifts, improving work-rest cycles, and providing motivational items

## Vaccination and Loneliness in Older Adults during the COVID-19 Pandemic

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**Introduction:** older adults are among the most vulnerable groups against the Covid-19 disease. Few studies have investigated the impact of vaccination on the mental health of the elderly. The aim of this study was to examine the relationship between vaccination and loneliness in older adults.

**Method:** This descriptive-analytical study was conducted in Shiraz city in 2019. The participants of the study included older adults living in Shiraz city, who were randomly selected from among those covered by comprehensive health service centers in Shiraz city. Inclusion criteria included having an age of 60 years and older, the ability to communicate verbally, and willingness to participate in the study. Exclusion criteria were the presence of cognitive impairment and not completing the questionnaire completely. The data was collected in the form of face-to-face interviews using a demographic information questionnaire and the De Jong Gierveld Loneliness Questionnaire, version 11 questions. Data were analyzed by independent t-tests and one-way analysis of variance (ANOVA) in SPSS software version 25.

**Results:** In this study, 515 older adults with an average age of  $68.13 \pm 6.08$  participated, 371 of them (72.0%) were women. According to the independent t-test, loneliness in women was significantly higher than in men ( $7.66 \pm 2.67$  compared to  $5.96 \pm 2.92$ ,  $p < 0.001$ ). In addition, according to ANOVA, the feeling of loneliness in the elderly was different based on the frequency of vaccination (no injection  $6.43 \pm 3.61$ , one injection  $5.74 \pm 2.65$  and two injections  $3.56 \pm 2.1$ ) ( $P < 0.001$ ,  $F = 21.4$ ).

**Conclusion:** The results of the present study showed that the feeling of loneliness was lower in old adults who were vaccinated against Covid-19. Therefore, older adults' vaccination programs should be given special attention.

**Keywords:** Aged, Loneliness, COVID-19, Vaccination

## **Pediatric and Adolescent COVID-19 Vaccination Side Effects: A Retrospective Cohort Study of The Iranian Teenage Group in 2021**

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**Introduction:** During Covid-19 pandemic in Iran, the need for medical, social and economic response to the pandemic led to the rapid development and production of a large number of vaccines. Recent studies have all documented the immunogenicity of the vaccine in adults and the elderly, and only a handful of studies have examined the efficacy of these vaccines in children. Therefore, one of the most controversial issues is the vaccination of children and adolescents. Regarding the start of vaccination of children in Iran, we examined the safety and possible side effects of vaccination under 18 years to provide a safe and effective vaccine. This study is one of the national studies with large sample size.

**Methods:** In this retrospective cohort study, contact numbers of parents of children and adolescents referred to a vaccination centers in Tehran-Iran to receive the corona vaccine were collected and following information were obtained via the phones: demographic information, type of vaccine and number of doses received, and additional information, like complications, required treatments.

**Results:** 11,042 subjects aged 10–18 years, (5374 boys and 5768 girls) were investigated. 88.1% received the Sinopharm and 11.9% the Soberana vaccine. General side effects (fatigue, fever and chills, injection site pain and dizziness) happened in 2978 cases; 7421 children presented with at least one general or organ-specific side effect following vaccination, including potentially critical side effects, such as vascular injuries, respiratory complication, and so forth. 0.1% of the subject needed hospital admission. The breakthrough infection happened in 200 individuals.

**Discussion:** Although medications for treating COVID-19 are needed as well, focusing on the vaccine in studies can be helpful in preventing mortality and morbidity. Most of the vaccine complications are very mild and transient, but more serious complications need to be considered.

**Conclusion:** Our study shows that Sinopharm and Soberana vaccines are generally safe with no serious side effects in children and adolescents. COVID19 infection and reinfection can occur after vaccination, but the incidence is actually tolerable and significantly lower.

**Keywords:** Safety, Efficacy, Vaccination, COVID-19, Children

## An overview of the effects of Covid-19 on thyroid disorders: A systematic review

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**Introduction:** Covid-19 virus, the cause of pulmonary and systemic inflammation, through the ACE<sub>2</sub> receptor combined with Serine-membrane-protease(TMPRSS2), disrupts the function of various organs.

The thyroid gland and viral infection with its associated inflammatory-immune responses are known to be in a complex interaction.

**Search method:** This article has been written with Review of the system in 2023 and research in PubMed website and choosing 20 out of 152 primary studies.

**Results:** Level of expression of ACE<sub>2</sub> and(TMPRSS2)2 in thyroid gland is high and more than lungs. In patients with covid-19, the entire axis of hypothalamus-pituitary gland-thyroid gland(HPT) is affected. The most common side effects are low T<sub>3</sub> syndrome or non-thyroidal illness syndrome(NTIS) and thyroiditis which has two types. Malignant thyroiditis is observed in men along with lymphopenia in early infection without any symptoms and Subacute thyroiditis which happened one month after contracting covid and is observed in women with Clinical signs and moderate hyperleukocytosis.

**Conclusion:** Some specific cytokines and chemokines have a direct role in HPT so many functions of thyroid gland can be disrupted by various mechanisms such as inflammation and autoimmune reactions by SARS-COV. virus can infect the host directly through ACE<sub>2</sub> receptor which is highly expressed in follicle cells of the gland. The presence of genome of SARS-COV-2 in Follicular cells of samples of deceased patients confirms this hypothesis, or indirectly through the inflammatory and immune systemic response including lymphocytes(Th1/Th17/Th2) and cytokine storm leads to a malfunction of the gland.

**Key words:** covid-19, thyroid disorders, inflammation, ACE<sub>2</sub>

## Could we predict the prognosis of the COVID-19 disease? A large study in south-east of Iran

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**Objectives:** Coronavirus 2019 disease (COVID-19) lead to one of the important pandemics of the last century. Since the emergence of the COVID-19 epidemic in China, it has rapidly become a global threat and has been declared a pandemic by the World Health Organization. The present study aimed to identify predicting factors on the prognosis of Covid-19 in-patients.

**Methods:** In this cross-sectional study, the data of 1,238 hospitalized patients admitted to the Bou-Ali hospital in Zahedan were assessed retrospectively. Demographic, epidemiological, clinical and laboratory data extracted from the profile of hospitalized patients from Feb 2020 to Aug 2021. The data were analyzed in SPSS.21. Bivariate and multiple logistic regression models were used to explore the risk factors associated with the prognosis of the disease.

**Results:** The mean age of the patients was  $53.9 \pm 15.9$  and 58.6% were male. The most common symptoms amongst patients were dyspnea(71.6%),cough(67.4%),myalgia(51.2%),fever(36.5%), weakness(30.9%),vomiting(21.9%),anorexia(21.2%),and headache(20.6%),respectively. Moreover, 213 cases(17.2%)of inpatients have died.

There were significant association between vital signs during admission: systolic BP( $P=0.002$ ,  $r=0.08$ ),diastolic BP( $P=0.01$ , $r=0.07$ ), $SpO_2$ ( $P<0.0001$ , $r=-1.7$ ),and laboratory data during admission: Lymph( $P<0.0001$ , $r=-0.1$ ),Neutrophil( $P<0.0001$ , $r=0.13$ ), LDH( $P<0.0001$ , $r=0.15$ ),  $PO_2$ ( $P=0.001$ , $r=0.2$ ),BS( $P<0.0001$ , $r=0.11$ ),and ESR( $P<0.0001$ , $r=0.13$ ) with duration of hospitalization..

Data also demonstrated that medical history of COVID-19 inpatients, cardiovascular ( $P<0.0001$ ), and renal( $P=0.003$ ) disorders, malignancies( $P=0.045$ ),and hypertension( $P=0.001$ ) were the predictors of COVID-19 prognosis. Additionally, WBC( $P<0.0001$ ),Lymph( $P<0.0001$ ), Hematocrit( $P=0.003$ ), PT( $P<0.0001$ ), PTT( $P<0.0001$ ),Placate( $P<0.0001$ ),LDH ( $P<0.0001$ ),AST ( $P=0.014$ ),CKMB( $P=0.023$ ),Albumin( $P=0.002$ ),BUN( $P<0.0001$ ),and CPK( $P=0.03$ ) were significantly related to the prognosis of COVID-19 inpatients.

Importantly, COVID-19 complications including pneumonia( $P<0.0001$ ), ARDS( $P<0.0001$ ), heart failure( $P<0.0001$ ), acute heart injury( $P<0.0001$ ), renal injury( $P<0.0001$ ), hepatic injury ( $P<0.0001$ ),secondary infection( $P=0.004$ ), and secondary decreased GCS( $P<0.0001$ ) significantly increase risk of mortality.

**Conclusions:** The clinical progress could be severe and lead to the mortality if the baseline values of WBC, PT, PTT, LDH, AST, CKMB, BUN, and CPK increase, and the baseline values of lymph, hematocrit, placate, and albumin decrease. Moreover, we found that the elder age, male gender, and those patients with malignancies, hypertension, cardiovascular and renal disorders could predict mortality of COVID-19.

**Keywords:** COVID-19, inpatient, prediction, mortality, prognosis



## The effect of corticosteroids on the treatment of Covid-19

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**Introduction:** With the ongoing COVID-19 pandemic and an increasing number of critically ill patients infected SARS-CoV2, various treatment methods were proposed to reduce the pathogenicity of this virus. Corticosteroids are one of the treatment methods that were discussed and tested.

Corticosteroids are anti-inflammatory drugs and are used to treat people with COVID-19 because they counter hyper-inflammation.

The purpose of this systematic review was to investigate the effect of corticosteroids in the treatment of patients with covid-19.

**Search method:** This systematic review article was written in the year 2023 by search in the PubMed database and Google Scholar and SID website with using keywords covid19, corticosteroids and treatment and selecting 18 cases from 7280 primary studies and thematic analysis.

**Results:** Studies have shown that corticosteroid treatment can reduce both the need for mechanical ventilation support and mortality in moderate to severe covid-19 patients. However, long-term use of corticosteroids will have serious side effects.

The success of corticosteroid treatment of COVID-19 may depend on the stage of disease at the time of treatment. The corticosteroid is being used to manage cytokine storm and hyperinflammation in CoVID-19 patients.

**Conclusion:** Considering that the results of previous studies are heterogeneous, it is difficult to give a definitive opinion about the effectiveness of corticosteroids in the treatment of patients with Covid-19. However, corticosteroid treatment can reduce the reduce mortality and the need for mechanical ventilation in severe COVID-19 patients.

**Key Words:** Covid19, Corticosteroids, treatment

## Are the demographic characteristics, underlying conditions, and comorbidities of covid-19 patients affecting their disease symptoms?

Tahereh Shafaghat<sup>1</sup>, Mohammad Zare Zadeh<sup>1</sup>, Mohammad Kazem Rahimi<sup>1\*</sup>

**Background:** Covid-19 has caused many symptoms, complications, and death in many people worldwide. On the other hand, the severity of symptoms and complications and the death rate caused by this disease have been different among people with different demographic characteristics and underlying conditions. Therefore, this study aimed to investigate the relationship between demographic characteristics and underlying conditions with disease symptoms in patients with covid-19 in one of Iran's major hospitals.

**Methods:** The present cross-sectional and descriptive-analytical study was conducted from February 20th, 2020, and August 20th, 2021. The sampling method was census and the study population included all the patients hospitalized due to covid-19 in Shahid Sadoughi Hospital in Yazd Iran, as the main referral and treatment center for Covid-19 patients. The tool used in this research was a data collection form. The data were collected from the statistics department, medical records, HIS, and management office, and they were analyzed via SPSS software version 25 using descriptive statistics and statistical tests such as Spearman, Mann-Whitney, and chi-square.

**Results:** Among the 7,236 patients with a definite diagnosis of Covid-19, the most (53.2%) were men and the total death rate was 8%. The average age of patients was 61.87 years old and the average length of stay was 5.98 days and there was a positive correlation ( $p\text{-value}=0.000$ ) between age and length of stay. About 69% of the patients in their CT scan had symptoms related to the disease and 39.5% had an oxygen level of less than 93% which roughly 2.6 % of them were incubated. There was a significant relationship between patients' age, sex and length of stay with their discharge status, first disease's symptoms, and patient's underlying conditions. Also, there was a significant difference in patients' discharge status based on having some early symptoms, gastrointestinal symptoms, and patient underlying conditions. Furthermore, based on the early symptoms of the disease, gastrointestinal symptoms, CT scan status, and comorbidities, there was a significant difference between the patients who were hospitalized in different inpatient wards of the hospital.

**Conclusion:** Public health policies and plans should take the population's age, sex, underlying conditions, and comorbidities into consideration for any future outbreaks.

**Keywords:** demographic characteristics, underlying conditions, covid-19 patients, symptoms, Iran

## The effect of potential risk factors on the length of hospitalization in COVID-19 Patients

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**Background:** Identifying the potential risk factors of the Length of Stay in Hospital (LOSH) in COVID-19 patients could help the health system meet future demand for hospital beds.

**Objectives:** This study aimed to determine the factors affecting the length of stay in hospital of COVID-19 patients in Hamadan, the west of Iran.

**Methods:** This cross-sectional study recruited 512 hospitalized COVID-19 patients in Hamadan city. Demographic, clinical, and medical laboratory characteristics of the patients and their survival status were assessed by a checklist. Univariate and multiple negative binomial regressions were used by Stata 12.

**Results:** The median hospitalization length for COVID-19 patients was five days (range: 0 to 47). In the discharged patients, the adjusted incidence rate ratios (95% CI) of LOSH for females, rural residents, patients with a history of diabetes and cardiovascular disease, SPO2 less than 88%, prothrombin time higher than 13s, platelet count lower than  $130 \times 1000 \mu\text{L}$ , blood sugar higher than 105 mg/dl, and intensive care unit experience were 1.16 (1.03, 1.44), 1.22 (1.03, 1.44), 1.43 (1.07, 1.92), 1.41 (1.23, 1.61), 0.82 (0.71, 0.93), 1.32 (1.11, 1.56), 1.18 (1.03, 1.36), and 1.85 (1.59, 2.17) compared to their references, respectively.

**Conclusion:** Our study added new insight into LOSH determining factors that could be used for future planning in combating the need for hospital beds. The present study revealed that some demographic, social, and clinical variables could increase the IRR of a more extended hospital stay.

**Keywords:** COVID-19; Length of Hospitalization; Negative Binomial Regression; Iran.



## Prevalence of Febrile Seizures in Children in Zahedan, South East of Iran

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**Objectives :** Febrile seizure is the most common seizure disorder in childhood and a common cause of hospitalization in hospitals. We aimed to investigate the prevalence of febrile seizures in children in Zahedan, south-east of Iran.

**Materials & Methods :** In this cross-sectional study, 600 children under 7 yr were examined for positive history of febrile seizure in 2014. The cluster sampling method was used, information was collected using a questionnaire, and data were expressed using descriptive- analytical tests.

**Results:** The mean age of the children was  $2.7 \pm 1.8$  year. The sample consisted of 290 (48.3%) boys and 310 (51.7%) girls. Of the 600 children studied, 21 experienced febrile seizure and the incidence of febrile seizures was 3.5%. No significant difference was observed in terms of age or gender. Among the patients with history of febrile seizure, 2 (9.5%) had a positive family history of seizure. The age at the first febrile seizure was under one year in 13 patients (61.9%) and over one year in 8 patients (38.1%).

**Conclusion :** Results indicated a moderate incidence of febrile seizure in the studied population. No significant difference was observed in terms of age or gender.

**Keywords:** Seizure, Fever, Prevalence, Children, Iran



## Comparison the features of COVID-19 and healthy pregnant women in the west of Iran

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**Background:** In COVID-19 epidemic, pregnant women, fetuses, and newborns are a high-risk population which is more susceptible than the general population. These groups are more susceptible to serious respiratory illnesses and pneumonia because of their weakened immune systems. This study compared maternal and neonatal outcomes in postpartum women with COVID-19 with similar healthy women at the hospital.

**Study design and Methods:** In this retrospective cohort study, the characteristics of 100 pregnant women with COVID-19 (confirmed by a positive PCR test during pregnancy) were compared to 150 healthy pregnant women who referred to Fatemieh Hospital in Hamadan from March 2020 to February 2021. The maternal and neonatal outcomes were collected by the medical-record patients and analyzed using SPSS software (Ver. 26).

**Results:** No significant differences were observed in the average ages ( $\pm$  standard deviation) of the two groups of covid-19 ( $30.25 \pm 6.24$  years) and healthy ( $29.48 \pm 6.73$  years) women. In this study, the pregnant women were infected with COVID-19 from weeks 7 to 41 of gestation, with a median infection time of 35 weeks. The odds ratio (95% confidence interval) of preeclampsia, and preterm birth was significantly higher in women with COVID-19 than in healthy women with following values 2.79 (1.61, 7.34), and 22.26 (2.86, 173.33).

**Conclusions:** Covid-19 pregnant women had considerably greater rates of gestational issues, neonatal difficulties, preeclampsia, and premature delivery, according to the findings of this study. During epidemics, it is advised that pregnant women and their newborns receive more basic care, based on the findings.

**Keywords:** COVID-19; Pregnant Women; Pregnancy Outcome; Neonatal; Maternal-Child Health Centers



## Virtual Education and Medical Students' Study Habits during COVID-19: Differences and Commonalities

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### Abstract:

**Background:** Considering the spread of the Covid-19 pandemic and increasing the use of virtual education potentialities to continue the education path in universities, educationalists try to examine different dimensions that influence the process of promoting virtual education.

**Objectives:** This study aimed to investigate the study habits scores of Zahedan University of Medical Sciences (ZAUMS) students during virtual education experience in terms of their genders, faculties, majors, Grade Point Averages (GPAs), native/ non-native, academic semester, duration, and interest in virtual education in 2021.

**Methods:** It was a descriptive-analytical, cross-sectional study. 221 male (43.93%) and 282 female students (56.07%) participated in this study. The data was collected using a questionnaire and analyzed by SPSS software.

**Results:** The independent t-test showed no statistically significant difference in students' study habits regarding gender ( $P=151.0$ ). The findings of ANOVA tests also confirmed that there were not any significant differences in students' study habits concerning their faculties ( $P=411.0$ ), and majors ( $P=687.0$ ). Furthermore, there were significant differences in the participants' study habits scores regarding lower/higher academic semesters ( $P=0.049$ ), virtual education duration ( $P=0.025$ ), GPAs ( $P=0.039$ ), and interest in virtual education ( $P=0.005$ ). However, the independent t-test indicated no significant difference in study habits scores regarding being native or non-native<sup>2</sup> ( $P=61.0$ ).

**Conclusions:** Considering the importance of study habits on academic performance and, ultimately, the efficiency of students in the future, it is suggested to conduct training courses on practicing the correct study methods and habits to improve the status quo.

**Keywords:** Virtual Education, Study Habits, Medical Students

<sup>2</sup> In this article, by being native, we mean the students who live and grown up in Zahedan and by non-native, we mean all other students who have come from other cities around the country, Iran, to fulfill their studies at ZAUMS.





## The role of chatbots in the management of the covid-19 pandemic and beyond: a systematic review

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**Introduction:** Covid-19 has created many challenges in the field of health. A chatbot is a computer program that uses artificial intelligence (AI) and natural language processing (NLP) to understand customer questions and automate responses to them, simulating human conversation. In such circumstances, chatbots may be considered as a supportive strategy to manage the pandemic and its consequences.

**Methods:** This study was conducted based on PRISMA guidelines. Key words were searched in PubMed, Medline, Web of Science and Google Scholar databases to identify English studies related to the objective. First, the articles were selected based on the title, then their abstracts were reviewed, and finally, they were selected based on the full text. The included studies were evaluated for quality and risk of bias using the CASP criteria by two authors.

**Results:** Of 4650 retrieved articles, 9 met the inclusion criteria. In general, the key roles of chatbots include: education and transmission of information related to Covid-19, triage, monitoring, tracking disease symptoms, questions and answers, creating health records, completing forms and generating reports. Reminders and messaging services have been counseling, advice on chronic diseases, screening, diagnosis and stress management.

**Discussion:** The use of chatbots for pandemic management and beyond still needs further studies. This study helps researchers to gain a better understanding of the design and role of this technology in the field of health. In fact, if chatbots are effective and safe, they can be prescribed like medicine to manage the pandemic and its consequences.

**Keywords:** Chatbot, conversational agent, Natural Language Processing, COVID-19, post COVID.





## **Title: Changes in food intake before and after the corona pandemic among Iranian Households**

Kiyavash Irankhah<sup>1</sup>, mojtabah hajipour, pegah rahbarinejad, seyyed reza sobhani\*

**Introduction:** On March 11, 2020, the WHO declared the outbreak of the infectious disease COVID-19 as a pandemic. Applying restrictive measures leads to the risk of low adherence to health behaviors such as not following a balanced and nutritious diet. Such dietary changes have important implications for public health, as frequent overconsumption, even of 10 to 50 calories per day, can lead to weight gain and an increased risk of obesity. Also, nutritional status has a major impact on the response of the immune system and the development of diseases associated with COVID-19. Therefore, the purpose of our study is to investigate the changes in food intake before and after the Covid-19 pandemic in Iranian households.

**Methods:** Using the cost and income data of Iranian households during the years 1398 to 1399, the changes in the food basket of Iranian households were made in terms of the amount of intake of different food groups. Then, the average food intake before and after the outbreak of Covid-19 was compared.

**Results:** The total energy received during the Covid-19 pandemic decreased in urban areas, but did not change in rural areas. Consumption of fruits, sugars and fats decreased in urban and rural areas. On the other hand, the consumption of vegetables increased. In urban areas, Bread, cereal, rice, and pasta consumption increased and dairy and meats and legumes consumption decreased. In rural areas, Bread, cereal, rice, and pasta consumption decreased and dairy and meats and legumes consumption increased.

**Conclusion:** Our findings showed that the pandemic had different effects on energy, macronutrient, and micronutrient intake in Socioeconomic Status (SES) categories, which could be due to changes in food consumption patterns as a result of the pandemic. Also, studies reported that food consumption decreased during the pandemic, which could explain the decrease in energy in different SES categories.

**Keywords:** Food intakes, COVID-19, Household Expenditure and Income Data



## **Trends in anthropometric indices and food pattern consumption before and during the COVID-19 pandemic among middle aged in Zahedan, A longitudinal study in South-east of Iran (2018-2021)**

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**Background and aims:** At present, the impact of the coronavirus disease pandemic on body mass index (BMI) and dietary patterns remains unknown properly. We aimed to identify an estimated 3 years trend in prevalence of overweight and obesity and food groups consumption variations among middle-aged population covered by health and treatment centers of health deputy of ZAUMS.

**Methods:** In a descriptive-analytical, cross-sectional study, demographic characteristics of middle aged 30–60 years referring to health and treatment centers of ZAUMS were recorded. Besides, BMI and main food groups consumption including; milk and dairy products, fruits and vegetables data were taken from recording the Integrated Health System (SIB) system of Health and treatment centers since 2018 to 2021.  $P < 0.05$  was considered significantly difference.

**Results:** During this study, 52786 to 73471 middle aged (57.7% female and 42.3% male) received health care services. The prevalence of overweight increased marginally from 29.3% in 2018 to 31.3% in 2021, but the obesity has been decreased up to 1.6%. It was also observed inappropriate consumption pattern in food groups. There was significantly increased based on intake of fruit, vegetable and dairy products groups from 45%, 46.4%, and 44.8% to 47%, 50.2%, and 50.4 % respectively.

**Conclusions:** It was found marginal changes in overweight and obesity of middle aged before and during the COVID-19 pandemic which needs to more studies. It is recommended to perform monitoring dietary behaviors and implementing effective policies in population study.

**Key words:** COVID-19, Nutritional status, Iran



## Nutrition and COVID-19

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**Introduction:** Severe acute respiratory syndrome coronavirus 2 (SARSCoV-2), a novel coronavirus that is not limited to the respiratory system and has widespread involvement including the gastrointestinal tract and liver. It is in the recent months to become a worldwide pandemic and to be the United States 'third 'leading cause of death in 2020. So the principles of prevention are used as the best approach to control this infection. Certain nutritional deficiencies may lead to dysfunction of the immune system, leading to produce more cytokines and other inflammatory factors. Undoubtedly, nutrition is a key determinant of maintaining good health. Key dietary components such as vitamins C, D, E and zinc, selenium, copper and the omega 3 fatty acids have well-established immunomodulatory effects, with benefits in infectious disease. The purpose of this review study is to investigate the effectiveness of nutrition on the treatment and prevention of Covid-19.

**Method:** The review is conducted through search terms including "COVID19", "SARS-CoV-2", "coronavirus", "nutrient", "vitamin" and "mineral". With filters that only identify studies published from 2020 to 2023 by searching these keywords and specific literature, title/abstract in the 'PubMed,' 'Google Scholar' and 'Science Direct' databases.

**Result:** The results of our review show that vitamins A, C, D and E are effective in preventing and reducing the severity of corona symptoms by reducing inflammatory factors such as TNF-alpha, interleukin 1, and interleukin 6. Zinc, selenium and copper are effective in creating a favorable immune response against corona disease through antiviral and antioxidant effects and the production of anti-inflammatory proteins. The consumption of omega-3 is recommended, but according to studies, it is better to be careful in its consumption due to the increased sensitivity of the cellular membrane to oxidants.

**Keywords:** nutrient; COVID-19; SARS-CoV-2; Pandemic innate immune system; cytokines; Vitamin D; Vitamin C; Vitamin E; Zinc; Selenium; Omega-3.



## **Changes in Dietary habits and Weight Status during the COVID-19 pandemic and its association with socioeconomic status among Iranians adults.**

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**Background:** The coronavirus disease 2019 (COVID-19) pandemic has impacted human health through sudden lifestyle changes, including isolation at home, and social distancing. Therefore the current study aimed to investigate the effect of the COVID-19 pandemic on eating habits, weight status, and their associations with socioeconomic status.

**Methods:** This cross-sectional study was conducted using an online structured questionnaire that inquired demographic, anthropometric (reported weight and height); dietary habits (weekly intake of certain foods); and dietary supplement intake information.

**Results:** A total of 1187 participants completed the questionnaire, and after validation of the data, 1106 respondents were included in the study, with a mean age of  $34.5 \pm 9.4$  years. Our findings showed that the body mass index (BMI) of the participants significantly increased during COVID-19 ( $P < 0.001$ ). Also, there were significant changes in the intake of a variety of food and beverage during the COVID-19, including less consumption of milk, yogurt, red meat, fish, canned fish, homemade fast foods, take out fast foods, carbonated drinks, and more consumption of whole bread, legumes, soy bean, nuts, seeds, high vitamin C vegetables, high vitamin C fruits, green-yellow fruits and vegetables, onion/garlic, dried fruits, natural fruit juices, and water ( $P < 0.001$ ; for all). It is informed that individuals consumed more vitamin and mineral supplements ( $P < 0.001$ ). Also, before and during COVID-19 pandemic weekly intakes of dairy, red meat, poultry, high vitamin C fruits, and whole bread were positively associated with socioeconomic status ( $P < 0.001$ ).

**Conclusion:** Overall, this study indicates changes in body weight, dietary habits and supplement intake during the pandemic. Therefore, the findings of this study are valuable for, health professionals and politicians to better public health practice and policy making.



## **Investigating factors related to the acceptance of covid-19 vaccination using the health belief model among pregnant and lactating women referring to comprehensive health service centers in Zahedan**

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**Introduction and purpose:** Corona virus disease (Covid-19) is a new acute respiratory infectious disease that has become an important public health event worldwide. Compared to other women, pregnant and lactating women are at risk of severe disease caused by covid-19 and complications related to lung diseases, so the present study aims to determine the factors related to the acceptance of covid-19 vaccination among pregnant and lactating women referring to Comprehensive health service centers were carried out.

**Materials and methods:** This study was cross-sectional-analytical. The statistical population consisted of 260 pregnant and lactating women who referred to comprehensive health service centers in Zahedan city in 1401. The sampling method was done in a multi-stage classification. In this way, Zahedan city was divided into 4 regions, North, South, East and West, then two comprehensive health service centers were selected from each region and samples were selected from each comprehensive health service center according to the entry criteria. Data collection was done using the questionnaire of demographic characteristics and the questionnaire of constructs of the health belief model. The data were analyzed using non-parametric Wilcoxon, Mann-Whitney and Spearman correlation coefficients in SPSS software version 22.

**Results:** Demographic variables showed 12.6% of the variance of the behavior construct, while age and education level variables were found to be significant, so that younger age and higher education level had a positive effect on behavior ( $p < 0.05$ ). In the structural model, 26.3% of the variance on behavior reports that the variables of age, self-efficacy and perceived benefits had a significant effect on behavior.

**Conclusion:** Based on our findings, the health belief model was able to successfully predict vaccination acceptance for pregnant and lactating women. In addition, it is necessary to apply approaches to adopt the acceptance of the covid-19 vaccination, especially among women with low education. Policymakers can use this model to improve vaccination acceptance behaviors in high-risk groups.

**Keywords:** Covid-19 vaccination, health belief model, pregnant and lactating women



## The health response of Iranians population to the use of face masks during the covid-19 epidemic

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**Background:** Wearing a face mask is an important public health measure that reduces the spread of respiratory diseases in epidemics. This study aimed to explore the health response of the Iranian population to the use of face masks during the COVID-19 epidemic.

**Methods:** In this cross-sectional study, 881 individuals were selected with convenience sampling through social media. Data were collected by the self-design questionnaire that was validated by an expert panel. The collected data were analyzed using SPSS version 21 software.

**Results:** A total of 881 (522 males and 359 females) participated in this study. Overall, 97% reported that they had on a face mask during the COVID-19 pandemic. Difficulty breathing was the most important reason for the reluctance to use the mask. The results of the Pearson correlation demonstrated that there was a significant correlation between gender (females) and education (higher level of education) with the use of masks ( $P < 0.05$ ). Pearson's correlation findings also showed that the morbidity of Covid-19 increases with the pattern of using a mask sequentially ( $P=0.05$ ).

**Conclusions:** Investigating public health responses during pandemics can be helpful in the adoption of health policies to control the spread of infectious respiratory diseases in the future. Therefore, further studies are recommended in different societies to identify factors affecting the public attitude toward adopting preventive behaviors.

**Keywords:** COVID-19, Face mask, Health response, Iranian population



## Survey in efficacy of health knowledge in the management of the Covid-19 pandemic crisis

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**Introduction:** The outbreak of Covid-19 is a critical situation that has created a dangerous situation for public health at the international level. One of the consequences of the spread of Covid-19 is the high number of patients and deaths, which has caused many challenges in various fields. The aim of the research is to investigate the effectiveness of health knowledge in managing the crisis of the Covid-19 pandemic.

**Method:** This is a review article complemented by observational research and empirical documentation. First, it was based on library studies and internet searches in reliable databases such as Scopus, Web of Science, Pubmed, Science Direct, Google Scholar. The search was conducted in the period from 2020 to January 2023 and through a combined search of the keywords "corona", "health knowledge", "health literacy" and "Covid-19" and their English equivalents.

**Results:** In this study, 532 domestic and foreign articles were examined. 496 articles were excluded due to lack of relevance and finally 36 articles were selected. The most important tool for reviewing these articles was the adult health literacy questionnaire, which was analyzed with «SPSS 26» software. The statistical population of these studies were citizens aged 18 to 68, health ambassadors and patients with Covid-19. The effect of health knowledge on social responsibility, self-care and health, lifestyle and reducing anxiety and worry about illness was one of the most important findings of the research.

**Conclusion:** Increasing the level of health knowledge in the society makes people by observing hygiene and self-care have a significant reduction in the control and transmission of covid-19 disease. Health policy makers can have a significant impact on decrease deaths in the covid-19 pandemic by properly educating health knowledge and applying appropriate measures.

**Key words:** covid-19, corona, health knowledge, health literacy



## Investigating factors related to the acceptance of covid-19 vaccination using the health belief model among pregnant and lactating women referring to comprehensive health service centers in Zahedan

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**Introduction and purpose:** Corona virus disease (Covid-19) is a new acute respiratory infectious disease that has become an important public health event worldwide. Compared to other women, pregnant and lactating women are at risk of severe disease caused by covid-19 and complications related to lung diseases, so the present study aims to determine the factors related to the acceptance of covid-19 vaccination among pregnant and lactating women referring to Comprehensive health service centers were carried out.

**Materials and methods:** This study was cross-sectional-analytical. The statistical population consisted of 260 pregnant and lactating women who referred to comprehensive health service centers in Zahedan city in 1401. The sampling method was done in a multi-stage classification. In this way, Zahedan city was divided into 4 regions, North, South, East and West, then two comprehensive health service centers were selected from each region and samples were selected from each comprehensive health service center according to the entry criteria. Data collection was done using the questionnaire of demographic characteristics and the questionnaire of constructs of the health belief model. The data were analyzed using non-parametric Wilcoxon, Mann-Whitney and Spearman correlation coefficients in SPSS software version 22.

**Results:** Demographic variables showed 12.6% of the variance of the behavior construct, while age and education level variables were found to be significant, so that younger age and higher education level had a positive effect on behavior ( $p < 0.05$ ). In the structural model, 26.3% of the variance on behavior reports that the variables of age, self-efficacy and perceived benefits had a significant effect on behavior.

**Conclusion:** Based on our findings, the health belief model was able to successfully predict vaccination acceptance for pregnant and lactating women. In addition, it is necessary to apply approaches to adopt the acceptance of the covid-19 vaccination, especially among women with low education. Policymakers can use this model to improve vaccination acceptance behaviors in high-risk groups.

**Keywords:** Covid-19 vaccination, health belief model, pregnant and lactating women



## **Birth attendants' lived experiences of caring for pregnant women suspected to or diagnosed with Covid 19 in labor and delivery ward based on a phenomenological approach**

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**Introduction:** Covid 19 pandemic has imposed the increased workload and challenges to birth attendants while providing the required care for delivery in mothers. However, so far, no study has been performed based on the experiences and views of this group.

**Objective:** The present study was performed with the aim of filling the existing research gap in this field by exploring the real time experiences of birth attendants in caring for suspected/infected pregnant mothers during the pandemic.

**Methods:** The present research is a qualitative phenomenological study that was conducted on birth attendants (midwives and doctors) of pregnant women suspected/infected with covid-19 in the delivery department of teaching hospitals located in Mashhad, Iran, from March to May 2020. The qualitative data was collected about the real time experiences of the participants and was analyzed by six methodological steps proposed by Van Menen (1990).

**Results:** Interviews were performed with 12 birth attendants working in teaching hospitals. Four final themes were obtained about the real time experience of this group for caring pregnant women suspected/infected with Covid-19 in the delivery department. These themes included: "lost peace", "spirituality", "pride" and "looking forward to a better future".

**Conclusion:** The final results indicated that despite the fact that midwives/gynecologists played a valuable role as obstetricians in the frontline of the fight against the Covid-19 disease, they faced many challenges in various occupational, personal, and emotional dimensions. By the way, structural organizational policies are recommended to provide midwives/gynecologists an equal and safe position to fully perform their profession and have a healthy relationship within the family.

**Key words:** Phenomenology, Covid-19, Birth attendants, Midwifery





## Protection Motivation and Beliefs in Preventive Behaviors of COVID-19 among Health Care Providers in Guilan Province: A Theory-Based Study

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**Background:** Identifying the status of preventive behaviors of COVID-19 in health care providers is essential for the promotion of preventive behaviors.

**Study Design:** The aim of this study was to determine the factors associated with preventive behaviors of COVID-19 based on protection motivation theory (PMT) among health care providers of comprehensive health care centers in Guilan province in 2021.

**Materials & Materials:** A cross-sectional analytical study was conducted on 346 health care providers. Data were collected online using a researcher-made questionnaire based on PMT. To analyze the data, independent T-tests, analysis of variance, Spearman correlation coefficient and multiple linear regression were used.

**Results:** Preventive behaviors with protection motivation ( $r=0.84$ ), self-efficacy ( $r=0.51$ ), response efficiency ( $r=0.43$ ), perceived severity ( $r=0.41$ ) Fear ( $r=0.21$ ), perceived susceptibility ( $r=0.11$ ), response cost ( $r=-0.14$ ) and reward ( $r=-0.15$ ) were correlated significantly. Constructs of PMT were able to predict 77% of the variance of behavior, which protection motivation construct ( $=0.806 \beta$ ) was the strongest predictor.

**Conclusion:** Considering the predictive power of PMT and the key role of protection motivation construct in predicting of preventive behaviors, designing and implementing educational interventions with a focus on this construct and perceived severity construct and also considering the education of males, people with high income levels and a history of corona infection in themselves or family members, it is suggested.

**Keywords:** Behavior, Prevention and Control, COVID-19, Motivation, Health Care Providers





## Teachers' experience of virtual learning during the COVID-19 pandemic: A qualitative study

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**Background:** Closing universities and schools disrupt learning and deprive students of growth opportunities. The Corona pandemic changed virtual education in Iran. Poor planning causes low-quality online courses. This qualitative study used contractual content analysis to examine teachers' virtual education experiences during the COVID-19 pandemic.

**Methods:** This qualitative study was conducted using the conventional content analysis method in 2022. The targeted sampling method with maximum variation continued until data saturation. The participants in this research included 17 teachers, (10 women and 7 men). Data was collected through 5 focus group discussions on the Sky room platform and two individual in-depth interviews.

**Results:** Male teachers and managers averaged 44.42 and 47.8 years old. The qualitative analysis, 22 themes were categorized as virtual education's pros and cons. Mental, physical, and social injuries; economic problems; insufficient virtual teaching skills; lack of virtual infrastructure; lack of motivation are the main disadvantages of virtual education, Virtual education benefits include familiarity with modern science and education, time management, the durability of video and course topics, and not forcing students to attend class.

**Conclusion:** Removing structural barriers (like creating a good platform for practical education and stopping new restrictive policies) and individual barriers (like economic and family problems, lack of motivation, psychological pressures, and occupational stress) can improve virtual education. Virtual education shouldn't replace face-to-face teaching because it can't meet all students' needs.

**Keywords:** Virtual learning, COVID-19, qualitative study





## Correlation between diabetes and COVID-19 Indices: A global level Ecological Study

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**Introduction:** coronavirus is threatening the global public health as a new and widespread crisis. This ecological study aimed to investigate the correlation between the prevalence of diabetes and the epidemiological indices of COVID-19, including cumulative incidence rate of cases, cumulative incidence rate of death, performed COVID-19 tests per million, recovery rate, and case fatality rate.

**Methods:** This survey is an ecological study, so all studied variables are aggregate variables. To collect the variables in the study, a data set was provided which included the information of each country based on the cumulative deaths, case fatality rate, recovery rate, and the number of performed COVID-19 tests. Scatter plots of lifestyle factors for the studied countries were drawn based on cumulative incidence rate of cases, cumulative incidence rate of death, tests, recovery rate, and case fatality rate of COVID-19. Furthermore, Spearman correlation coefficient was also used to verify the correlation between diabetes and COVID-19 indices.

**Results:** The results of this ecological study showed that Luxembourg (54807.89 per million) and Belgium (49661.05 per million) had the highest cumulative incidence rate of cases of COVID-19, when Fiji (71.46 per million) and Burundi (56.59 per million), had the lowest cumulative incidence rate of cases of COVID-19. In addition, the highest case fatality rate of COVID-19 was in Yemen (28.34%) followed by Mexico (9.54%), while the lowest case fatality rate of COVID-19 was in Singapore (0.05%) and Burundi (0.15%).

**Conclusion:** In this study, there is a positive association between the prevalence of diabetes and the incidence of COVID-19, especially severe forms, which turns it into a serious concern for individuals. Since there is still a lot of unknowns about COVID-19, how to manage this disease is an enormous challenge for health policymakers; therefore, it is necessary to develop strategies and practical guidelines specific to each region to take the necessary care for these patients. The recommendation for home quarantine and regular blood sugar control are serious recommendations for these patients.



## Epidemiology of SARS-CoV-2 infection in Northeastern Iran: Analysis of Data from the Third to the Sixth Wave of COVID-19

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**Background:** To date, there have been 7.5 millions confirmed cases of coronavirus disease 2019 (COVID-19) with nearly 145 thousands deaths In Iran. We aimed to estimate the prevalence and risk factors of COVID-19 in Mashhad, Northeast of Iran.

**Methods:** In this cross-sectional study, we enrolled a random sample of people referred to a great COVID-19 diagnosis center in Mashhad city. Using a systematic random sampling method, we selected 6-10% of total population in each peak of the disease during September 2020 and March 2022. We assessed symptoms and the risk factors of SARS-CoV-2 infection among 7051 individuals and tested their venous blood samples for the virus genome using a real-time PCR technique.

**Findings:** Of the 7051 participants, 4411 (62.6%) were male and 2640 (37.4%) were female with a mean age of  $37.8 \pm 14.2$  years (Range: 0-96 years). SARS-CoV-2 infection was confirmed among 3142 cases (44.6%, 95% CI: 43.3%-45.8%). The prevalence in the third, fourth, fifth, and sixth wave of COVID-19 was 45.5%, 47.7%, 48.9%, and 30.4%, respectively ( $p < 0.001$ ). Besides, the frequency of COVID-19 in males was slightly higher than females (46.4% and 41.5%, respectively,  $p < 0.001$ ). Among 6281 responders, 3856 persons (61.4%) reported history of at least one symptom of fever, chill, sore throat, cough, breath shortness, and loss of taste and smell. The highest and lowest frequency of having the symptoms was observed in the third (67.4%) and sixth (40.8%) waves, respectively. The prevalence of COVID-19 in symptomatic people was significantly higher than individuals without any clinical symptom (55.5% and 28.2%, respectively,  $p < 0.001$ ). Furthermore, the infection was associated with history of pulmonary and renal disorders ( $p = 0.003$  and  $p = 0.029$ ).

**Conclusion:** Three-fifth of our population reported history of at least one symptom of COVID-19, however, only 44.6% of participants was infected by the virus. The prevalence of this infection was 45.5-48.9% in the third, fourth, and fifth waves but declined to 30.4% in the sixth wave of COVID-19.

**Keywords:** COVID-19; Epidemiology; Iran; Prevalence; Risk factors; SARS-CoV-2

## Sex and age differences in hospitalization and mortality rates due to COVID-19 from 20 March 2020 until 20 March 2022 in Iran: A population-based study

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**Introduction:** The purpose of the study was to describe the effect of differences in age-sex structure in COVID-19 hospitalized and death rates among men and women from Iran. Therefore, we calculated the SARS-CoV-2 hospitalized and mortality rates, stratified by sex, age, and demographic distribution.

**Materials and Methods:** This was a cross-sectional study. The target population of this study was the total population from 20 March 2020 until 20 March 2022 in Iran in the two-time period, 20 March 2020 until 20 March 2021 [first year], and 20 March 2021 until 20 March 2022 [second year]. We calculated the indexes in this study by formulas from Microsoft Excel 2020 and the *chi-squared* by SPSS version 20 for analysis.

**Results:** During the first year 493220 cases were hospitalized, 258209 (52%) were men and also occurred 61,586 deaths, 34,849 [57%] were men. The overall hospitalized rate per 100,000 population in men and women is 607.77 and 565.57 respectively and also mortality rate per 100,000 population in men and women is 82.03 and 64.34 respectively. During the second year, and 652893 cases were hospitalized, 340344 (52%) were women. The overall hospitalized rate per 100,000 population in men and women is 727.98 and 809.67 respectively and also occurred 54,740 deaths, 29,172 [53%] were men. The overall mortality rate per 100,000 population in men and women is 67.95 and 60.83, respectively.

**Discussion:** These findings show a higher hospitalization in the first year in men and the second year was the opposite which probably was a different type of virus and also a higher mortality rate among men. In addition, the mortality rate increased with age and was most predominant in men 50 years of age or older, so need to policy maker notices to rate of mortality by age and sex groups and have different strategies for controlling the pandemic by age and sex groups.

**Keywords:** COVID-19, Hospitalization Rate, Mortality Rate, Iran

## Title: “Temperature and COVID-19 Incidence: An ecologic study”

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**Background:** It has been hypothesized that COVID-19 is less prevalent in regions with warm climates. Contradictory results led us to investigate the correlation between temperature and the cumulative COVID-19 incidence rate.

**Method:** We obtained COVID data from CRONALAB, COVID-DASHBOARD, and MCMC databases of Fars province, linked data, and finalized daily COVID-19 cases. Daily data on the temperature was gotten from meteorological stations' reports from March 21, 2020, to March 21, 2021, for each county of Fars province, Southern Iran. The daily weighted cumulative incidence rate of COVID-19 cases was calculated for all of the counties, separately. Initially, for a uniform data visualization, average air temperature data were transformed into the ranked percentiles. Then, to visually assess the study hypothesis, the distribution of COVID-19 cumulative incidence was visualized on percentiles of temperature. Because of the non-linear distribution of data, we performed exploratory analyses using the generalized additive models (GAMs) and locally weighted (polynomial) regressions (LWRs) to choose the best response function. Then, the generalized linear models (GLMs) were used to build the model, parametrically.

**Results:** GAMs showed a small decreasing – near-to-horizontal – linear pattern for COVID-19 incidence rate as the function of temperature (pseudo  $R^2$ : 0.001, deviance explained: 0.13%, coefficient: -0.02). The GLMs showed head-to-head results (deviance explained: 0.13%, coefficient: -0.02], supported by similar Akaike information criteria (AICs) (34945). However, according to the LWRs model's curve, lower COVID-19 incidence rates were recorded in days with the temperatures ranged 60-80 percentiles, equal to 20-25°C in cold climate and 25-35°C in warm climate; while the rates were increased at lower and upper temperatures.

**Conclusion:** Daily COVID-19 incidence rate cannot be explained as a function of daily temperature, in Southern Iran. Apparently, higher rates of disease transmission out of the range of 20-25°C for cold temperatures and 25-35°C for warm climates might be linked to people's indoor gatherings, coupled with insufficient ventilation.

**Key Words:** COVID-19, Climate, Temperature, Ventilation.

## Correlation between Social capital and COVID-19 indices: A global level ecologic study

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**Background:** Given that COVID-19 continues to spread worldwide, this study aimed to investigate the correlation between the social capital and the epidemiological indicators of COVID-19.

**Methods:** This survey is an ecological study, so all studied variables are aggregate variables. To collect the variables in the study, a data set was provided, which included the information of each country based on the cumulative deaths, case fatality rate, recovery rate, and the number of performed COVID-19 tests. We drew scatter plots of the social capital for the studied countries based on cumulative incidence rate of cases, cumulative incidence rate of death, tests performed per million, recovery rate, and case fatality rate of COVID-19. Furthermore, the Spearman correlation coefficient was used to verify the correlation between the HDI index and indicators related to COVID-19.

**Results:** This study showed that in all the studied countries, highest cumulative incidence rate of COVID-19 cases was in Montenegro (60310.56 per million) while the lowest cumulative incidence rate of cases was in Tanzania (8.42 per million). The highest cumulative incidence rate of death due to COVID-19 was in Belgium (1425.15 per million) and Spain (1118.96 per million) and the lowest cumulative incidence rate of death was in Burundi (0.08 per million). Also social capital has a significant direct correlation with cumulative incidence rate of cases, cumulative incidence rate of death and number of performed COVID-19 diagnostic tests per million ( $p < 0.001$ ).

**Conclusion:** Considering that social capital has a statistically significant relationship with the indices of case fatality rate, recovery rate, cumulative incidence rate of cases and death, it is possible to increase social capital with appropriate interventions by relevant individuals and organizations in order to improve the management pandemics in different countries.



## Access to COVID-19 Information in Rural Communities.

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**Introduction:** Covid-19 or the respiratory acute syndrome disease has become one of the most important health concerns in the world. In hence, receiving the correct information is a basic need for diagnosis or prevention of disease. This study aimed to survey how rural population to access Covid-19 information.

**Methods:** This cross-sectional study was conducted from April 2022 to February 2023. Using the multi-stage sampling method nine hundred rural population from Sistan region of Sistan and Baluchistan province considering the inclusion criteria randomly were entered into the study. Data collection tool included socio-demographic and specific questions. The data in SPSS software version 22 using descriptive statistics (mean, percentage) and analytic statistic (chi square test, and one-way anova test) was analyzed. The significant level set at  $p \leq 0.05$ .

**Results:** The mean age of the participants was  $35.85 \pm 12.56$  years old, and 52/4 percent of the participants were women and 38% of them had primary education.

Data analysis according to different social media showed that 66.6% of subjects had obtained most their information through rural health workers and them mean scores of knowledge ( $14.15 \pm 2.84$  out of a total score of 16) and preventive behaviors ( $16.69 \pm 4$  out of 21) of them were significantly higher than others. In addition, radio as a social media had the least role in the Corona information diffusion by 2.8%.

**Conclusion:** According to the findings, rural health workers were the most important source for diffusion of corona-19 information among rural population. Therefore, promoting the rural health networks and implementing educational programs for developing the knowledge, attitude and practice of rural health workers will have a vital role in health promotion of rural population.

**Key word:** Covid-19, Rural population, Information Sources

## Prevalence and Risk Factors for Post-Traumatic Stress in COVID-19 survivors in Iran

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**Introduction:** The post-traumatic Stress Disorder is one of the most important mental health disorders that is widely researched during the coronavirus disease 2019 outbreak. But previous studies have mostly focused on the comparison of its prevalence among medical care providers, community members and patients rather than examining its prevalence among age groups. Hence, this study aimed to examine the prevalence of PTSD among age groups and its related factors among Iranian survivors of COVID-19 infections.

**Methods and Materials:** This descriptive-analytical study was conducted in 2020, in Vasei Hospital, Sabzevar, Iran. Four hundred and two patients who had a history of hospitalization because of COVID-19 disease were recruited by the census sampling method. Data were completed using PTSD Checklist for DSM-5 criteria (PCL-5) and a demographic information questionnaire. The collected data were analyzed using Logistic Regression by the SPSS version 25 statistical software ( $p < 0.05$  as significance level).

**Results:** Out of 402 participants in the study, 166 (41.3% were female). According to the results, 15.5% of the participants were in the youth age group, 61.1% in the middle age group, and 23.4% in the old age group. The post-traumatic stress disorder prevalence was generally 36.8% (148 patients). Also, the prevalence of the disorder in the youth age group was 15.4%, in the middle age group was 6.2% and in the old age group was 23.4%. According to the chi-square test, there were significant differences in the prevalence of post-traumatic stress disorder among the age groups ( $\chi^2 = 10.3$ ,  $p < 0.01$ ). In addition, gender and marital status were not associated with PTSD in any of the age groups. Only, in the old age group, the level of education was significantly inversely correlated with post-traumatic stress disorder ( $r = -0.28$ ,  $p < 0.01$ ).

**Conclusion:** Middle-aged people were the most vulnerable age group to post-traumatic stress disorder. Therefore, improving the mental health of this age group should be considered a priority in health planning.

**Key words:** COVID-19, Post-traumatic Stress Disorder, Prevalence, Iran, Mental Health

## Association of polymorphisms in tumor necrosis factors with SARS-CoV-2 infection and mortality rate: A case-control study and in silico analyses

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### ABSTRACT

As the present coronavirus disease 2019 (COVID-19) spreads and existing data suggested susceptibility factors for developing a severe course of the disease. This case-control experiment aimed to study the associations of genetic polymorphisms in tumor necrosis factors (*TNF*) with COVID-19 and its mortality rate. A total of 550 participants (275 subjects and 275 controls) were enrolled. The tetra-ARMS-PCR technique was recruited to detect -308G>A *TNFα* and +252A>G *TNFβ* polymorphisms among the Iranian population. We demonstrated that participants carrying the G allele of *TNFβ*-252A/G, rs909253 A>G was more frequent in COVID-19 subjects compared to the healthy group and statistically increased the disease risk (OR=1.55, 95%CI=1.23-1.96,  $P<0.001$ ). At the same time, the A allele of *TNFα*-311A/G, rs1800629 G>A moderately decreased the risk of COVID-19 (OR=0.68, 95%CI=0.53-0.86,  $P=0.002$ ). In addition, we analyzed the various genotypes regarding the para-clinical and disorder severity; we found that the AA genotype of *TNFβ*-252A/G, rs909253 A>G, the CT scan pattern was different in comparison to cases in the AG genotype with  $P_1=0.001$ . In addition, in the severe cases of COVID-19, leucocyte, neutrophil count, and duration of ICU hospitalization in the death group have been significantly increased ( $P<0.0001$ ). The Moreover, the *TNFα*-311A/G, rs1800629 G>A variant is likely to change the pattern of splicing factor sites. Our findings provided deep insights into the relationship between *TNFα*/*TNFβ* polymorphisms and severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Replicated studies may give scientific evidence for exploring molecular mechanisms of COVID-19 in other ethnicities.

**Keywords:** COVID-19; SARS-CoV-2; Polymorphism; Tumor necrosis factor; Respiratory distress; CT pattern



## Identification of CD8<sup>+</sup> T cells epitopes in SARS-COV-2 for Iranian common MHCI alleles by immunoinformatic

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**Introduction:** World Health Organization announced the corona virus epidemic on January 20, 2020, following the outbreak in Wuhan city and its rapid transmission to several countries of the world. SARS-COV-2 is a member of the coronavirus family causes respiratory disease in humans. Many vaccines have been developed against SARS-COV-2. But so far no high efficiency vaccine with strong safety and immunogenicity has been introduced. The basic step of immune response is specific recognition of epitopes by lymphocytes. The response of CD8<sup>+</sup> T lymphocytes plays a very important role in controlling corona disease. The aim of this study is to determine the specific epitopes of CD8<sup>+</sup> T lymphocytes located on SARS-COV-2 virus for common MHC I alleles in Iranian population by immunoinformatic.

**Methods:** The amino acid sequence of ORF1ab - S - ORF3a - E - M and N proteins from SARS-COV-2 virus was obtained using NCBI database. The most abundant MHC I alleles in the Iranian population were determined by allele frequency net database and the specific epitopes of CD8<sup>+</sup> T lymphocytes (connected to MHC I alleles) were predicted by NETMHCPan software.

**Results:** In this study, 2180 CD8<sup>+</sup> T cells specific epitopes on SARS-COV-2 for Iranian common MHCI alleles were predicted by immunoinformatic. 1610, 292, 93, 48, 85 and 52 of mentioned epitopes were belonged to ORF1ab, S, ORF3a, E, M and N proteins respectively.

**Conclusions:** In present study, a lot of CD8<sup>+</sup> T cells specific epitopes on SARS-COV-2 for Iranian common MHCI alleles were recognized. Further studies for determination of epitopes which induce strong immune response in order to prepare efficient anti- SARS-COV-2 vaccines are warranted.

**Key words:** SARS-COV-2, epitopes, immunoinformatic, CD8<sup>+</sup> T cells



## Assessment of Laboratory Errors for Laboratory Diagnosis of COVID-19 in the Pre-Test Phase

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**Introduction:** Studies of the American Institute of Medicine demonstrated that the maximum percentage of error (32-75%) is occurred in the pre-analytical phase, and also the minimum percentage of error (13-32%) is observed in the test analysis phase, which is also true for molecular diagnostic test of the COVID-19. The diagnostic test of COVID-19 based on the real-time quantitative polymerase chain reaction ((Real- Time qPCR) is not considered as a gold standard test, but due to its very high accuracy and short duration of detection between 4 and 6 hours, the Real- Time qPCR was used as an index test for the diagnosis of the COVID-19. The challenge of inconsistency among laboratory results, the patient's clinical conditions and CT scan findings is an issue that is always emphasized by clinical experts. In this study, while confirming the issue, the most important difference of opinion was related to the problems arising in the pre-test phase, including improper sending of samples, problems in labeling, improper sampling, sample carryover interference and sample sampling error in the laboratory.

**Materials & Methods:** In this study, the reference laboratory results of Zahedan University of Medical Sciences were used as repeat sample or testing repetition using the advice from technical officials or physicians.

**Results:** After conducting 142,178 diagnostic tests of the COVID-19 based on the Real- Time qPCR method in the reference laboratory of the university, for the reasons mentioned above, a request was made to repeat the sample or repeat the extraction of RNA for the number of 9,005 samples, indicating a 6.3% error in the pre-test phase.

**Discussion:** Since the inconsistency between clinical and CT Scan results and laboratory results due to increasing the number of COVID-19 patients, the failure of many patients with positive or negative outcomes to refer to the doctor, the lack of association between the laboratory and radiology, the use of the non-scientific medicines results in the accurate and unavailable data of the inconsistency between the laboratory and the clinic, and this has led to the fact that an accurate analysis of error rates is not available, and as a result, error rate cannot be estimated in each of the pre-test, test and post-test phases; however, in this study, the estimated error rate was 6.3% in the pre-test phase, indicating a significant percentage, and thus it is necessary to improve training related to error rate reduction.

**Keywords:** COVID-19, Laboratory Errors, Real- Time qPCR, Pre-Test Phase





## Telemedicine for the management of COPD patients in the covid-19 pandemic

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**Introduction:** COPD is one of the main causes of death worldwide and imposes a great social and economic burden on the society. Telemedicine can support traditional treatment and also overcome the problems of access to health services, resource limitations and quarantine in the days of Covid-19 and be beneficial for patients.

**Methodology:** A search based on Prism guidelines was conducted in 1401 databases of Mbase, Medline and Google Scholar to identify English studies related to the objective. First, the articles were selected based on the title, then based on the abstract and finally based on the full text. The included studies were evaluated by the researchers in terms of quality and risk of exploitation using the Kasp criteria.

**Results:** Out of 1740 retrieved articles, only 6 articles met the inclusion criteria. In general, telemedicine has been useful in areas such as: therapeutic exercise, physical activity, disease improvement, patient monitoring and control, psychosocial support for patients, smoking cessation and generally improving the quality of life.

**Discussion:** The use of telemedicine has played a useful role in the management of COPD patients, which seems to be as effective as conventional treatment delivery methods in the era of Covid-19. Therefore, if conventional treatment is not practical or possible, they can be considered as a health promotion strategy.

**Keywords:** Telerehabilitation, digital health, Telemedicine, COPD, COVID-19.



## Prevention of covid-19 by seeking the support of social capitals based on the health belief model(HBM)

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### Abstract

**Introduction:** The infectious disease covid-19 is caused by a new coronavirus. Adopting preventive action to protect against covid-19 is one of the important strategies to prevent covid-19 and since social capitals help in achieving common goals and solidarity and one of the appropriate models in education of preventive behaviors from the disease is model of health belief. This research was done with the aim of preventing Corona by support from social capitals based on healthy beliefs.

**Procedure:** This research was conducted by using a qualitative method. The research population included the social capitals of the province, health and treatment workers and those who refer to health and treatment centers of Zahedan University of Medical Sciences. In order to select the participants in the research, a targeted non-random method was used and this continued until data saturation (29 people). Data collection tools were semi-structured interview, group discussion and observation. The latent content analysis method was used to analyze the data.

**Results:** The results of the interview led to the extraction of three classes; Individual's personal perception, modulating behaviors and action probability. Based on group discussion and observation of researchers; Social capitals, identification and demand based on the perceived threat to researchers, caused social modeling in the prevention of Covid-19.

**Discussion:** Several factors play a role in the adoption of appropriate health behavior by people. Based on the results of this research, instead of creating the sensitivity of each individual, the sensitivity of social capital with appropriate intensity can induce the level of perceived threat of disease damage by them to the general society to the extent that in a short period of time, most of the people Follow the accepted mental norms regarding the prevention of Covid-19 and will take unprecedented and effective measures to control the disease.

**Keywords:** support, prevention of covid-19, social capitals



## Factors associated with preventive behaviors of COVID-19 among adolescents: Applying the health belief model

Fathia-Dastgerdi

**Background:** The emergence of a new pandemic caused by a novel coronavirus (COVID-19) is a unique challenge for public health (all age and sex groups). Objective: This study aimed to explore the adolescents' perceptions of preventive behaviors to avoid COVID-19 disease based on the health belief model (HBM). **Method:** This cross-sectional study was conducted on 797 adolescents (aged between 12 and 18 years old), who were 7th-12th -grade students of 24 randomly selected schools from 28th May to June 28, 2020 in Isfahan, Iran. An online self-administered questionnaire was adapted to measure the adolescents' perceived threats, barriers, benefits, self-efficacy, and cues to action toward protective behaviors.

**Results:** Findings indicated that the adolescents' mean age was 14.7 (SD = 1.7) and 53.7% of them were female. Regardless of gender difference, there was a significant positive correlation between the adolescents' protective behaviors and their self-efficacy ( $r = 0.62$ ,  $P < 0.001$ ), perceived benefit ( $r = 0.29$ ,  $P < 0.001$ ), and perceived severity ( $r = 0.15$ ,  $P < 0.001$ ), while there was a significant negative correlation between the adolescents' protective behaviors and their perceived susceptibility ( $r = -0.11$ ,  $P < 0.001$ ), as well as their perceived barrier ( $r = -0.21$ ,  $P < 0.001$ ). The result of the Hierarchical regression analysis also revealed that the HBM model had a significant predictive power for preventing measures towards coronavirus disease in adolescents (Adj  $R^2 = 0.46$ ,  $p < 0.001$ ). The results also showed that self-efficacy was the strongest predictor ( $\beta = 0.59$ ,  $P < 0.001$ ) in explaining protective behaviors in adolescents.

**Conclusion:** In the context of coronavirus disease pandemic in adolescents, the health belief model could provide a useful framework for planners to develop educational programs. Moreover, in such a context, strategies to promote self-efficacy in adolescents should be considered more carefully to help them improve their protective behaviors



## Critical Analysis of the Language Discourse during COVID-19: Role of Stakeholders in Iranian Media

Abdurrasahid Khazaei Feizabad, Nematullah SAhomoossi, Fatemeh Gholami, Mohammad Kazem Momeni

### Abstract

**Context and purpose:** The present study was designed aiming to analyze lexical relationship in the Covid-19 related discourse in Iranian media analytically so as to explore the function that the language could play in the battlefield of corona virus disease. The media symbol requires the sacrifice of a military institution that intervened and brought health to the society.

**Materials and methods:** This study was conducted on the news reports published between 20 December 2018 and the end of the third outbreak of Corona on the first of February 2019 extracted from the website of Mehr News Agency and collected in the form of 316 news reports containing 155,800 words. Then, the frequency of related and frequently used words in the linguistic body was checked based on the context of the word. In the next step, using the six stages of Clark and Brown's (2013) conceptual analysis method, related and thematic analyses were performed and the strategies used were extracted. Moreover, the collected data were critically analyzed based on Fairclough's model which were presented in the threefold form of description, interpretation and explanation.

**Findings:** Some concepts related to the text and textual elements, including discourse patterns related to the corona disease epidemic in the time frame of the research topic were recognized. The presented analysis revealed some frightening and threatening concepts such as, cow-camel-leopard virus, also some expressions about participants were obtained that showed the dedication of the treatment staff and the death of this group under the titles of martyrs and extremely selfless people.

**Conclusion:** The analysis using Farclough's critical discourse analysis revealed that in the beginning Iranian Ministry of Health tried to normalize the existing conditions on the part of the power institutions and show the maximum use of power and that sufficient facilities were available in dealing with relatives. On the other hand, neglecting the patient as one of the main participants is evident and visible through the analysis. The main conclusion is that the health system of the country is the commander of the battlefield, which provides the healthcare staff with required logistics and strength. They are the soldiers who are well-prepared and willing to be veterans in an unequal battle on the battlefield against the perpetrator.

**Keywords:** Covid-19, news reports, critical discourse analysis of Fairclough, war, participants

## **The Effect of Influenza Vaccination on COVID-19 Morbidity, Severity and Mortality: Systematic Review and Meta-Analysis**

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Coronavirus disease 2019 (COVID-19) pandemic is rapidly developing worldwide with a high mortality rate. In this meta-analysis study, the effect of influenza vaccination on the prevention of COVID-19 and its consequences in patients were investigated.

The systematic search for this study was performed from November 2019 to 25 November 2020, in the databases of Medline, PubMed, Scopus, Web of Science, Embase, Ebsco, Cochrane and medRxiv. Search terms used included COVID-19, coronavirus, SARS-CoV-2, covid, influenza, flu, gripe and vaccine. The present study examined the association between influenza vaccination and COVID-19 including COVID-19 infection, mortality, hospitalisation and intensive care unit (ICU) admission. Finally, the pooled estimates for different outcomes were calculated by the software for statistics and data science (STATA) version 15 and I<sup>2</sup> was used to determine the heterogeneity.

By analysing the data of articles, the pooled estimates of these data indicated that influenza vaccination could lower probability of COVID-19 infection up to 24% (OR = 0.77; 95% CI: 0.65, 0.91), of death up to 32% (OR = 0.68; 95% CI: 0.42, 1.11), of the hospitalisation up to 25% (OR = 0.75; 95% CI: 0.46; 1.23) and of admission to ICU up to 29% (OR = 0.71; 95% CI: 0.40, 1.27).

Influenza vaccination can help decrease the COVID-19 infection and reduce hospitalisation and the need for ICU and mortality rates.

**Keywords:** COVID-19, influenza vaccine, hospitalisation, mortality, ICU, prevention



## Relationship between breastfeeding and transmission of covid-19: A systematic review

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**Introduction:** One of the most important concerns in the covid-19 pandemic was the transmission of the virus from mother's milk to the baby and its importance due to the important role of breastfeeding in the growth and development of the baby. This review examines this issue.

**Search Method:** This systematic review article was written in 2023 by searching the PubMed database and using the keywords COVID-19, safety, breast milk and newborn, and 14 articles were included in the final analysis.

**Results:** Despite proving the presence of viral RNA by RT-PCR in the milk of infected mothers, breast milk is rarely a carrier of the SARS-CoV-2 virus, infant infections are caused by oral transmission through respiratory droplets and invasion of enterocytes. Breast milk contains microbiota, substances Nutrients are diverse white blood cells, prebiotics that provide short and long-term digestive and respiratory immunity in infants by transferring antibodies. Lactoferrin in breast milk increases mucosal immunity and prevents the virus from anchoring on cell receptors. Cytokines and growth factors also prevent the cytokine storm by stimulating the baby's immune system.

**Conclusion:** Breast milk nutrients have reduced the rate of illness and death by inhibiting the possibility of virus infection, and breastfeeding should be done with respiratory precautions.

**Key words:** COVID-19, safety, breastfeeding, newborn

## Investigating pregnancy outcomes in women with corona in the intensive care unit

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**Background:** Severe acute respiratory syndrome coronavirus (SARS-CoV-2) causes infections with respiratory symptoms. It is known as a human-to-animal transmissible virus and is adapted to present the potential for human pathogenicity. COVID-19 has raised concerns about vulnerable groups in society. Pregnant women are more susceptible to the disease than other women due to their weakened immune system defenses, so this study was conducted to investigate the pregnancy outcomes in pregnant women with covid-19 in the teaching hospitals of Zahedan University of Medical Sciences in 2020.

**Methods:** This cross-sectional study investigated 23 pregnant women with COVID-19 hospitalized in the special care department of Corona in Ali Ebn Abitalib Zahedan Hospital. Data collection in this study was done using a data form (including demographic information, disease information such as symptoms and complications, and birth information). Finally, the studied data were analyzed with SPSS software version 26.

**Result:** The mean age of the women studied in this study was  $31.08 \pm 5.9$  years and their mean gestational age was 31.08 weeks. 30.4% of them were gravid 3 and 34.8% were gravid 1. 9 patients (39.1%) had cesarean section, 8 patients (34.8%) had NVD, and 7 patients (30.4%) died. The frequency of clinical symptoms was as follows: cough (91.3%), headache (52.2%), edema and epigastric pain (both 34.8%) and blurred vision (30.4%).

**Conclusion:** Finally, it can be stated that the maternal mortality and preterm birth rates among pregnant women with covid-19 are remarkably high. Therefore, it is necessary to carry out prenatal care, to teach health protocols, to closely monitor the mother and the fetus in order to reduce maternal and neonatal complications.

**Keywords:** COVID-19, Pregnancy, Outcome, Critical Care



## Oral Manifestation of COVID-19

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**Background:** The novel coronavirus disease 2019 (COVID-19), also known as SARS-CoV-2, was declared a global pandemic by the WHO on March 11, 2020 (2). Coronaviruses (CoVs) are a group of viruses belonging to the family called Coronaviridae. The subfamily Coronavirinae consists of three genera, alpha coronavirus, beta coronavirus and gamma coronavirus. The spread of infection of severe acute respiratory syndrome CoV-2 (SARS-CoV-2) is either through direct transmission or inhalation of droplets or due to contact with the oral, nasal and eye mucus membranes. The lungs are the first site of infection for COVID-19, and Most commonly reported are flu-like symptoms of fever, dry cough, malaise, fatigue, myalgia and diarrhea (8). In these patients, oral manifestations are seen that are probably secondary to the systemic health status or due to the treatments of COVID-19 (1). In this study, we aimed to study oral manifestation and mechanism of their development in patients with COVID-19.

**Method:** An electronic search was conducted in PubMed (MEDLINE), Scopus, Science Direct and Google. The key words were selected based on Medical Subject Heading (MeSH) terms. The studies limited to English language publications and these studies were retrieved by searching for the following keywords: COVID-19, SARS-CoV-2, Oral Manifestations, Oral Pathology, and Oral Disease.

**Results and Discussion:** In Covid-19 patients, oral lesions may resemble dermatologic lesions and the prevalence of oral and dermatologic lesions are similar (about 2%–20%). It has been stated that Covid-19 has a higher mortality rate among men compared to women; however, there is no difference between genders with regard to prevalence of oral lesions (3).



## Humoral Immunity in People Living With HTLV-1 Infection Vaccinated Against SARS-Cov-2: A Retrospective Cohort Study

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**Background:** Evaluation of immunity response to the vaccines against COVID-19 among people infected with human T-cell lymphotropic virus type 1 (HTLV-1) is necessary. We aimed to evaluate the immunogenicity of SARS-Cov-2 vaccines among people living with HTLV-1 (PLHTLV) in Mashhad, Northeastern Iran.

**Methods:** In this retrospective cohort study, PLHTLV outpatients were selected from neurology clinic of Ghaem Hospital and Internal Medicine Clinic of ACECR in Mashhad, Iran, during December 2021 and October 2022. An age- and sex matched convenient sample of HTLV-1 seronegative individuals was also chosen from population referred to a clinical laboratory of ACECR in November and December 2022. SARS-CoV-2 antibodies were measured by enzyme-linked immunosorbent assays at least 28 days after receiving two- or three-dose regimen of the vaccine.

**Findings:** We enrolled 86 PLHTLV including 50 males and 36 females, with a mean age of  $47.7 \pm 11.2$  years. PLHTLV showed lower rates of antibodies activity in sera than HTLV-1 negative group for nucleocapsid protein (66.3% vs. 86.7%,  $p=0.001$ ), spike protein (91.9% vs. 98.9%,  $p=0.027$ ) and its receptor-binding domain (90.7% vs. 97.8%,  $p=0.043$ ), as well as neutralizing antibodies (75.6% vs. 95.5%,  $p<0.001$ ). In addition, PLHTLV demonstrated lower anti-spike antibody titers ( $115.5 \pm 68.5$  vs.  $174.0 \pm 55.6$ ,  $p<0.001$ ). The patients with HTLV-1-associated myelopathy displayed lower rates of anti-spike antibody activity (78.6%) than non-symptomatic virus carriers (98.3%,  $p=0.002$ ), however, the antibody titers were not significantly different between two groups ( $p=0.06$ ).

**Conclusion:** This study demonstrated lower humoral immune response to SARS-Cov-2 vaccines among PLHTLV compared to individuals without HTLV-1 infection, reflecting an immunosuppression status in PLHTLV.

**Keywords:** HTLV-1; Humoral Immunity; SARS-CoV-2; Vaccination

## The psychological toll of the COVID-19 pandemic on dental care providers in Iran: a multicenter cross-sectional study

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**Background/purpose:** The Covid-19 pandemic affects social and psychological resources. Healthcare workers, especially dental personnel, are more at risk for mental issues due to anxiety, pressure, and frustration. This study assessed mental health outcomes during the COVID-19 epidemic among Iranian dental care providers, focusing on insomnia, anxiety, depression, and posttraumatic stress disorder (PTSD).

**Methods:** In this multicenter cross-sectional survey, the Insomnia Severity Index, the Hospital Anxiety and Depression Scale, and the Global Psychotrauma Screening were measured. Six hundred thirty-eight dental care providers (dental specialists, general dentists, dental hygienists, dental assistants, and dental students) from different parts of Iran (Tehran, Shiraz, Tabriz, and Mashhad) were investigated by the stratified sampling method. The univariate analysis was incorporated as independent in binary logistic regression models to analyze the data. In this study, the significance level was set at 0.05.

**Results:** Among all the participants, 42.8% were dental students or residents, 21.9% were general or specialist dentists, 18.7% were dental assistants, and 16.6% were non-clinicians. The prevalence of insomnia, anxiety and depression was 31.3%, 40.8%, and 54.9%, respectively. The frequency of participants in the low, moderate, and high levels of PTSD resulting from LCA 56.6%, (33.7%, and 9.7%, respectively.

**Conclusions:** This study found a significant frequency of mental health issues among Iranian dentists. Females, participants whose relatives have COVID-19, and those with a higher workload were more likely to develop mental health symptoms. As mental problems among dental professionals might affect the quality of patient care, diagnostic, supportive, and therapeutic interventions should be taken.

**Keywords:** anxiety; Covid-19; dentistry; depression; mental health



## Spiritual health and quality of life during home quarantine since the outbreak of COVID-19 in the city of Babol, Iran

Nooshin peyman

**Objective :** Due to the prevalence of COVID-19 (Corona virus) in Iran, a large number of people try to protect themselves and their families from the virus by quarantining themselves at home. Since people have a closer relationship with spirituality in the face of crises, it can be important to pay attention to people's spiritual health and its impact on their quality of life during home quarantine.

**Methods:** This descriptive and correlational research was conducted in Babol, one of the northern cities of Iran in 2020. Among all family members who have been in home quarantine since the outbreak of the coronavirus, 362 person were selected via multi-stage cluster method. Data was collected by Paloutzian's Spiritual Well-Being questionnaire and Quality of life questionnaire (sf-36). All data were analyzed using Pearson, Spearman and t-test.

**Results:** The mean score of age, Quality of life, and spiritual well-being were  $35.59 \pm 9.95$ ,  $114.48 \pm 17.96$ ,  $88.98 \pm 15.68$ . There is a positive and significant relationship between quality of life and spiritual health ( $P = 0.000$   $r = 0.478$ ). There is also a significant relationship between quality of life and each of the dimensions of religious health ( $P = 0.000$   $r = 0.3$ ) and existential health ( $P = 0.000$   $r = 0.555$ ). This was while there was no significant relationship between the history of hospitalization due to coronavirus and quality of life and spiritual health. But there was a significant relationship between relatives' mortality rate with quality of life ( $P = 0.000$ ) and spiritual health ( $P = 0.003$ ).

**Conclusion:** People who have higher spiritual health in home quarantine also have a higher quality of life.

**Keywords:** Quality of life, Spiritual well-being, quarantine, COVID-19

## Effectiveness of noninvasive ventilation in patients with severe COVID 19 virus infection with respiratory failure

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**Introduction:** The emergence of the epidemic caused by the new virus, Covid-19, at the end of 2019 created great challenges for the public health system. One of the biggest challenges was the presence of severe respiratory failure in a significant number of these patients and the severe need of these patients for respiratory support. One of the most important complications of severe covid is respiratory failure. Respiratory failure in covid is caused by different mechanisms and may have different manifestations and response to treatment, but how to optimally manage hypoxemic respiratory failure is very important in the survival of patients.

**Methods:** An observational study was conducted on patients with severe covid-19 who required respiratory support after one week of basic treatment. All patients (74% male) had PCR-proven covid 19 infection and respiratory failure and CT scan findings consistent with COVID-19 pneumonia, and all of them needed respiratory support in the first stage of oxygen with a reservoir mask and in the absence of saturation above 89 % of NIV was used. Primary outcomes were NIV success and failure as defined by intubation and mortality. Secondary outcome was duration of NIV.

**Results:** We studied 64 patients (mean age, 42 [14] years [mean, SD]; 74% male) who still had acute respiratory failure after one week of treatment and required long-term respiratory support. NIV was successful in 49 (76.5%) patients. Death occurred in 12 patients (18.7.3%).

**Conclusion:** Patients with severe covid and respiratory failure requiring support ventilation often present with clinical criteria of acute respiratory distress syndrome. Mortality in severe respiratory failure of Covid is high, especially in cases requiring intubation. The use of non-invasive ventilation in these patients has a lower risk.

**Keywords:** COVID-19; acute respiratory failure; endotracheal intubation; noninvasive ventilation.

## Exposure to the COVID-19 news on social media and psycho-behavioral changes response among Iranians

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**Background:** During the pandemic of COVID-19, exposure to news on social media to receive information was high and inevitable. This study aimed to explore the association between exposure to COVID-19 news on social media and psycho-behavioral changes among Iranians.

**Methods:** This cross-sectional, telephone-based survey was conducted in 2020. Adults aged 18 years and above who were Iranian nationality, and experiences of exposure to the COVID-19 news on social media were randomly selected. A self-designed questionnaire with two sections was administered. The first section was about socio-demographic information including age, gender, marital status, education, economic status, and occupation. The second section of the questionnaire contained six items related to people's exposure to news on social media during the COVID-19 pandemic (three items); three items to psychological response (fear and anxiety), and one item related to behavioral response (hand washing, wearing a face mask, social distancing). Each item was rated on a 5-point Likert scale. The psychometric evaluation of the questionnaire (content validity, face validity, and internal consistency) was found to be satisfactory. A multivariable logistic regression analysis was performed to evaluate the relationship between anxiety, fear, behavioral responses, and independent variables, including exposure to news.

**Results:** A total of 1563 adults participated in this study. The mean age of respondents was  $39.17 \pm 13.5$  years. Almost 55% of participants reported moderate to high-level anxiety, while fear of being affected by COVID-19 was reported by 54.1%. Overall 88% reported that they had changed their behaviors to some extent. Exposure to the COVID-19 news on social media was the most influencing variable on anxiety (OR= 2.21, 95% CI: 1.62-3.04;  $P < 0.0001$ ), fear (OR= 1.95, 95% CI: 1.49-2.56;  $P < 0.0001$ ), and change in health behaviors (OR= 2.02, 95% CI: 1.28-3.19;  $P = 0.003$ ) in the regression model. The fear of being infected by COVID19 was associated with the female gender and some socioeconomic characteristics.

**Conclusions:** Exposure to the COVID-19 news on social media seemed to be associated with psychological response. It also showed some positive changes among participants.

**Keywords:** Anxiety, Behavior change, COVID-19, Fear, News, Social media.



## A narrative review of research on healthcare staff's burnout during the COVID-19 pandemic

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### Abstract

**Background:** During the 2019 coronavirus disease (COVID-19) pandemic, burnout emerges as a critical health problem that might involve workers in many occupations, particularly healthcare personnel. Although burnout syndrome is not necessarily proved to be nosologic, it yields serious physical, mental, and social outcomes. However, it is essential to provide practical strategies and effective instruments for people so that they can adapt to such highly stressful conditions.

**Objectives:** The present review was conducted to explore preliminary evidence for nature, treatment, and prevention of burnout among healthcare workers during the COVID-19 pandemic.

**Methods:** Related English literatures published from the beginning of January 2020 to the end of September 2020 were searched in PubMed, Web of Science, Scopus, and Google scholar databases. "Burnout," "COVID-19," "healthcare workers," "medical staff," and "pandemic" constituted the search terms. A narrative technique was implemented for material synthesis and creating a compelling and cohesive story.

**Results:** Final results provided the burnout history and its major effects, causes, and prevalence among healthcare workers. Also, some strategies were listed to be employed by hospital medical staff and organizations to deal with the COVID-19 pandemic.

**Conclusions:** Recent evidence demonstrated that healthcare staff could gain significant benefits from interventions to modify burnout syndrome, especially from organization-directed interventions. So, health policymakers and practitioners should adopt such interventions and develop context-specific approaches promoting a healthy workplace and averting burnout during the COVID-19 crisis.

### Keywords

Burnout, COVID-19, healthcare staff, pandemic, review



## Effectiveness of Internet-based Cognitive-Behavioral Therapy for Insomnia during Quarantine of SARS-COV-2 Pandemic: A Controlled Trial

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**Background and Objective:** In the late 2019, an acute respiratory syndrome [severe acute respiratory syndrome coro-navirus 2 (SARS-CoV-2)] resulted in a pandemic coronavirus disease (COVID-19). This study was designed to com-pare the efficacy of internet-based cognitive behavioral therapy for insomnia (ICBT-I) with online relaxation training for management of insomnia during SARS-CoV-2 pandemic.

**Materials and Methods:** This controlled trial was conducted on adults (18-65 years) with the complaint of insomnia who called psychology call centers in Mashhad, Iran, from March to June 2020. Participants with insomnia symptoms starting after SARS-CoV-2 pandemic who had Insomnia Severity Index (ISI) scores of  $\geq 15$  were included in the study. Five weekly sessions of ICBT-I as the intervention were compared with 5 weekly online relaxation training sessions in the control group. ISI before and after 5 weeks of follow-up was compared in both groups.

**Results:** From a total cohort of 144 subjects included in the study, 98 were excluded and the remainder were allocated to 23 cases and 23 control subjects. During follow-up period, 5 individuals (21.7%) dropped out in each group. The mean ISI scores improved after therapy (20.6 to 8.5 and 21.8 to 13.0 for intervention and control groups, respectively).

**Conclusion:** ICBT-I significantly improved insomnia severity during home quarantine of SARS-CoV-2 pandemic. We suggest that ICBT-I could be an effective and feasible alternative in pandemic of an infectious disease. Clients accepted ICBT-I with a minor drop-out in our study.

**Keywords:** Insomnia; Cognitive behavioral therapy; Internet-based intervention; Remote consultation; COVID-19; SARS-CoV-2



## The Prevalence of Mental Problems in Pregnant Women with COVID-19 in Northwestern Iran in 2021

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**Introduction:** Several studies have reported the susceptibility of pregnant women to emotional instability and stress. Thus, pregnancy may be a risk factor that could deepen the harmful effects of contracting covid-19. Therefore, this study's aim is to determine the prevalence of Psychological consequences of contracting COVID-19 in pregnant women.

**Method:** In this cross-sectional study from 21 March 2020 to 21 March 2021 all pregnant women with COVID-19 who were admitted to healthcare centers in three counties (Mahabad, Miandoab, Bukan ) in West Azerbaijan province in Iran were enrolled. All pregnant women with COVID-19 were completed the Beck Depression questionnaire and Anxiety questionnaire.

**Results:** All pregnant women with COVID-19(488) with a mean age ( $29.88 \pm 6.37$ ) years were included in this study. A total of 103 (23%, 103/488) pregnant women with COVID-19 were anxious, 115 of them (25.7%, 115/448) were depressed, and 63 patients (14.1%, 63/448) suffered from both anxiety and depression. For the anxiety state, only 9.8% of all pregnant women with COVID-19 (44/448) were in a light anxiety state. For the depression state, 74.3% (333/448) of pregnant women with COVID-19 were normal, 11.8% of patients (53/448) showed mild depression, 9.6% (43/448) showed moderate depression, and 4.2% (19/448) showed severe depression.

**Conclusion:** Our results indicate in Iran, pregnant women with COVID-19 face mental problems including depression and anxiety due to contracting COVID-19. Therefore, psychological interventions are necessary for pregnant women with covid-19, and it is also necessary for all pregnant women to receive the COVID-19 vaccine.

**Keywords:** Pregnancy, depression, anxiety, COVID-19

## Investigating the problems of using personal protective equipment in the period of Covid-19 based on the views of the nurses of Farabi Hospital, Tehran University of Medical Sciences, year 2022

Ameneh Imani ,Elnaz Nasirloo

### Abstract

**Background:** The spread of the Covid-19 disease is a fundamental problem for everyone's health worldwide. One of the fundamental problems in effectively dealing with this disease is the quality and quantity of personal protective equipment in the medical staff, especially nurses. Since this disease threatens people's lives, it is important to pay attention to the protection issues and how to prevent the disease. This study was conducted with the aim of understanding the problems of using personal protective equipment in the period of covid-19 based on the nurses' point of view.

**Materials and Methods:** This descriptive and analytical study was conducted on 133 nurses who worked in the hospital during the Corona period.

The data collection tool was a questionnaire and the collected data was analyzed using Cramers V test in spss software.

**Results:** The results of the survey on 133 nurses (116 women and 12 men) showed that only 55.7% of them needed masks more than personal protective equipment. They also mentioned the long-term use of masks (43.8%) and shields (23.97%) compared to other annoying devices.

Half of the nurses considered the mask to be the most low-quality protective device during the Covid period. Being allergenic (20.05 percent), creating scars on the face (17.66 percent) and inappropriate fixation on the face (13.7 percent) were mentioned as the most problems of using the mask. Inappropriate glove size (26.37%) was the biggest problem for nurses in using this device.

The simultaneous use of medical glasses and masks had become a problem for 32.3% of people. And 84% of nurses considered the improper ventilation of the work environment as the cause of feeling hot and bothered when using the equipment. The results of the research showed that there was no significant relationship between the problems of using personal protective equipment and gender and type of work unit.

**Conclusion:** Nurses had the most problems with the poor quality of masks compared to other personal protective equipment. This recognition requires more attention and supervision of managers and healthcare professionals in all stages of the manufacturing industry of this type of equipment.

**Keywords:** Personal protective equipment, Nursing problems, Covid-19

## Comparative study of mean intima-media thickness of bilateral carotid artery in 20- to 40-year-old patients with SARS-CoV-2 infection 3 to 6 months after recovery compared with healthy individuals

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### Abstract

**Introduction:** Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) can be affected cardiovascular system by mechanisms such as initiating systemic inflammation and effect on Angiotensin Converting Enzyme-2 (ACE-2). Prolongation of these inflammatory processes can cause vascular dysfunction, which might have additional implications for cardiovascular health. However, the long term impacts of SARS-CoV-2 on the structure, flow and stiffness of cardiovascular system remains unknown. Therefore, this study aimed to assess the difference in intima-media thickness of bilateral carotid artery 3 to 6 months after recovery between recovered patients and healthy individuals.

**Methods:** in this cross-sectional study, the carotid intima-media thickness (CIMT) in 89 young adults (47 patients recovered from COVID-19 (case) and 42 healthy individuals (control)) were measured by Doppler Ultrasound and finally, the data obtained from the research were analyzed by SPSS V.26 statistical software.

**Results:** in this study, we evaluated 47 young adults ( $30.80 \pm 5.78$  years of age, 7 male and 40 women) 3-6 months after a positive SARS-CoV-2 test result compared with 42 young adults ( $26.50 \pm 5.85$  years of age, 5 male and 37 female) who were healthy individuals. In addition, the mean right and left CIMT was significantly lower in COVID-19 patients who had recovered compared to healthy individuals (Right CIMT: Case,  $0.38 \pm 0.05$  mm vs. Control,  $0.40 \pm 0.02$  mm, P: 0.01; Left CIMT: Case,  $0.38 \pm 0.05$  mm vs. Control,  $0.40 \pm 0.02$ , P: 0.01).

**Conclusion:** this study revealed patients who had a previous positive SARS-CoV-2 test result had a lower CIMT compared to case group. This result showed that endothelial dysfunction may not be the main drivers of COVID-19 complication in recovered patients. Although we suggest more studies on the relation between CIMT and future vascular complications.

**Keywords:** Intima-media, Carotid Artery, SARS-CoV-2

## Vaccination and happiness in older adults during the COVID-19 pandemic

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**Introduction:** older adults are among the most vulnerable groups against the Covid-19 disease. Few studies have investigated the impact of vaccination on the mental health of the older adults. The aim of this study was to examine the relationship between vaccination and happiness in old women.

**Method:** This descriptive-analytical study was conducted in Shiraz city in 2019. The participants of the study included old women living in Shiraz city, who were randomly selected from among those covered by comprehensive health service centers in Shiraz city. Inclusion criteria included having an age of 60 years and older, the ability to communicate verbally, and willingness to participate in the study. Exclusion criteria were the presence of cognitive impairment and not completing the questionnaire completely. The data was collected in the form of face-to-face interviews using a demographic information questionnaire and the Oxford Happiness Questionnaire. Data were analyzed by one-way analysis of variance (ANOVA) in SPSS software version 25.

**Results:** 373 old women with an average age of  $67.63 \pm 7.01$  participated in this study. According to ANOVA, the feeling of happiness in older adults was different ( $F=4.21$ ,  $P<0.05$ ) based on the frequency of vaccination ( $27.70 \pm 2.76$  twice,  $26.73 \pm 1.89$  once, and  $24.73 \pm 2.1$  no injection).

**Conclusion:** The results of the present study showed that the feeling of happiness was higher in old women who were vaccinated against Covid-19. Therefore, older adults' vaccination programs should be given special attention.

**Keywords:** Aged, Happiness, COVID-19, Vaccination



## **Evaluation of the diagnosis and treatment options for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)**

Author of the article: Hamidreza Kouhpayeh

### **Introduction:**

Viruses are non-living organisms that cause many problems for human societies annually. The outbreak of some dangerous viruses causing acute pneumonia has been the leading cause of death in the world. The epidemiological findings showed that the virus is developing different and dangerous species by creating new mutations, which makes it difficult to treat. The diagnosis and treatment of corona virus disease (COVID-19) has been one of the most important topics in the scientific community for the past 2 years.

### **Results:**

There are several diagnostic methods available for the detection of COVID-19 that are highly accurate and require less time. The use of some therapies such as remdesivir with basic therapy has shown high therapeutic effectiveness, but the therapeutic side effects such as decreased glomerular filtration rate, decreased lymphocyte count, respiratory failure, and increased blood creatinine levels in most treatments have been observed.

### **Discussion:**

The COVID-19 infection and the associated deaths are still very worrying, therefore, rapid diagnosis and timely management of this deadly infection and the necessary measures for eradicating COVID-19 are important.

**Keywords:** Coronavirus, COVID-19, diagnosis, solution, treatment





## Correlation between hematological and immunological parameters related to covid-19 disease

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**Introduction:** The 2019 coronavirus disease (COVID-19) has become a global pandemic. According to the World Health Organization (WHO), about 200 million cases of Covid-19 infection have been reported. Complications caused by this disease have led to efforts from the medical and scientific community in understanding the biological basis of COVID-19 pathophysiological mechanisms. Thus, Laboratory investigations Including various hematological and immunological parameters may be helpful for COVID-19 infection evaluation for risks involved and effectiveness in management. The aim of this study was to identify the changes of hematologic and immunological parameters in patients infected with SARS-CoV-2.

**Methods:** Studies of the Correlation between hematological and immunological parameters related to covid-19 disease were searched in PubMed, Google Scholar, Scopus, Embase, Medline, and Cochrane databases until October 2022. Also A search was carried out in Medline and in MedRxiv and bioRxiv.

**Results:** This systematic review demonstrates Normal white blood cell and neutrophil count among COVID-19 patients. However, a significant decrease in lymphocytic counts was found among severe and critical patients. Hemoglobin level was found to demonstrate higher decrease among severe and critical patients. Platelet count was found in normal range in all COVID-19 patients. Routine coagulation tests revealed increased fibrinogen and d-dimer levels in severe and critical patients. Normal proportions of total CD3+ and CD4 + T lymphocytes were observed in COVID-19. However, CD8 + T lymphocytes proportion was found to be decreased. Also, low levels of immunoglobulin G and significantly higher in interleukin-6, C-reactive protein, procalcitonin, erythrocyte sedimentation rate, ferritin and lactate dehydrogenase.

**Conclusion:** Assessment of hematological and immunological parameters profiles in COVID-19 patients may help identify clinical progression of patients with COVID-19 disease. Thus, regular monitoring of the hospitalized patients may help in planning the management and treatment of these cases.

**Keywords:** COVID-19, SARS-CoV-2, Hematological parameters, Immunological parameter

## Endocrine Abnormality Reveals after COVID-19: A Cross-Sectional Study

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### Background:

In recent years, COVID-19 has become the most pandemic disease throughout the world. This study aims to investigate the relationship between hormonal production involved in fertility and SARS-CoV-2.

### Method and Materials:

In this cross-sectional study, patients with a positive SARA-CoV-2 PCR test (n=60 [30 males and 30 females]) were hospitalized. The information of complete blood count and endocrine hormones was obtained when the patients were admitted to the hospital or for a maximum of 4 days onset the hospitalization.

### Results:

Of 60 patients with COVID-19, forty-four (73.33%) had at least one abnormality mean item  $> \times 3$ . In total, 26 (43.33%), 21 (35%), 18 (30%), 13 (21.67%), 31 (51.67%), 12 (20%), 30 (50%), 25 (41.67%) patients having estradiol, follicle stimulating hormone (FSH), luteinizing hormone (LH), prolactin, progesterone, testosterone, cortisol and thyroid stimulating hormone (TSH) abnormal test results, respectively. There was no change in creatinine levels. FSH has shown drastic changes in both sexes' intensity (F: 769,  $P < 0.0001$ ). Although TSH had many abnormalities in women, analysis has shown no significant P value ( $P = 0.4558$ ). Furthermore, prolactin and testosterone mean level in men and the estradiol mean level in women have shown no significant P value ( $P = 0.2077$ ,  $P = 0.1446$ ,  $P = 0.1351$ , respectively).

### Conclusion:

Results suggest that COVID-19 affects directly or non-directly glands and related hormones.

**Keywords:** Endocrine System, COVID-19

## Effect of COVID-19 in Heart failure: a systematic review

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### Introduction:

SARS-CoV-2, the virus that causes coronavirus disease 19, is associated with a bewildering array of cardiovascular manifestations, including myocardial infarction, heart failure, atrial and ventricular arrhythmias, and venous thromboembolism. Furthermore, the pulmonary infiltration and edema, and later pulmonary fibrosis, in patients with COVID-19 is promoted by endothelial alterations including the expression of endothelial adhesion molecules and chemokines, increased intercellular permeability, and endothelial-to-mesenchyme transitions. Venous thrombosis and pulmonary thromboembolism are most likely associated with an endothelial defect caused by circulating inflammatory cytokines and/or direct endothelial invasion by the virus.

### Material & Methods:

We searched databases including PubMed, Medline, Cochrane, Embase, Scopus and Web of Science databases from 2020 to 2023 and read articles related to the topic.

### Results:

In 29 reviewed articles, 1465 patients were examined, which showed that there were specific changes in biomarkers related to coagulation, the cytokine storm and inflammation. 6.4% of patients with COVID-19 had an elevated troponin I on admission, a hypersensitive marker for cardiac myocyte injury. When these authors looked at acute cardiac injury as an outcome, defined as elevation in troponin I or diagnostic imaging findings, they found a similar 7% overall incidence in patients with COVID-19, but this was increased to 22% among ICU patients ( $P < .001$ ).

### Conclusion:

A comprehensive characterization of COVID-19-associated endotheliopathy, and an understanding of the mechanisms of acute and chronic endothelial alterations induced by SARS-CoV-2, will lead to an improved understanding of the many manifestations of COVID-19 and a refined management approach for this and other vasculotropic viral diseases. There for immune response induced by the SARS-CoV2 can virus resulted in inflammatory-associated myocarditis and increased oxygen consumption, which disturbed the imbalance of cardiac oxygen supply resulting in plaque rupture and MI.

**Key words:** COVID-19, Cardiovascular, Heart failure

## Resilience as a protective factor on the quality of life of nursing students during the COVID-19 pandemic

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### Introduction:

The COVID-19 pandemic negatively impacted the quality of life of individuals around the world, including health care professionals. There has been little research that examines the role of resilience concerning the impact of COVID-19 on the quality of life of nursing students. This study aimed to determine how resilience influenced the quality of life among nursing students during the COVID-19 pandemic.

### Methods:

A cross-sectional research design was adopted for this study. A total of 400 nursing students from Zahedan universities, responded in the web-based survey. Data was collected using self-reported questionnaires in March 2022.

### Results:

Our findings revealed that the participants' resilience was normal, which had a moderate impact on the quality of life of nursing students during the COVID-19 pandemic. The COVID-19 impact on QoL significantly differed with year of education ( $F = 2.087$ ;  $p < 0.02$ ) and university ( $F = 5.597$ ,  $p < 0.001$ ). Bivariate analysis revealed significant inverse relationships between the impact of COVID-19 on quality of life with resilience ( $r = -0.259$ ;  $p < 0.001$ ) and perceived knowledge on COVID 19 ( $r = -0.168$ ;  $p < 0.006$ ).

### Conclusion:

In our study, we found that resilience had a moderate impact on the quality of life of nursing students during the COVID-19 pandemic. Therefore, it is important to promote students' resilience and improve their quality of life during stressful situations.

## Effects of self-management education on COVID-19 prevention in patients undergoing hemodialysis

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### Aim:

To develop self-management education for preventing coronavirus disease 2019 (COVID-19) in patients on hemodialysis and to verify its effects.

### Background:

During the current pandemic, studies on various areas, such as infection control in dialysis units, infection rates, clinical characteristics, treatment progress, and the emotional and psychological states of dialysis patients, have been actively reported. However, experimental research verifying the effects of interventions on infection prevention in hemodialysis patients is very rare.

### Methods:

This study included 30 patients on in Imam Ali Hospital (15 in the experimental group and 15 in the control group). Data were collected from September to October 2021. The experimental group was provided with self-care behavior for infection prevention education for 8 weeks, and the control group was provided with usual nursing care.

### Results:

The patients on hemodialysis showed moderate fear of COVID-19, good compliance with patient role behavior and self-management efficacy, and poor handwashing practice. After the intervention, there were no significant differences concerning fear of COVID-19, compliance with patient role behavior, and self-management efficacy between the experimental and control groups. However, confidence in handwashing (subjective norm) and proper handwashing practice improved significantly in the experimental group compared with the control group.

### Conclusion:

The infection prevention education developed in this study positively affected confidence in handwashing and proper handwashing practice in patients undergoing hemodialysis. This intervention can be used in various clinical settings where care is provided for patients with chronic illness, including those on hemodialysis.



## Mental health of children and adolescents during covid-19 pandemic: Narrative review

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**Background:** Covid-19 disease has had a high widespread prevalence in worldwide and has been identified as the biggest health threat according to the definition of the World Health Organization, especially for children. Such widespread outbreaks are associated with adverse mental health consequences. The aim of this study was to explore mental health status of children and adolescents during Covid-19 pandemic.

**Method:** The present study is a narrative review study designed in 2023. Findings of this study were reviewed in international and national databases, including PubMed, Scopus, Science direct, Google Scholar, ISI, SID, Magiran by searching keywords including Covid-19, coronavirus, home quarantine, mental health, Children, adolescents. The most relevant articles from 2019 until 2023, based on inclusion and exclusion criteria were evaluated.

**Results:** In general, the results of this review showed a decrease in the mental health of children and adolescents during COVID-19 pandemic, including a wide range of disorders and increased behavioral and emotional problems. The most common disorders was decreased physical activity and mobility pattern disorders, problems related to adaptation and coping strategies, change in daily lifestyles, sleeping disorders, eating disorders, anxiety, depression, stress, aggression, irritability, post-traumatic stress disorder, difficulty concentrating, distraction, poor academic performance, child abuse and neglect, decrease in life satisfaction, suicidal thoughts, substance use, smartphone addiction, internet addiction, dependence on cyberspace and related complications. These problems may be due to school closures, lockdowns, home quarantine, fear of an unknown disease, social isolation, being away from friends, financial problems, lack of access to support resources, stigmatization, excessive media exposure and other related factors.

**Conclusion:** According to the results of this review and the importance of mental health and well-being in childhood development and the impact it leaves on other periods of life, as Covid-19 continues or in case of future pandemics, it seems necessary to design and plan interventions and social support strategies to reduce the negative effects on mental health of children, training parents and caregivers and providing the children with necessary information appropriate to the child's age about ways to deal effectively with the disease and the resulting conditions.

**Keywords:** Mental health, Children, Adolescents, Covid-19

## The relationship between blood group and the severity of the pathogenicity of Covid19: A systematic review

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**Introduction:** ABO and Rh blood type systems, as two immutable risk factors, have played an important role in the level of sensitivity, severity and consequences of COVID-19 infection, so People who have O and RH positive blood are less susceptible moreover people who have A and Rh negative, have a higher sensitivity to infection and a tendency to severe illness.

**Search method:** This systematic review article was written in the year ۲۰۲۳ in the PubMed database using keywords covid19, blood groups and selecting 20 cases from 100 primary studies and thematic analysis.

**Results and conclusion:** One of the possible mechanisms in the severity of the disease of Covid-19 is the polymorphism of the ABO blood system. The interaction between the entry of the SARS-CoV-2 virus and its spike proteins by anti-A Isoagglutinin present in group O and B individuals leads to the blocking of the angiotensin-converting enzyme receptor 2, thus preventing the entry of the virus into the lung epithelial cells. Also, the higher levels of Von Willebrand factor (VWF) in people of blood type A compared to O and factor VIII, the titer of natural antibodies and the IgG isotype specific to blood type O may determine the sensitivity and severity of the disease. Blood type antigens act as additional receptors for the virus, so in the interaction between blood type and SARS-CoV-2 infection, natural blood type antibodies may be part of the innate immune response to neutralize the particles. to act virally.

**Key words:** covid19, blood groups, ABO



## The effect of natural antioxidants on reducing the pathogenicity of covid-19: A systematic review

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**Introduction:** Oxidative stress reaction is an important factor in the pathogenesis of SARS-CoV-2. If the high levels of ROS production caused by covid-19 infection are not balanced by antioxidants, extensive cellular damage will occur. Vitamins are used as antioxidants for experimental or main treatment.

**Search method:** This Systematic review article was written in 2023 by searching the PubMed and google scholar database and using the keywords: covid-19, anti-oxidant, vitamin C, and 13 of the 58 articles entered the final review stage.

**Results:** E2 Factor(Nrf2) is activated by oxidative stress. Under physiological conditions, Nrf2 signaling pathway is regulated by inhibition of Nrf2 protein degradation mediated by Keap1 protein. On the other hand, severe acute respiratory syndrome infection can activate nuclear factor NF- $\kappa$ b. A natural or artificial immune modulator that inhibits NF- $\kappa$  $\beta$  or modulates the Nrf2-Keap1 pathway plays a role in preventing oxidative stress and inflammation. Vitamin C, as a strong antioxidant, destroys ROS, modulates signaling pathways that activate E2 transcription factors(Nrf2) and nuclear factor NF- $\kappa$ b

**Conclusion:** In addition to anti-oxidative stress and inflammation effects, vitamin C can reduce mortality in patients with Covid-19. Therefore, regular administration of vitamin C is recommended to develop strong immunity against the infection of COVID-19.

**Key Words:** Anti-oxidant, Covid-19, Vitamin C, Nrf2 factor



## Hematopoietic stem cell transplant and COVID-19: A systematic review

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**Introduction:** Hematopoietic stem cell transplant(HSCT) recipients are at increased risk of death with coronavirus disease 2019(COVID-19) due to severe immune impairment. Therefore, the present study was performed to review the impact of COVID-19 in patients who had undergone HSCT.

**Search method:** This systematic review article was written in the year 2023 by searching in the PubMed database and Google Scholar website using the COVID-19, HSCT, and Immunocompromised

The result of this search was 19 articles between 2020 and 2023, which were analyzed.

**Results:** SARS-CoV-2 infection is characterized by an initial viral phase followed in some patients by a severe inflammatory phase. Importantly, immunocompromised patients may have a prolonged viral phase, shedding infectious viral particles for months, and a dysfunctional inflammatory phase. Among hematological patients, COVID-19 has been associated with a high mortality rate after hematopoietic cell transplant.

**Conclusion:** Information about the course of COVID-19 in HSCT recipients is scarce and mostly derived from case series involving a limited number of patients. The survival rate of the HSCT recipients is a matter of debate HSCT patients are at high risk and need special attention.

**Key words:** COVID-19, HSCT, Immunocompromised

## Comparison of antenatal care utilization during the COVID-19 pandemic with the same time last year: A descriptive, cross-sectional, and analytic study

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**Background:** Since pregnancy care is necessary to maintain the health of mother and child, on the other hand, during the COVID-19 epidemic, it is very likely that mothers have faced many problems receiving pregnancy care. Therefore, the present study was conducted with the aim of comparing the use of pregnancy care during the COVID-19 pandemic with the same time last year in Tehran.

**Methods:** The present study was a descriptive-analytical and cross-sectional epidemiological study. The statistical population included 220 pregnant mothers who were referred to health centers during the COVID-19 pandemic (October 2019–March 2020) and the same time last year (October 2018–March 2019) in Tehran. To compare the use of prenatal care, women who delivered during COVID-19 were selected from the same catchment regions as the original sample of women who delivered earlier. SPSS version 25 software was used to analyze the data.

**Results:** The results show a decrease in first-time pregnancy care of 40.2% during the COVID-19 epidemic period ( $P < 0.001$ ). Although no significant differences were found in the odds of attending 4-7 or 8 antenatal care visits versus 4 antenatal care visits, respectively (aOR 1.34, 95% CI 0.97 to 1.36 and aOR 1.66, 95% CI 0.67 to 2.46), women who delivered during COVID-19 had significantly higher odds of delayed antenatal care initiation than women who delivered before (aOR 1.81, 95% CI 1.14 to 2.23).

**Conclusion:** The results showed a decrease in the quantity and quality of prenatal care during the covid-19 epidemic. antenatal care disturbances in pregnant women during pandemics and other public health, environmental, or political events require mitigation strategies.

**Keywords:** Pregnancy care, Covid-19, Coronavirus, Antenatal care



## Acute Ischemic Stroke in COVID-19 Patients: A systematic review

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**Introduction:** Acute ischemic stroke may occur in patients with coronavirus disease 2019(COVID-19). This study was conducted with the aim of investigating the relationship between covid-19 and ischemic stroke.

**Search method:** This systematic review article was written in the year 2023 by searching in the PubMed database and Google Scholar website using the keywords COVID-19, ischemic stroke, and inflammatory factors. The result of this search was 16 articles between 2020 and 2023, which were analyzed.

**Results:** Studies have shown that, the infection of COVID-19 increases the risk of ischemic stroke by different mechanisms. Activation of coagulation and inflammatory factors, increase in D-dimer level, red blood cell sedimentation rate, and decrease in lymphocytes are among the risk factors that increase the risk of ischemic stroke in patients with severe coronavirus infection.

**Conclusion:** Stroke in COVID-19 patients is multifactorial. Patients with severe covid-19 should be monitored for clinical signs of stroke, especially inflammatory and coagulation parameters, during and after hospitalization.

**Key Words:** COVID-19, Ischemic stroke, Inflammatory factors

## Anxiety and depression in people treated with drugs that weaken the immune system during the COVID-19 pandemic in Iran

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### Abstract

**Background:** Advances in medical science and technology in the last two decades have increased the number of patients who need to be treated with immunosuppressive drugs. People treated with drugs that weaken the immune system are a population that is at high risk of contracting COVID-19 as well as suffering severe complications from this infection.

**Methods:** This study is a cross-sectional descriptive research. The research environment in this study was teaching hospitals affiliated to Shiraz University of Medical Sciences. The sample size was 240 patients with organ transplantation and people with cancer, multiple sclerosis, rheumatoid arthritis, psoriasis, systemic lupus erythematosus, myasthenia gravis, and sarcoidosis who were treated with immunosuppressive drugs. The inclusion criteria included being over eighteen years old, having the ability to speak and communicate verbally, being free of illness or mental problems according to the patient, and not having experienced a stressful event in the past six months. In this study, a demographic and disease information questionnaire and a Hospital Anxiety and Depression Scale (HADS) were used to measure anxiety and depression. After patients completed the questionnaires, the data was entered into SPSS version 23 software.

**Results:** The average age of the participants in this study was 5.45 (range: 66–18). 43% of the patients had anxiety, 36% had depression, and 44% had a high score on the HADS-General Scale. A significant number of people continued their medication (17.80%), while only 16.13% reduced the dose of their medication and 6.67% did not continue taking the medication.

**Conclusion:** The results of this study showed that patients with autoimmune diseases are at higher risk of mental distress related to the COVID-19 pandemic. Therefore, it is necessary to design a targeted intervention to strengthen the coping capacity of this vulnerable population.

**Key words:** Anxiety; Depression; Immune system; COVID-19

## Effects of the COVID-19 pandemic on diabetic foot ulcer patients' outcomes

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**Background:** Significant morbidity and mortality are being brought on by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)-caused coronavirus disease (COVID-19) pandemic. The risk for hospitalization and death in COVID-19 patients is greatly increased by older age and the presence of diabetes mellitus, hypertension, and obesity. We aimed to determine the effects of the COVID-19 pandemic on diabetic foot ulcer patients' outcomes.

**Method:** This retrospective study included hospital data on all people hospitalized in Iran (hospitals affiliated to Tehran University of Medical Sciences) for diabetes in the COVID-19 lockdown period, compared to the same period in 2020. The following information was gathered from computerized patient files: demographics, medical history, amputation frequency and type, ulcer severity as determined by the Wagner diabetic wound classification system, and preliminary laboratory results. Analyses were performed with SAS 9.4 software for Windows.

**Results:** During the lockdown, there were considerably fewer hospitalizations for diabetic foot ulcer ( $P < 0.05$ ). Additionally, during the lockdown, there was a substantial decline in foot osteomyelitis hospitalizations ( $P < 0.05$ ).

**Conclusion:** The COVID-19 outbreak has complicated, largely unstudied, and possibly multiple effects on the management of DFU in diabetics. During the initial COVID-19 lockdown, diabetics were compelled to restrict their normal activities, which may have helped relieve the burden on their feet and hasten the healing of neuropathic ulcers. Regarding the COVID-19 outbreak's effects on the control of diabetes, we lack reliable data.

**Keywords:** diabetes foot ulcers, osteomyelitis, COVID-19, lockdown, hospital data



## Nutrition and COVID-19

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**Introduction:** Severe acute respiratory syndrome coronavirus 2 (SARSCoV-2), a novel coronavirus that is not limited to the respiratory system and has widespread involvement including the gastrointestinal tract and liver. It is in the recent months to become a worldwide pandemic and to be the United States 'third 'leading cause of death in 2020. so the principles of prevention are used as the best approach to control this infection. Certain nutritional deficiencies may lead to dysfunction of the immune system, leading to produce more cytokines and other inflammatory factors. Undoubtedly, nutrition is a key determinant of maintaining good health. Key dietary components such as vitamins C, D, E and zinc, selenium, copper and the omega 3 fatty acids have well-established immunomodulatory effects, with benefits in infectious disease. The purpose of this review study is to investigate the effectiveness of nutrition on the treatment and prevention of Covid-19.

**Method:** The review is conducted through search terms including "COVID19", "SARS-CoV-2", "coronavirus", "nutrient", "vitamin" and "mineral". With filters that only identify studies published from 2020 to 2023 by searching these keywords and specific literature, title/abstract in the 'PubMed,' 'Google Scholar' and 'Science Direct' databases.

**Result:** The results of our review show that vitamins A, C, D and E are effective in preventing and reducing the severity of corona symptoms by reducing inflammatory factors such as TNF-alpha, interleukin 1, and interleukin 6. zinc, selenium and copper are effective in creating a favorable immune response against corona disease through antiviral and antioxidant effects and the production of anti-inflammatory proteins. The consumption of omega-3 is recommended, but according to studies, it is better to be careful in its consumption due to the increased sensitivity of the cellular membrane to oxidants.

**Keywords:** nutrient; COVID-19; SARS-CoV-2; Pandemic innate immune system; cytokines; Vitamin D; Vitamin C; Vitamin E; Zinc; Selenium; Omega-3.



## Investigating the relation of renin-angiotensin system in corona patients: A systematic review

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**Introduction:** Renin-angiotensin II-aldosterone axis is a blood pressure regulator. The enzyme responsible for the synthesis of angiotensin (ACE) is highly concentrated in lung tissue. ACE2 is part of the renin-angiotensin-aldosterone system (RAAS) that converts AngII to angiotensin 1-7, which balances the negative effects of AngII with its vasodilatory, anti-fibrotic and anti-hypertrophic effects and is regulated by compounds that It inhibits classical ACE, thereby activating the aldosterone receptor (MR). SARS-CoV-2 infection is associated with increased levels of angiotensin II and binding of the viral spike protein to the receptor.

**Search method:** This systematic review article was written in 2023 by searching the Pubmed database and keywords ACE2, Renin-Angiotensin, covid19 AngII and Finally, among the 16109 primary studies, the number of 23 article with the time range between 2019 and 2023 were selected and analyzed.

**Results:** Functional polymorphisms of ACE gene increase enzyme activity and susceptibility to asthma, chronic obstructive pulmonary disease and pulmonary hypertension. In the absence or reduction of ACE<sub>2</sub> activity, angiotensin II increases. Cell infection with virus entry leads to decrease in ACE<sub>2</sub> expression and release of pro-inflammatory cytokines, myocarditis and hypercoagulability. Therefore, MR activation may protect organs against viral entry by reducing ACE<sub>2</sub> expression.

**Conclusion:** Angiotensin-converting enzyme inhibitors regulate the expression of ACE<sub>2</sub>. On the other hand, drugs that affect the renin-angiotensin-aldosterone system can lead to serious complications, especially in patients with diabetes and high blood pressure. Therefore, the use of drugs in the treatment of COVID-19 patients is doubtful, and other potential treatment methods should be used in those suffering from the infection.

**Key words:** ACE2, Covid19, Renin-angiotensin





## Investigating the relationship between Parkinson's disease and Covid-19: A systematic review

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**Introduction:** Covid-19 is a respiratory disease that causes serious complications in humans, so that some people may experience a series of neurological symptoms, including loss of sense of smell and taste, loss of consciousness, etc. This disease has become a pandemic since 2019.

Parkinson's disease is known as the second most common neurodegenerative disease after Alzheimer's disease, which is a motor neurodegenerative disease.

**Search Method:** This study was a review study that was searched in Google Scholar, PubMed and SID database using the key words Parkinson's disease, Covid-19, Dopamine, Neurological diseases and Their Persian equivalent.

Finally, among the 3396 primary studies, the number of 20 article with the time range between 2019 and 2023 were selected and analyzed.

**Results:** Although the covid-19 infection is not more common in Parkinson's patients, the death rate in these people has been reported to be related to the dopaminergic system. Also, since this disease(PD) occurs mostly in old age, these people are more susceptible to the disease of Covid-19.

**Conclusion:** The studies conducted on the relationship between SARS-COV-2 and Parkinson's disease provided heterogeneous results, but it seems that patients with PD at an advanced level are more vulnerable to this virus, as well as the immune responses formed against SARS-COV-2 infection predisposes a person to long-term consequences and may be associated with the loss of dopaminergic neurons and the accumulation of  $\alpha$ -syn proteins.

**Key words:** Parkinson's disease, Covid-19, Dopamine, Neurological diseases



## Investigating the effect of selenium on the pathogenicity of covid19: A systematic review

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**Introduction:** Since the end of 2019, Covid-19 has caused conflict for millions of people in the world. Nutrition is an important factor related to this disease. One of the important factors in nutrition is selenium, which is an essential and trace element, and component of selenoproteins which is has an effective role in reducing the severity of viral infections. Also, this element can be known as an antioxidant.

**Search Method:** This study was a review study that was searched in GoogleScholar, PubMed and SID database, using the key words selenium, Covid-19, Nutrition and Their Persian equivalent.

Finally, the number of 20 article with the time range between 2019-2023 were selected and examined.

**Results:** Selenium increases the function of cytotoxic cells and is needed for antibody production. Also, this element limits the entry of the virus into the host cell by reducing the expression of the ACE2 receptor, and on the other hand, the sufficient amount of selenium in the body is associated with reducing inflammation by reducing the secretion of pro-inflammatory substances and improving the function of the immune system(especially T cells).

**Conclusion:** The use of selenium supplement in the right dose as a supportive treatment and in the diet may have good results in patients with covid-19, although the level of selenium needs to be controlled at the time of starting and during use and It should be stopped after reaching the normal level Because it may cause harmful metabolic effects on the body.

**Key words:** selenium, Covid-19, Nutrition

## The Role of Telemedicine in the COVID-19 Pandemic, with a Special Attention to Hypertension

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**Background:** Due to the increased deployment and advancement of digital technology, telemedicine has recently assumed a remarkable amount of significance. Telemedicine has emerged as the most secure means of communication between patients, both infected and uninfected, and medical professionals during the COVID-19 pandemic due to the need for social seclusion and the lack of viable therapies. Due to the significant risk of a bad prognosis, its usage in hypertension and complication monitoring has been noticeably growing.

**Method:** This cross-sectional investigation covered a year's worth of hypertension clinic participants. On the same day, 90 patients were visited in-person and via telemedicine, with the order of the appointments being chosen at random. A telemedicine system was used, which made use of phone lines. Clinical data on blood pressure control and physician ordering habits were gathered for both telemedicine and in-person encounters. SPSS 23 was used for data analysis.

**Results:** The mean age of the patients in this study was 51.1 years, and 76.2% were women. More than 61% of the patients had an initial systolic BP (SBP) above 140 mm Hg, and 33.3% had an initial SBP of greater than 160 mm Hg. The difference between telemedicine-determined BP and IP readings was statistically significant ( $p < 0.05$ ). Telemedicine has proven to be a reliable tool for identifying hypertension patients with uncontrolled blood pressure.

**Conclusion:** The efficacy and utility of screening have been proven by new research and technological advancements in telemedicine applications in hypertension. Furthermore, teleophthalmology showed a good cost-to-efficacy ratio despite an early rise in equipment and training costs; nonetheless, there isn't yet a national screening program that focuses on the detection and prevention of hypertension. The inability to track the actual spread of the disease during the COVID-19 pandemic, which is only achievable from prior evidence under normal circumstances, severely restricts the feasibility of doing so.

Key words: telemedicine, COVID-19, hypertension

## Comparison of antenatal care utilization during the COVID-19 pandemic with the same time last year: A descriptive, cross-sectional, and analytic study

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**Background:** Since pregnancy care is necessary to maintain the health of mother and child, on the other hand, during the COVID-19 epidemic, it is very likely that mothers have faced many problems receiving pregnancy care. Therefore, the present study was conducted with the aim of comparing the use of pregnancy care during the COVID-19 pandemic with the same time last year in Tehran.

**Methods:** The present study was a descriptive-analytical and cross-sectional epidemiological study. The statistical population included 220 pregnant mothers who were referred to health centers during the COVID-19 pandemic (October 2019–March 2020) and the same time last year (October 2019–March 2019) in Tehran. To compare the use of prenatal care, women who delivered during COVID-19 were selected from the same catchment regions as the original sample of women who delivered earlier. SPSS version 25 software was used to analyze the data.

**Results:** The results show a decrease in first-time pregnancy care of 40.2% during the COVID-19 epidemic period ( $P < 0.001$ ). Although no significant differences were found in the odds of attending 4-7 or 8 antenatal care visits versus 4 antenatal care visits, respectively (aOR 1.34, 95% CI 0.97 to 1.36 and aOR 1.66, 95% CI 0.67 to 2.46), women who delivered during COVID-19 had significantly higher odds of delayed antenatal care initiation than women who delivered before (aOR 1.81, 95% CI 1.14 to 2.23).

**Conclusion:** The results showed a decrease in the quantity and quality of prenatal care during the covid-19 epidemic. antenatal care disturbances in pregnant women during pandemics and other public health, environmental, or political events require mitigation strategies.

**Keywords:** Pregnancy care, Covid-19, Coronavirus, Antenatal care

## Evaluation of death anxiety in hospitalized patients with Covid-19

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### Abstract

**Background:** Coronavirus disease 2019 (COVID-19) It has affected millions of people worldwide and killed more than 300,000 people. Therefore, it has become a global health emergency. This study examines death anxiety in hospitalized patients with COVID-19.

**Methods:** The participants consist of 200 patients hospitalized with COVID-19 in Khatam al-Anbiai Hospital in Iranshahr, selected by convenience sample and an online survey or telephone interview.

An online questionnaire was designed to assess death anxiety information with validated scales. This cross-sectional study was conducted from September 2020 to January 2021. The inclusion criteria were hospitalization due to covid 19 infection, the ability to read and write in Persian, being at least 18 years old, not taking psychoactive drugs, and having a mobile number, and accessing the Internet to complete the questionnaires via WhatsApp. The exclusion criteria were the being incomplete-completed questionnaires. Given that data collection via the Internet is a valid and reliable method (25), questionnaires were filled out through Google form Builder and using WhatsApp. The corresponding author, who is a nurse in the Corona Ward, talked about the objectives of the study with the participants when the patients were discharged, and recorded their phone numbers if they verbally agreed to participate. The online questionnaire was sent to the subjects three weeks after hospital discharge. The method of completing the questionnaire was very simple, the participants clicked on the link and after answering all the questions, they clicked the submit button.

**Results:** The mean age of the COVID-19 patients was  $39.8 \pm 10.9$  years, ranging from 18 to 65 years (55.5%), married and female (74%) and married (74.0%). In addition, 16.25% of research units had a university degree in terms of education level, 82.5 % lived in the city, and 44 % had full-time jobs. 85% had no history of chronic disease. Most of the research units (44%) belonged to the average socioeconomic status.

The average length of their hospitalization was 10 days. 20% of the COVID-19 patients were admitted to the intensive care unit (ICU), but none were intubated.

The mean score of death anxiety in these patients was  $45.4 \pm 6.3$  in the range of 24 to 58 points, which was higher than the average. 186 patients (93%) had high levels of death anxiety

**Conclusions:** Based on the findings of this study, it seems necessary to design professional and specialized mental health services for hospitalized COVID-19 patients to reduce death anxiety.

**Keywords:** COVID-19, Hospitalized patients, stress, death anxiety





## Comparison of job burnout of nurses working in COVID-19 and non-COVID-19 wards in Imam Ali Chabahar Hospital

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### Abstract

Covid-19 (Covid-19) is an acute and infectious respiratory disease caused by the SARS-CoV-2 coronavirus. The coronavirus pandemic created problems in the provision of nursing care, including job fatigue and burnout, almost a third of nurses in Iranian hospitals suffer from job burnout, which can cause a drop in the quality of nursing care, a factor in giving up work, absenteeism, or low mood. Nurses who experience job burnout gradually feel that they cannot face the patient, sometimes causes them to fail and reduce their self-esteem. This study was conducted with the aim of comparing job burnout in nurses whom worked in COVID-19 and non-COVID-19 wards.

**Methods:** This study was conducted in Imam Ali Hospital of Chabahar. We assessed the job burnout of 70 nurses working in COVID-19 wards and also 40nurses working in other words, using a researcher-made questionnaire as well as the Mazlach questionnaire to measure burnout among nurses. The sample size was determined by census all nurses. The analysis was done using spss 20 software.

**Results:** The mean score of age in the nurses was  $30.13 \pm 6/4$  years, work experience was  $6.61 \pm 5/04$  years. 94.5% of the nurses had over-time work. In general, the mean score of emotional fatigue was 28.67. the mean score of job burnout was  $28.84 \pm 18/02$  in COVID-19 group, and in the non- COVID-19 group it was  $28.38 \pm 16/01$  but there was no significant difference between job burnout of nurses between groups.

**Conclusion:** Nurses working in Imam Ali Chabahar Hospital had severe job burnout. But there was not significant difference between job burnout among nurses who worked in COVID-19 wards and non- COVID-19 wards, during the epidemic of this disease.



## Comparison laboratory findings and clinical manifestations in pregnant and non-pregnant women with COVID-19 patients: A cross sectional study in the West of Iran

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**Background:** This study aimed to determine the differences in laboratory and clinical characteristics of pregnant and non-pregnant women with Covid-19 in Hamadan, the west of Iran.

### Methods:

This cross sectional study compared 135 pregnant with 135 non-pregnant women without underlying diseases and matched by age with Covid-19 from March 2020 to June 2021 in Hamadan, a west city of Iran. Their demographic characteristics, clinical symptoms, vital signs and laboratory features were assessed by a predetermined checklist and compared between two groups. All analysis was applied at significant level by SPSS version 26 software program.

### Results:

In general, among all clinical symptoms, fever and fatigue had the highest and the lowest prevalence (57.8% vs. 3%, respectively). There was significant association between all clinical symptoms (except cough, fatigue, digestive problem and sore throat) and status of pregnancy. Although the SPO2 mean were significantly lower among non-pregnant compared to pregnant women ( $89.19 \pm 4.52$  versus  $94.91 \pm 3.12$ ;  $P < 0.001$ ), the mean of heart rate was significantly lower among pregnant women in comparison to non-pregnant women ( $90.59 \pm 11.80$  versus  $96.50 \pm 15.02$ ;  $P = 0.001$ ). The median (IQR) of hospitalization length in non-pregnant women was significantly longer than pregnant women (5 (4-8) versus 4 (3-6);  $P < 0.001$ ). The prevalence of low Hb, abnormal BUN, high Cr, high ESR, high LDH was significantly lower in pregnant women in comparison to non-pregnant women.

### Conclusion:

It can be concluded that clinical and paraclinical manifestations of pregnant women are different from non-pregnant women. Although there was no significant difference between the two groups in terms of mortality, hospitalization in ICU.

**Keywords:** COVID-19; Pregnant Women; Pregnancy Outcome; Neonatal; Maternal-Child Health Centers



## CRISPR-Cas: a novel promising method for COVID-19 detection

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**Background:** Since its emergence in Wuhan, China, in late December 2019, COVID-19 has become a prominent world challenge due to its detriment to the healthcare system and the global economy. even though many believe the covid pandemic is over, the risk of its outbreak is still ongoing and therefore accurate and rapid detections and effective treatment is a must to overcome the virus and prevent further harm. Conventional diagnostic methods for coronavirus include molecular tests like PCR (polymerase chain reaction), antigen tests, antibody tests (for recovered/vaccinated patients) and CT (computed tomography) scan. Despite all the benefits of traditional methods, they have their own flaws and limitations: various steps and prolonged process, false positive or negative results, laboratory and hospital-dependent, large-scale testing limitation, being expensive, etc.

**Purpose:** The aim of this study is to investigate the CRISPR-Cas system as a potential method for COVID-19 detection, its pros and cons, limitations and comparison with traditional diagnostic tests.

**Methods:** The articles were collected from databases such as Google Scholar, Pubmed and Scopus without a time limit until the end of June 2022.

**Results:** CRISPR-Cas enzyme assay works through the detection of amplified regions of viral nucleic acid using various techniques including SHERLOCK, DETECTR, CREST, FELUDA, AIOD-CRISPR, etc. the Cas isoforms used in diagnostic kits include Cas 2, 3, 9, 12, 13, etc. In comparison with molecular assays like PCR, CRISPR-Cas possesses advantages such as being less time consuming, cheaper, independent of Sophisticated equipment and easier to use and disadvantages including off-target effects, qualitative results rather than quantitative, possible toxicity of Cas protein leading to reduction of its efficacy.

**Conclusion:** CRISPR-Cas system has shown promising performance in COVID-19 detection due to its high sensitivity and specificity, applicable to use for nonprofessionals and fast results, etc., providing a qualified alternative to traditional methods.

**Keywords:** CRISPR-Cas, COVID-19, SARS-CoV-2, diagnosis, rapid testing





## Psychopathology in virtual education for primary school students in the COVID-19 pandemic: A qualitative analysis

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Abstract:

**BACKGROUND:** COVID-19 virus continues to be an international concern, challenging psychological resilience in all areas, especially virtual education, making the psychopathology and problems more evident.

**MATERIALS AND METHODS:** The present study is a qualitative study of conventional content analysis, in which 24 participants (14 parents, 5 teachers, and 5 principals) were selected by purposive sampling from primary schools in Zahedan. Data collection tools included semi-structured interviews with open-ended questions. Interviews continued until reaching data saturation. The transcripts of the interviews were coded according to Graneheim and Lundman's 5-step approach, and then, the codes were classified according to the specified axes. For accuracy and exactness of information, the researchers used the criteria of validity, verifiability, reliability, and transferability.

**RESULTS:** The results of this study include two categories, "e-learning infrastructure" and "psychopathology," indicating the importance of creating, using, and strengthening cyberspace infrastructure for the use of education in primary schools during COVID-19 pandemic.

**CONCLUSION:** The results indicated that identifying these cases and attempting to eliminate them can reduce psychopathology and improve the quality of virtual education for students. Moreover, this can help principals and educational planners have new insights so that they can focus on solving psychological problems in e-learning and provide their supportive planning.

**Keywords:** COVID-19, elementary school, pandemics, psychopathology, virtual education



## CHRONIC KIDNEY DISEASE AND HYPERTENSION AS RISK FACTORS FOR COVID-19

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Among patients with COVID-19, both chronic kidney disease (CKD) and hypertension are risk factors for more severe disease.

In a meta-analysis of four studies and 1389 infected patients (including 273 patients with severe disease), the prevalence of underlying CKD was more frequent among those with severe disease (3.3 versus 0.4 percent; odds ratio 3.03, 95% CI 1.09-8.47).

In the same cohort of 1389 patients from these four studies, history of hypertension was more common among those who had severe, as compared with nonsevere COVID-19 (15 versus 32 percent). Similarly, in a separate cohort of 1590 hospitalized patients in China, underlying hypertension was independently associated with severe COVID-19 (hazard ratio 1.58, 95% CI 1.07-2.32). While some studies conducted in the United States and Italy reveal broadly consistent findings, others suggest that hypertension is not an independent risk factor for severe COVID-19.

### Renin angiotensin system inhibitors

There was speculation that patients with COVID-19 who are receiving these agents may be at increased risk for adverse outcomes. ACE2 is a receptor for SARS-CoV-2 and some, but not all, evidence suggests that renin angiotensin system inhibitors may increase ACE2 levels. In addition, patients with cardiovascular disease, hypertension, and diabetes (a disorder with a high prevalence of renin angiotensin system inhibitors-treated use) often have a more severe clinical course in the setting of infection with SARS-CoV-2.

Patients receiving angiotensin-converting enzyme (ACE) inhibitors or angiotensin receptor blockers (ARBs) should continue treatment with these agents (unless there is an indication for discontinuation such as hyperkalemia or hypotension). There is no evidence that stopping ACE inhibitors or ARBs reduces the severity of COVID-19. In addition, studies conducted prior to the COVID-19 pandemic suggest that discontinuing ACE inhibitors and ARBs in some patients may exacerbate underlying cardiovascular or kidney disease and lead to increased mortality. This approach is supported by multiple guideline panels.





## Evaluation of Menstrual Symptoms and Irregularities after COVID-19 Vaccination: A Narrative Review

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**Introduction:** COVID-19 vaccination protects against the potentially serious respiratory consequences of SARS-CoV-2 infection, but current studies have demonstrated an undeniable link between some menstrual cycle abnormalities post vaccination.

**Methods:** In this Narrative review study, to investigate existing articles, search international databases of PubMed, Google Scholar and Scopus with the keywords Covid- 19, vaccination and menstrual cycle were performed. After checking the quality of the articles and applying inclusion and exclusion criteria, 18 articles were selected and the results were reviewed. The search period was within the last year.

**Result:** A total of 58 related articles were retrieved. After removing duplicates and applying inclusion and exclusion criteria, finally 18 articles were included in the study. The goal of this study is to investigate the prevalence and impact of menstrual abnormalities after the COVID-19 vaccine. The side effects of these vaccines on the length of the cycle, the amount and intensity of menstrual bleeding were investigated separately in the clinical trials of different vaccines. Reported side effects of vaccines are generally menstruation heavier than usual, premature menstruation, spotting, lengthening or shortening of the menstrual period. The most complications were observed with AstraZeneca vaccine. After that, Sinopharm and finally, the least disturbance was observed with Sputnik

**Conclusion:** Menstrual cycle change following COVID-19 vaccination appears small and temporary and should not discourage individuals from becoming vaccinated. Based on the results, we suggest to consider these principles to inform women about the potential occurrence of temporary and self-limiting menstrual cycle irregularities in the subsequent month(s).

**Keywords:** covid- 19; vaccination; menstrual cycle



## COVID-19 in Iranian Pregnant Women in northwestern Iran in 2021

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### Abstract

**Introduction:** The pregnant women are more vulnerable to infections owing to their relatively weak immune system, and they are more at the risk of serious consequences resulting from the pandemics of the new Covid-19 virus. This study aimed at identify the individual, demographic and clinical characteristics of pregnant women with COVID-19.

**Method:** In this cross-sectional study from 21 March 2020-21 March 2021 all pregnant women with COVID-19 who were admitted to healthcare centers in three counties (Mahabad, Miandoab, Bukan ) in northwestern in Iran were enrolled. Data were collected through medical records using a researcher-made questionnaire.

**Results:** All pregnant women with COVID-19(488) with a mean age ( $29.88 \pm 6.37$ ) years and BMI ( $27.51 \pm 4.81$ ) were included. 78.8% of pregnant women were urban. 93.5% of them were housekeeper. Almost 60% of them had below diploma education. 34% of pregnant women with COVID-19 were at risk of high-risk pregnancy, and 26% suffered underlying diseases. 3.3% of pregnant women were infected via health workers with COVID-19. Cough was the most common symptom of the disease (54.1%).

**Conclusion:** The pregnant women coming from lower socioeconomic classes are highly prone to COVID-19. The results of this study may help to develop guidelines for the development of measures for the prevention, diagnosis and treatment of pregnant women with covid-19.

**Keywords:** COVID-19, Epidemiology, Pregnancy, Iran

## Short-term pulmonary rehabilitation after recovering from severe COVID-19

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### Abstract

**Introduction:** Patients with severe Covid-19 suffer from various problems such as impaired lung function, decreased exercise capacity, mental disorders, and reduced quality of life. This study aimed to evaluate the effectiveness of short-term pulmonary rehabilitation in patients recovering from severe Covid-19.

**Methods:** The present study was a quasi-experimental study with a pretest-posttest design that was performed in 2021 on 92 patients with severe Covid-19 who met the inclusion criteria. Inter-professional pulmonary rehabilitation sessions were performed for 3 weeks, twice a week (6 sessions in total), for this group of patients, which included physical exercises, educational activities, and other health-related services (counseling and psychotherapy). Outcomes assessed included a 6-minute walk test, the score of the Hospital Anxiety and Depression Scale, and the SF-12 Quality of Life Questionnaire, which were completed before and after pulmonary rehabilitation. Data analysis was performed using analytical and descriptive statistics.

**Results:** The statistical analyses showed that 60.86% of patients participating in the study were male and 39.14% were female, and the mean age of patients was  $54.9 \pm 12.3$  years. The findings also showed that the average distance traveled in the 6-minute walk test before pulmonary rehabilitation was  $289.2174 \pm 130.5$  m, but after the intervention, this rate reached  $343.0870 \pm 103.5$  m, which demonstrated a statistically significant difference ( $p = 0.00$ ). Also, significant changes were observed in anxiety and depression, ability to perform daily activities, and physical health of patients before and after the intervention ( $p < 0.05$ ).

**Conclusion:** Short-term pulmonary rehabilitation is a safe and useful treatment without side effects that can be effective in reducing anxiety and depression, increasing the ability to perform daily activities and exercise capacity, and consequently, improving the quality of life of patients recovering from severe Covid-19.

**Keywords:** Pulmonary Rehabilitation, Severe Covid-19, Short-term



## Clinical and paraclinical findings of COVID-19 in hemodialysis patients compared to control group: A Case-Control Study

Elham Shahreki - Ahmad Reza Shahraki

**Background:** Following the global outbreak of severe acute respiratory syndrome coronavirus 2 in different communities, hemodialysis patients have not been spared by this viral infection.

**Objectives:** This study evaluated the clinical symptoms laboratory and imaging findings in patients undergoing hemodialysis and compared these characteristics with the control group.

**Methods:** The study was performed on 72 patients with positive COVID-19 polymerase chain reaction test, of whom 36 cases had end stage renal disease undergoing hemodialysis and the remaining had no history of kidney diseases. After matching the two groups in terms of age, sex, and other underlying diseases, the clinical, laboratory, and chest-computed tomography (CT) scan findings were compared between the case and control groups.

**Results:** The mean age of dialysis patients was 42.52  $\pm$  12.10 years and 48.58  $\pm$  17.35 years in the control group. The study results revealed that hemodialysis patients had less fever, cough, and shortness of breath than the control group (P-value < 0.05). Hemoglobin, lymphocyte, and platelet counts were significantly lower in hemodialysis patients in comparison to the control group (P-value < 0.05). C-reactive protein was significantly higher in patients undergoing hemodialysis (P-value = 0.01), and ground-glass opacification was observed more in patients undergoing hemodialysis compared to controls, but this difference was not statically significant (P = 0.07).

**Conclusions:** Hemodialysis patients had fewer initial clinical symptoms but more abnormalities in laboratory findings and ground-glass opacities on chest CT scans and a higher mortality rate.





## **Multi Organ involvement in a kidney transplant recipient: A Case Report**

Ahmad reza Shahraki-Elham Shahraki

A 22-year old man underwent kidney transplant two years ago. Following fever and cough, epigastric pain, convulsion, vomiting and PO intolerance he had been brought to the emergency room. During evaluation in addition to pulmonary involvement with SARS-COVID-19, brain, stomach and pancreas involvements with COVID-19 infection also were detected. Hemodialysis and specific treatments were initiated. After 16 days he could be discharged ultimately.







## Spontaneous pneumomediastinum in COVID-19: A case report

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### Abstract:

Pneumomediastinum is a rare complication of COVID-19 pneumonia, which may or may not be associated with invasive ventilatory support. Therefore, the report and findings associated with its evolution can be of great contribution in the management of this unknown disease. Pneumomediastinum is a rare complication of COVID-19 pneumonia, and the most likely etiopathogenesis is severe pulmonary involvement, which may or may not be associated with invasive ventilatory support. Future studies with a greater number of cases should elucidate the relationship of pneumomediastinum to a probable prognostic factor. Our case was a young man with PCR positive test for Covid-19 and dyspnea, that managed Covid-19 and cure pneumomediastinum without pulmonary sequel.

**Key words:** Pneumomediastinum, Emphysema, COVID-19.

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## Huge hydrocele in patient with covoid19: A case series

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### Abstract:

Medical and surgical priorities have changed dramatically at the time of this pandemic. Scientific societies around the World have provided rapid guidance, underpinned by the best knowledge available, on the adaptation of their guidelines recommendations to the current situation. We report the rare cases of adult patients with giant hydrocele. Despite recent trends toward less invasive treatments, in this case, the surgical approach through an inguinal incision was the better therapeutic option with a satisfactory outcome . The treatment is ordinarily surgical. Different approaches have been described like paramedian laparotomy, an inguinal or inguino scrotal approach.

**Keywords:** SARS-CoV-2 COVID-19. hydrocele, surgery, urology





## The Impact of Covid 19 on outcome indicators of hospitals of Shahid Beheshti University of Medical Sciences: An Interrupted Time Series Analysis

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### Abstract

**Background and Aim:** With the outbreak of the COVID-19 pandemic, the performance of hospitals were affected, and changes were made in the utilization of hospital services. Analyzing hospital performance data during the COVID-19 pandemic can provide insights into service utilization patterns and care outcomes for managers and policymakers. This study was conducted to investigate the impact of COVID-19 on selected outcome indicators in the hospitals of Shahid Beheshti University of Medical Sciences, Tehran.

**Materials and Methods:** This research was descriptive-analytical and was of the type of time series analysis. Six outcome indicators were considered, including hospitalization rate, bed occupancy rate, the average length of stay, emergency visits, laboratory tests, and the number of imaging requests. Related data from 12 affiliated hospitals from 2017-2019 (pre-COVID) and 2020 (post-COVID) were obtained from the hospital's intelligent management system. The data were analyzed using R software's interrupted time series analysis method.

**Findings:** hospitalization rate ( $P=0.015$ ), bed occupancy rate ( $P=0.04$ ), and the number of laboratory tests ( $P=0.003$ ) increased immediately after the outbreak of the pandemic significantly. In contrast, the number of emergency visits ( $P=0.034$ ) has significantly decreased. The bed occupancy rate and the number of imaging requests showed no significant change. The decrease in emergency room visits within one year after the pandemic was significant, but the changes in other outcome indicators were insignificant ( $P>0.05$ ).

**Conclusion:** The outbreak of COVID-19 has caused a change in performance and hospital outcomes by affecting the supply and demand of services. In a year after the pandemic's beginning, except for emergency visits, the other indicators have not experienced significant changes. Preservation of essential services such as emergency room visits is recommended in the strategy of rapid response to an epidemic outbreak and public campaigns to encourage people to seek medical care if needed in future waves of the pandemic.

**Keywords:** COVID-19, Hospital Outcome, Hospital Performance, Public Hospital, Interrupted Time Series Analysis





## Association of statin therapy on clinical outcomes in COVID-19 patients: an updated systematic review and meta-analysis on all related evidences

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**Keyword:** Clinical outcome, COVID-19, Meta-Analysis, Mortality, Statin therapy, Systematic Review.

**Conflicts of interests:** None declared.

### Abstract

**Background:** Statins is a class of lipid-lowering drugs and our previous investigations showed that statins have antiviral effects and have a wound healing effect in the lung. This systematic review and meta-analysis aimed to evaluate the effects of statin therapy on mortality and clinical outcomes in COVID-19 patients.

**Methods:** A comprehensive search was conducted in international databases, including MEDLINE, Scopus, Web of Science, and Embase from December 1, 2019 until January 26, 2022 without any restriction in language. The random-effects model was used to estimate the pooled odds ratio (OR).

**Results:** The statin therapy overallly was associated with decrease in odds of ventilation [pooled OR (95% CI): 0.85 (0.70 to 0.99)] and mortality [pooled OR (95% CI): 0.73 (0.66 to 0.81)] but had no effects on the ICU admission [pooled OR (95% CI): 0.93 (0.77 to 1.12)], oxygen therapy [pooled OR (95% CI): 0.85 (0.70 to 0.99)], recovery [pooled OR (95% CI): 1.85 (0.35 to 9.92)], kidney failure [pooled OR (95% CI): 1.01 (0.73 to 1.40)], hospitalization [pooled OR (95% CI): 1.45 (0.88 to 2.36)], asymptomatic disease [pooled OR (95% CI): 1.33 (0.24 to 7.44)], and ARDS [pooled OR (95% CI): 1.15 (0.88 to 1.49)].

**Conclusions:** The present meta-analysis showed that statin therapy was associated with a reduced risk of mortality and ventilation in patients with COVID-19 but had no effects on other clinical outcomes.





## Covoid 19 can shows itself as an acute appendicitis in adults: A case series

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### Abstract:

Patients with COVID-19 present with a wide spectrum of respiratory symptoms, ranging from mild flu-like symptoms to severe and potentially life-threatening pneumonia(2). Furthermore, some patients report gastrointestinal symptoms, such as nausea, vomiting, diarrhea and abdominal pain in addition to the aforementioned respiratory symptoms or, in rare cases, as a distinct presentation of illness . Even though abdominal pain syndrome suggests acute appendicitis, it is crucial to consider SARS-CoV-2 infection as a potential diagnosis during this pandemic era.

In this study we explain3 cases with Alvarado's scale highly suggestive for an acute appendicitis and after surgery their PCR tests for Covoid19 was positive. In conclusion, since SARS-CoV-2 infection and acute appendicitis share symptoms including fever, anorexia, nausea, vomiting and even severe abdominal pain, the clinical diagnosis for the surgical abdomen in patients with COVID-19 is of limited effectiveness

**Keywords:** SARS-CoV-2, PCR, acute appendicitis, surgery.

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## Lessons learned from the management experience of the coronavirus (covid-19) pandemic in Zahedan University of Medical Sciences

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**Abstract:** On January 30, 2020, the WHO declared the New Coronavirus-2019 epidemic a public health emergency of international concern That is a threat to all countries, not to China. The sporadic of the disease and spread of new types of CoVs tells us that CoVs are a serious threat to global health. A strong and responsive health care system was needed in preventing any disease, including Covid 19. Lessons learned and experience from its spread can help public health officials succeed in coping the crisis. This research aims to explain the experiences and lessons learned in dealing with the Covid-19 crisis.

**Method:** The presented research was carried out using the conventional qualitative content analysis method. The method of data collection was semi-structured interview and review of rapid assessment team reports, statistical documentation and information related to the disease. The research community was responsible and the management team of this disease.

The findings of this study include 4 main categories of transparency information and Public information, Unit management, design of crisis response command network and documentation.

The first Category of information transparency and public information includes the sub- Category of data collection, data analysis and conversion to appropriate information, confirmation and dissemination of information. The second Category of Unit management includes the sub- Category of National Response Framework (NRF) activation, definition of management processes, improvement of technical functions in operational departments. The third Category of the design of the command network to respond to the Covid crisis, including the sub Category of setting up the incident command post in urban and rural areas. The fourth Category of documentation included the sub-Category of compiling a written report of the university's performance based on the Emergency Operation Plan (EOP) structure, preparing and compiling the operation reporting structure, and compiling a form for reporting sudden cases of covid in rural areas.

**Dissuasion:** These lessons learned can inform decisions to help reduce economic and social impacts. Transparency, integrated leadership, effective communication, solidarity and accountability play an important role in crises and epidemics. The use of innovative technologies and financing mechanisms and management processes are necessary in providing an appropriate response in addition to epidemics in all crises. Lessons learned from the process of responding to this pandemic help health officials to effectively deal with such a disease. Plans should be made based on the lessons learned in the Covid-19 crisis to deal with future crises. We hope that other institutions and universities will use this information.

**Keywords:** COVID-19, Pandemic, Epidemy, Lesson learn, Incidence Command System, Risk management



## Predicting the Hospitalization of Patients Affected By COVID-19 based on Actual and Indigenous Hospital Data by Pearson's Similarity Measure

Ameneh Javanmard<sup>5</sup>, Alireza Salehan<sup>6\*</sup>

### Abstract

**Introduction:** Predicting COVID-19 is essential to prevent its re-spreading in a pandemic situation, and there is a limited actual and indigenous data set in this regard. Therefore, this study aimed to predict COVID-19 status based on indigenous data of Mashhad, Iran, using Pearson's similarity measure algorithm.

**Method:** This study was conducted on 1379 patients from May 2020 to July 2022, who referred to Mousabn-e-Jafar Charity Hospital for the diagnosis of COVID-19. A dataset with actual and indigenous data was collected and uploaded to online repositories. The Pearson similarity criterion algorithm was used to find similarities between patients.

**Results:** The platelet count increased in the laboratory results of deceased people. In this study, 698 people were females (50.62%), 681 people were males (49.38%), 748 people were less than 50 years old (50.24%), and 631 people were more than 50 years old (45.76%). A total of 23 CR cases (44.23%), 14 spo2 cases greater than 93 (26.92%), 13 fever cases less than 38 degrees (25%), and 37 breathing cases less than 24 times per minute (71.15%) were observed among 52 died patients.

**Conclusion:** Pearson similarity measure could effectively predict COVID-19 in clinical systems.

**Keywords:** COVID-19, Pearson similarity measure.

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## **Investigating physiotherapy challenges in covid-19 infected patients: a review study**

**Amirmohammad Bahri, Bahar Baridloghmani, Sanaz Soleimani\***

### **Introduction:**

On March 2020, SARS-COV2 was declared as a pandemic and public health emergency has changed and interrupted patient care.(1) The long-term treatment following infection with severe COVID-19 can develop dysfunction in musculoskeletal systems. Physiotherapy treatments play a fundamental roll in improvement of this condition.(2)

Conventional chest physiotherapy, cardiorespiratory physiotherapy and neuromuscular electrical stimulation (NMES) are commonly prescribed interventions for rehabilitation of COVID-19 patients.(2-4) Besides, there is an alternative method to provide this treatment for post -discharge patients and also non-covid patients, named tele-physiotherapy (TPT) which is preformed through web-based communication.(5)

In this review we tend to investigate possible challenges to find efficient solution and improve them.

### **Method:**

In this study, we collected data in English and Persian databases (PubMed and Google scholar, SID and civilica), with the following MeSH terms: "COVID-19", "neuromuscular electrical stimulation ", "cardio respiratory physiotherapy", "conventional chest physiotherapy", " tele-physiotherapy" and "challenges" from 2020 to 2022. After screening 54 papers, 31 studies were included based on the PRISMA protocol.

### **Result:**

Results show that the usage of TPT , a safe option to increase access, reached from 48.96% to 64.06% during the outbreak and show an average rate of 43.67% relative satisfaction of the physiotherapists.(5, 6) However, it's not fully embraced by everyone.(7) Also not every physiotherapy aspect such as electrotherapy and manual techniques can be performed through web-based communication.(5) general conditioning(72%), patient education(72%), and gait training and dyspnea relief (70% each) are other most used intervention during the pandemic.(8)

Dysfunction of both respiratory and skeletal muscle, an increased risk in COVID-19 patients requiring a prolonged admission in ICU, usually Referred to as ICU-acquired weakness(ICUAW) is seen in approximately 20-50% of patients.(9, 10) Neuromuscular electrical stimulation (NMES), treatment for muscle weakness, is proposed as an intervention to address ICUAW in patients with severe COVID-19, but details on when and how to employ or preform NMES is missing.(2, 11)

### **Conclusion:**

COVID-19 pandemic caused an increase in usage of physiotherapy in some severe cases also methods with less efficiency like TPT which have pros and cons however further research is needed.

### **Keywords:**

Covid-19, physiotherapy, challenges

## Big Data Analysis in Men with COVID-19 in Southwest Iran: An Unmet Need

### Authors:

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### Background:

The covid-19 pandemic has brought many health risks around the world. According to previous studies, men with covid-19 had higher disease severity and mortality rate compared to women. Considering the importance of the topic, the purpose of this study is to analyze the factors related to the death of male patients with covid-19 in southwest Iran using with big data.

### Methods:

In this cross-sectional study, information of 49,805 male patients with covid-19 referred to 38 hospitals affiliated with Ahvaz Jundishapur University of Medical Sciences (AJUMS), located in Khuzestan province in southwestern Iran, were collected. The demographic information, clinical symptoms and underlying diseases were extracted from the patients' medical records. Logistic regression was used to identify significant variables and R software version 3.5.1 was used to analyze the data.

### Results:

In this study, 49,805 male patients (the mean age of 51.63±16.81) were investigated, 89.9% of the patients recovered and 10.1% died. Cough (62.4%), shortness of breath (50.9%), fever (38.2%) were the most common clinical symptoms at admission. Also, diabetes (14.5%) and high blood pressure (13.1%) had the highest percentage of underlying diseases in these people. Multivariable logistic regression analysis revealed that age (odds ratio [OR]= 1.05; 95% confidence interval [CI]= 1.04-1.06; P=0.001), HIV (OR= 5.95; 95% CI, 3.03 – 11.68), chronic kidney diseases (OR= 2.21; 95% CI, 1.90 – 2.58, P=0.001), cardiovascular diseases (OR=1.50; 95% CI, 1.38 – 1.63, P=0.001), diabetes (OR= 1.30; 95% CI, 1.20 - 1.41, P=0.001), asthma (OR=1.23; 95% CI, 1.00 - 1.52, P=0.001) and Hypertension (OR=1.11; 95% CI, 1.20 - 1.02, P=0.001) were independently associated with mortality of hospitalized patients.

### Conclusion:

The results of this study showed that elderly male patients as well as patients with underlying diseases have a higher chance of death than other people. It is suggested that more attention be paid to reducing the risk of death in this group of patients.

### Keywords:

Covid-19, Men, Big Data, Iran

## The impact of COVID-19 on soft contact lens wear in established European and US markets

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### ABSTRACT

**Purpose:** To characterize changes in soft contact lens wearing habits during the COVID-19 pandemic.

**Methods:** A detailed online questionnaire was circulated to individuals aged 40–70 years, during the period April to May 2021. Data sampling took place in the United Kingdom (UK), United States of America (USA), Netherlands, Germany, France, Spain and Italy. Only data pertaining to individuals who were soft contact lens wearers were included. Data were extracted for questions relating to contact lens wearing habits pre- and during the COVID-19 pandemic, and expectations for future lens wear beyond the pandemic.

**Results:** Seven-hundred and twenty-eight individuals were identified as soft contact lens wearers of which six hundred and nineteen wore a combination of contact lenses and spectacles. Most respondents indicated contact lens wear times had either remained the same (57.3%) or increased (9.8%) during the pandemic. The country with the greatest proportion of respondents decreasing wear time during COVID-19 was the UK (45.3%), and the least in the Netherlands (20.0%). The primary cause of decreased lens wear was attributed to leaving the home less often (70.0%), and the second most common reason due to concerns about hygiene (10.8%). Most respondents (83.9%), however, expressed a desire to return to pre-pandemic wear times once the pandemic was over.

**Conclusions:** Practitioner concerns about contact lens market recovery ought to be assuaged by the survey outcomes which show most individuals to have maintained lens wear during the pandemic. In view of the continued lens wear, as and when restrictions ease, ECPs may wish to encourage patients to return for routine check-ups that may have been missed due to the pandemic.

**Keywords:** COVID-19; Contact lens; Patient preferences; Compliance; Pandemic.



## An Overview of the Signs and Symptoms of Pediatric Patients Hospitalized with COVID-19

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### Abstract

**Introduction:** Clinical symptoms and laboratory findings of Covid-19 in children are different from adults. The aim of this study is to determine the clinical and laboratory findings of covid-19 in hospitalized children.

**Materials and methods:** This cross-sectional descriptive study was conducted on 57 children aged 1 month to 12 years who were admitted with Covid-19, and their diagnosis were confirmed by PCR method from March 2020 to November 2021 in Mousavi Hospital of Zanjan, Iran. Demographic data, clinical and laboratory findings of patients were recorded, and relevant information was analyzed.

**Results:** In this study, 57 children with Covid-19, PCR positive, including 26 boys (45.6%) and 31 girls (54.4%) were evaluated. The most common clinical findings were fever, cough, respiratory distress, vomiting, diarrhea and seizures with fever in 45 (78.9%), 30 (52.6%), 24 (42.1%), 21 (36.8%), 18 (31.5%) and 6 (10.5%) patients respectively. The most common laboratory findings were increased AST and ALT in 50 (87.7%) and 24 (42.1%) patients. Increased CRP and ESR were found in 21 (36.8%) and 15 (26.3%) patients, respectively. Lymphopenia and thrombocytopenia were reported in 14 (24.5%) and 4 (7.07%) patients, respectively.

**Conclusion:** The most common clinical manifestations of covid-19 in children were fever and cough. The increase of liver enzymes, especially AST, was significant in hospitalized children, while lymphopenia and thrombocytopenia were not common in affected children.

**Keywords:** Covid-19, children, clinical manifestations, laboratory findings

## Covid-19 Disease and its Cognitive Complications:

### A Review of the latest Scopus database findings

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#### Abstract

While COVID-19 is mainly known for causing severe respiratory distress, many neurological manifestations have been reported, which can cause serious cognitive and psychological complications in its patients. Studies show that cognitive complications occur in most patients with covid-19, especially in patients who have experienced the severity of the disease and in older patients with co-morbidities. Since the diagnosis of cognitive complications in covid-19 patients is challenging, therefore, in this review article, an attempt is made to examine the studies in this field for information purposes.

**Purpose:** This article reviews the studies indexed with the two keywords "Covid" & "Brain" from 2020 to the end of 2022 in the Scopus database to show the focus areas of past studies and useful future research directions in achieving the assessment of brain cognitive functions in patients and recovered people of Covid.

**Method/approach:** A mixed-methods systematic review that integrates quantitative and qualitative analysis. Bibliographic data were extracted from the Scopus database and Scientometric analysis was performed for quantitative data analysis. Qualitative content analysis is then presented, which provides a basis for delineating trends and gaps in current knowledge.

**Findings:** The number of studies on the effects of Covid on the brain has increased dramatically over the past three years. Although the studies of 2019 and 2020 have focused more on the effect of Covid on the body, recent articles emphasize the connection between viral infections and brain disorders, and because of that, the psychological effects of Covid. Some of the emerging areas discovered in this study were long-term neuropsychological deficits in people in recovery, brain fog, long-term Covid and cognitive complaints.

**Key words:** Covid and Cognitive Complications, Long-Term Covid, Brain Fog, Systematic review

## Adding a New Term to Ocular Terminology during the COVID-19 Pandemic, Mask Associated Dry Eye (MADE)

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### ABSTRACT

**Objective:** To determine the first appearance of the new term of coronavirus-associated eye disease known in the literature as mask-associated dry eye (MADE) and its effect on the ocular surface status.

**Methods:** The PubMed, Science Direct, Scopus, and Web of Science databases and grey literature were searched until February 2023. The literature search was carried out using the following keywords: mask-associated dry eye or MADE; MADE and COVID-19; MADE and coronavirus; MADE and ocular surface or Tear film. Only original studies that assessed the presence of dry eye symptoms along with objective clinical tests were included here, and case reports, case series, review studies, editorials and letters to editors were excluded.

**Results:** Eleven studies were included in this systematic review that reported mask wearing as a possible cause of dry eye during the COVID-19 pandemic. This term was first described in June 2020 by White, an American ophthalmologist, and it was defined as a condition in which dry eye symptoms are present at least occasionally and worsen with the use of a face mask. A frequency of about 8-30.7% has been reported for MADE worldwide. Reported dry eye symptoms assessed using special questionnaires, showed higher scores in people who wear masks than in the control group. The frequency of ocular surface symptoms, including eye irritation, burning, gritty sensation, eye rubbing, and pink eye, was considerably higher in females and subjects with a history of contact lens wear. In addition, objective findings showed decreased tear break-up time (TBUT), increased ocular surface redness and corneal staining (punctate epithelial erosion).

**Conclusions:** In connection with the airflow coming out of the upper edge of the mask, there is a subsequent increase in the incidence of dry eye and ocular surface disorders. Ocular surface irritation associated with mask use raises concerns about an increased risk of disease transmission through the damaged corneal epithelium. Properly fitting a face mask with a flexible nose wire or taping at its top to prevent air from being directed toward the eyes may reduce the risk of MADE.

**Keywords:** COVID-19; Coronavirus; Mask-associated dry eye; MADE; Tear film stability; Dry eye; Face mask; Keratitis.

## Iranian nurses' experiences of missed nursing care during the covid-19 pandemic: a qualitative study

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**Introduction:** Providing high quality nursing care during Covid-19 pandemic is a serious challenge for nurses; So that the inconstant and unpredictable conditions caused by this it has made it impossible to fulfill all care requirements in these conditions and the formation of missed nursing care in the current situation is inevitable. The present qualitative study was conducted with the purpose of explaining the experiences of nurses regarding the strategies to prevent missed nursing care in the covid-19 pandemic.

**Methodology:** This exploratory qualitative study was conducted in 2020-2021 in three medical teaching hospitals, in two cities of Arak in the center and Tehran, the capital of Iran. Semi-structured, in-depth, and targeted interviews were conducted with 14 nurses working in Covid-19 centers. Data coding was done using MAXQDATA software. Data analysis was done simultaneously with data collection and using the traditional content analysis approach based on the Graneheim and Lundman approach. In order to achieve the accuracy and validity of the data, the four criteria proposed by Lincoln and Guba, including "credibility", "dependability", "confirmability", and "transferability," were used.

**Results:** The extracted codes were divided into 4 categories: "encouraging teamwork and interprofessional cooperation", "providing resources and facilities", "creating a supportive work environment", "paying attention to the nursing process in care" and were categorized into 12 subcategories.

**Conclusion and discussion:** The findings of this research have an effective role in providing optimal and efficient solutions in the prevention of missed nursing care in the current situation as well as the management of possible similar crises in the future. Nursing managers can play an effective role in minimizing missed nursing care while providing a supportive environment, group participation, facilities, and sufficient human and financial resources. The results of this study also emphasize the importance of nursing educator's attention to the nursing process as a standard framework for nursing care in teaching students.

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**Keywords:** missed nursing care, covid-19 pandemic, qualitative study

## Galectin-3 as a prognostic marker for disease progression and mortality in Covid-19

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### Introduction

Covid-19, a pandemic disease caused by the spread of the SARS-CoV-2 virus, has claimed many lives around the world. The search for tools that can diagnose and predict Covid-19 is currently receiving a lot of attention from researchers. Most severe COVID-19 patients develop severe pneumonia and inflammation. This may be related to the macrophage activation syndrome commonly referred to as 'cytokine storm'. Galectin-3 is a  $\beta$ -galactoside-binding lectin that plays a key role in cell communication, inflammation, and fibrosis, providing a good prognosis of patient conditions and allowing rapid action. We need to find ways to anticipate and respond quickly to patient conditions to prevent a resurgence of mortality from this virus.

### Method

For the current overview, we have collected articles from PubMed and Google scholar databases covering the years 2019-2023. We searched the mentioned databases using the keywords covid-19, galectin-3, prognosis, biomarkers, and inflammation.

### Result

Elevated galectin-3 levels have been observed in cytokine storms, which occur in severe cases of Covid-19 disease. Studies conducted show that Covid-19 patients with high levels of galectin-3 have acute inflammation of the airways with the development of neutrophil infiltration. , predicts increased risk of ICU admission.

### Conclusion

Measuring galectin-3 levels in Covid-19 patients can determine disease progression and inflammation. This marker is directly related to other functional markers of Covid-19 such as CRP, NLR, ferritin, D-dimer and fibrinogen. It is inversely related to albumin. Therefore, this marker can be used together with other markers to confirm patient status.

**keyword:** Covid-19, prognosis, galectin-3, inflammation, biomarkers.



## The Effects of Glycyrrhizin on Treatment of Covid-19

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### Background:

Covid-19 disease is a respiratory disease caused by SARS-CoV-2 and it has symptoms such as shortness of breath, fever, cough and pneumonia. This disease was first reported in 2019 from Wuhan, China, and it spread all over the world during short period and caused significant casualties. So, researchers have attracted lots of attention for finding an effective treatment.

Glycyrrhizic acid (GA), also called glycyrrhizin, is a substance extracted from *Rhizoma Glycyrrhizae* and is used in Chinese medicine to treat liver diseases such as viral hepatitis and some inflammatory skin diseases. GA has anti-inflammatory, antioxidant, anti-allergic, anti-microbial, anti-viral, anti-parasitic and anti-cancer properties. Furthermore, we review the effects of glycyrrhizin on treatment of covid-19.

### Method:

A number of keywords including glycyrrhizin, glycyrrhizic acid, Covid-19, SARS-CoV-2 searched in databases such as PubMed, Google Scholar, ScienceDirect, Web of Science and etc. from 2019 to 2023 and some information was obtained.

### Results:

Most of the studies showed the anti-inflammatory and antiviral effects of GA. GA can directly target important protein structures in SARS-CoV-2 and prevent of virus proliferation and inflammation. The molecular mechanism of GA in the treatment of Covid-19 is as follows:

- 1) Helps to the immune system for overcome viruses during the incubation period.
- 2) Reduce of virus-induced cytokine storm.
- 3) T cell proliferation and help to T-helper1.
- 4) Inhibits IL-6 production and NF-κB activation.
- 5) Inhibits the activity of HMGB1 and the signal transduction of the HMGB1-TLR4 pathway.
- 4) Induces the apoptosis of host cells latent with SARS-CoV-2.
- 5) Increase of production of NO by macrophages.
- 6) Inhibits the inflammatory response prompted by lipopolysaccharide.
- 7) Inhibits the invasion of SARS-CoV-2 by reducing the domain of lipid raft.

### Discussion:

According to positive effects of GA on covid-19 treatment, the combination of GA with other drugs such as chloroquine, tenofovir and vitamin C may improve therapeutics process during covid-19 disease. Also it has been proved that GA can effectively prevent the invasion and replication of SARS.

### Keywords:

Glycyrrhizin, Glycyrrhizic acid, Covid-19, SARS-CoV-2

## Investigation the opinions of clients on the selection of the Covid-19 vaccine (Voluntarily or Mandatory) in Ahvaz Vaccination centers , 2021

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### Abstract

**Introduction:** Covid-19 is a contagious disease, and vaccination is the most effective way to prevent acute illness or death from the disease. On the other hand, vaccination also helps to reduce the spread of Covid-19 in the community. Therefore, the present study was conducted with the aim of determining the opinions of clients in the selection of Covid-19 vaccine (Voluntarily or Mandatory) in in Ahvaz Vaccination centers.

**Methods:** This descriptive study was cross-sectional and the number of samples was equal to 1500 people who received the Covid-19 vaccine at the vaccination centers of Ahvaz city. Sampling was done as a census during the fall season. Data were collected by a researcher-made questionnaire in accordance with the objectives of the study. The validity of the questionnaire was done by surveying the professors and after confirming the validity by them, it was given to 10% of the sample size (150 people). Cronbach's alpha coefficient was equal to 0.89. Data were analyzed by Spss 22 software after collection.

**Results:** 696 cases (46.4%) of the clients received Sinopharm vaccine and 1060 people (70.7%) did not consider the current quarantine policy suitable for controlling Corona427 cases (28.5%) stated that if there was no external vaccine, they wanted to inject internal vaccine. There was significant relationship between the type of vaccine received according to education level ( $P < 0.05$ ), but there was no significant relationship with occupation, age and gender ( $P > 0.05$ ). There was no significant relationship between quarantine policy by gender, age, level of education, occupation ( $P > 0.05$ ). There was significant relationship between the desire for Iranian vaccine by age ( $P < 0.05$ ) but there was no significant relationship with gender, education level and occupation ( $P > 0.05$ ).

**Conclusion:** Considering the importance of vaccination against Covid-19, training and creating appropriate conditions in this case is necessary. Therefore, it is suggested to provide correct information based on articles written through mass media in order to increase people's awareness

**Keywords:** Vaccine, Covid-19 disease, Vaccination.

## The relationship between underlying diseases and covid19: A systematic review

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**Introduction :** The acute respiratory disease caused by the new coronavirus was identified in December 2019. This virus caused clusters of pneumonia with an unknown etiology for the first time called covid -19. Covid incidence and mortality are significantly affected by demographic characteristics of patients, such as age, underlying diseases, and the symptoms they experience. The relationship between covid and underlying diseases, such as diabetes, hypertension, heart and kidney diseases, has been investigated. The objective of this review is to determine the impact of underlying diseases on covid19 patients.

**Search Method:** The present study is a review. These articles are searched through the databases PubMed, ISI, Web of Science, ICS, SID and Google scholar using keywords such as underlying disease, covid19 and Diabetes. Finally, among the papers found, 20 matched the group's criteria and were included in the study.

**Results:** Hypertension is usually associated with Cardiovascular diseases and diabetes, which increases the risk of getting infected with covid. Diabetes can also consider a risk factor for the severity and progression of the coronavirus. Studies have shown that diabetes can increase the risk of immune system disorders and increase infection. Current data shows that many hospitalized patients with covid -19 suffer from kidney damage in the form of proteinuria, hematuria or acute kidney injury. Multiple underlying diseases are also a predisposing factor for worse prognosis and high mortality.

**Discussion and opinion :** Health policymakers should provide programs for appropriate education, support and awareness for people with underlying disease.

**Keywords:** covid<sup>19</sup>, underlying disease, diabetes

## Association of COVID-19 and Acute Disseminated Encephalomyelitis (ADEM)

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**Introduction:** COVID-19 infection may cause or aggravate existing ADEM. ADEM often appears following viral or bacterial infections, which leads to stimulation of the immune system. By the effect of SARS-COV-2, many chemokines and cytokines are released. Macrophages are activated by chemokines and proinflammatory cytokines, and other components of the innate immune system lead to a broader immune response that initiates a cytokine storm. The CNS may be the first organ affected due to the compromised BBB. Cytokines induce the production of reactive oxygen species through the stimulation of astrocytes and glial cells, which also activates microglia M1 and M2. While M1 is involved in inflammatory processes in the CNS, M2 is responsible for anti-inflammatory processes. Thus, M1 activation leads to increased pro-inflammatory cytokines, and M2 initiates astrogliosis to protect the CNS. All these opposite reactions caused by SARS-COV-2 may cause CNS dysfunction.

**Methods:** Articles and studies related to COVID-19 and ADEM have been extracted from reliable scientific databases like Google scholar and Pub med.

**Conclusion:** Examining inflammatory and pro-inflammatory pathways help us in the process of choosing treatment pathways. Of course, we must keep in mind that the disease of COVID-19 is not the only factor that causes this disease, and other factors must also be considered.

**Result:** In covid, the increase in the titer of antibodies, demyelination of CNS, and the lack of oligoclonal bands in the CSF sample can lead us to suspect ADEM.

**Keywords:** COVID-19, ADEM

## Investigating the impact and relationship between covid-19 and pregnancy: A systematic review

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**Background and aims:** There were many unknowns for pregnant women during the coronavirus disease 2019 (COVID-19) pandemic. Physiological, mechanical, and immunologic alterations in pregnancy could potentially affect the susceptibility to and the severity of COVID-19 during pregnancy.

**Method:** This article is a systematic review that was conducted between 2019-2022 by searching PubMed, Google Scholar, SID, Scopus and Iran Medex databases. Among the 998 primary studies, 19 articles were reviewed. An algorithm for Thromboprophylaxis in pregnant patients with COVID-19 is presented, which considers disease severity, timing of delivery in relation to disease onset, underlying comorbidities and contraindications to the use of anticoagulation. Researches conducted a systematic review of observational studies with comparison data on SARS-CoV-2 infection and severity of COVID-19 during pregnancy.

**Findings:** Evidence was accumulating that SARS-CoV-2 infection during pregnancy is associated with a number of adverse pregnancy outcomes including preeclampsia, preterm birth, and stillbirth, especially among pregnant persons with severe COVID-19 disease. In addition to the direct impact of COVID-19 on pregnancy outcomes, there was evidence that the pandemic and its effects on healthcare systems have had adverse effects such as increased stillbirths and maternal deaths on the pregnancy outcomes.

**Conclusion:** From the current evidence base, it is difficult to draw absolute conclusions on whether pregnant women are at increased risk of severe consequences of COVID-19. Most women will experience mild or asymptomatic disease with no lasting consequences; COVID-19 is an independent risk factor for preterm birth.

**Keywords:** pregnancy, SARS-CoV-2, COVID-19, Preeclampsia, Birth



## Measuring the productivity of the hospital during the crisis caused by the pandemic and designing a model

Anis Abbasi<sup>7</sup>, Fatemeh Kavian Telouri<sup>8</sup>

**Introduction:** With the beginning of the crisis caused by the Covid-19 disease and affecting the hospitals of the country, the productivity of the hospitals is severely affected by this crisis, and the government hospitals have many problems in the field of financial resources, drugs and equipment, beds and increase Loads of referrals can be affected. Became the evaluation of the state of hospitals in Golestan province in the period before and after the conclusion in the field of performance indicators, human resources and financial resources of the hospital turned into the preparation of a model for evaluating the efficiency of the hospital during the German pandemic.

**Methodology:** The present study is a descriptive analysis that was conducted using a retrospective quantitative-qualitative method based on three years before Covid-19 and two years after Corona, i.e. 2017-2022 years. The research environment was 17 public university hospitals of Golestan province. The data collection included all the patients who received services in this period of time, all the personnel working in the hospital and the financial documents of the hospital. In order to collect the data, a checklist made by the researcher was used to measure face and content validity using the content validity ratio index (CVR) and to determine the reliability level using Cronbach's alpha coefficient and to determine the validity of the items using factor analysis and AMOS statistical software. Version 20 and SPSS version 20 were used. In order to determine the fit of the model, fit indices were also used.

**Findings:** The result of executive measures (interaction with insurance, notification of guidelines and standards, patient cost coverage, informing hospitals about cost management methods and attracting resources) and evaluation of hospitals during the Corona crisis in terms of economic efficiency and technical efficiency. , led to the preparation of the hospital productivity model with the approach of effectiveness and economic efficiency. From the effective factor identified in the checklist based on content validity index, the 35 of factors was confirmed by experts. The exploratory factor analysis identified 27 factors (with component Effectiveness), (with component Economic efficiency ), as the main hospital dimensions for measuring hospital productivity during the crisis caused by the pandemic.

**Conclusion:** Designing the productivity model and measuring the efficiency of the hospital in providing services during the disease crisis leads to an increase in the speed of decision-making in various fields, including treatment methods, human resources supply, equipment supply, optimization of hospital beds, optimization of doctors' capacity. Therefore, due to the comprehensiveness of the hospital productivity model, it is suggested to use this model in order to increase the level of knowledge and ability to deal with the crisis during the crisis caused by the pandemic.

**Key words:** Crisis- Covid 19-Productivity-Hospital

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## **Evaluation of inflammatory and coagulation parameters associated with Coronavirus disease 2019 (COVID-19)**

Mohammad Semsari Bonab, Mohammadreza Meghdadi

### **Abstract**

#### **Introduction:**

Coronavirus disease 2019 (COVID-19), which is highly prevalent, has rapidly infected millions of people around the world. Since viral infections can disrupt the coagulation and homeostasis cascades, various inflammatory and coagulation problems occur due to COVID-19 infection. Hemostasis evaluating has an important role in patients affected with COVID-19. These may help to understand the circumstance of thrombosis in COVID-19 patients but have currently no place in diagnosis or management in COVID-19 patients.

#### **Method:**

We rummage PubMed, Google Scholar, and Google from January 2020 to January 2023, for literatures written in English or Persian that describe the prevention, early detection and effects of COVID-19 in liver functions, using the search terms “coronaviruses and liver”, “coronaviruses and Coagulopathy”, “COVID-19 and liver”, “COVID-19 and Coagulopathy”, “COVID-19 and liver symptoms”, “COVID-19 and hepatic”, “COVID-19 and liver function test”, “COVID-19 and liver inflammation”, “SARS-CoV-2 and liver”, “COVID-19 and NAFLD”, “COVID-19 and non-alcoholic fatty liver disease”, “COVID-19 and non-alcoholic fatty liver disease”, “COVID-19 and hepatitis”, and “COVID-19 and Vaccine”. The title and abstract of all articles were read for the primary selection and then the full-text articles were read on availability. Reference lists of the full-text articles were scanned to discover any additional studies.

This review claims that evaluating of coagulation parameters and liver functional tests, help to follow, detection and diagnosis of COVID-19; This study is at the beginning of the development and it needs more discussion to improve.

#### **Result:**

Increase in levels of D-dimer were found and indicated to be a crucial laboratory marker in evaluating the risk of thrombosis in Coronavirus disease 2019 patients. Also, prothrombin time and platelet count can be used as a diagnostic approach. Fibrinogen can be used as an indication for worsening coagulopathy. The primary coagulopathy of COVID-19 is shown by a considerable elevation of D-dimer and ferritin, and fibrinogen degradation products (FDP); but disruption in platelet count, prothrombin time (PT) and activated partial prothrombin time (a PTT) have also seen.

a mild elevation in liver enzymes is the usual form of liver function derangement. presence of pre-existing liver illness has no effect on the incidence of liver enzyme elevations, although patients with pre-existing liver disease had a higher mortality rate. COVID-19 culminates a systemic inflammation and the release of cytokines. The predominant molecules are interleukin-6 and tumor necrosis factor alpha (TNF-alpha).

Different studies have shown the variable impact of NAFLD on COVID-19 related mortality. In patients with chronic hepatitis B and hepatitis C, a mild COVID-19 course is well tolerated, whereas in moderate-severe COVID-19 requiring steroids and/or tocilizumab, the risk of viral flare and worsening of liver disease is present.

autopsies on patients who died of COVID-19 were analyzed, Samples for histopathologic study were obtained from all organs, Viral RNA and proteins were located in endothelial and Kupffer cells, and in portal macrophages, but not in hepatocytes and cholangiocytes. In conclusion, endothelial damage was the most common change in the liver and was a characteristic, but not specific alteration in COVID-19, proposing an important role in the pathogenesis of COVID-19-associated liver disease.

#### **conclusion:**

It is now evident that anticoagulation plays a key role in the management of COVID-19 infection.



Initial studies reported mild prolongation of PT in patients with severe disease requiring ICU admission. It is important to remember that these mild prolongations may be missed if PT is expressed as PT ratio or PT% rather than in seconds, as probably happened in studies when data was reported in these formats. APTT values did not correlate with severity of disease in most studies. Most consistent data reported was for D-dimer. Elevated D-dimer value at admission is a predictor for both severity of COVID-19 and mortality. Liver has an important role in producing inflammation through releasing its cytokines, as inflammation is one of the points that make COVID symptoms severe, so taking care about inflammations caused by liver cytokines is necessary to reducing mortality rates.

**Key word:**

Coronavirus disease 2019 (COVID-19), D-dimer, prothrombin time, activated partial prothrombin time, coagulopathy, liver functions, inflammation



## Evaluation of the impact of the Covid-19 pandemic on the mental health of medical students in Kermanshah

### Names of authors:

Mohamad Javad Ranjbari<sup>1</sup> Kosar Soltani<sup>2</sup>

**Introduction:** One of the important issues that must be addressed in times of crisis and epidemic is maintaining the mental health of medical staff members, including students in the field of medical sciences, who play a key role in maintaining and promoting the health of society. Students, due to environmental stress and anxiety Related to the challenges related to medical professions, they can be exposed to the risk of psychological injuries, so it is very important to pay attention to this issue. Paying attention to the mental health of medical students during the Covid-19 pandemic, who play an important role in providing mental health services to the society, has a special priority.

**Methods:** This is a cross-sectional analytical study that was conducted using simple random sampling on 230 medical students in Kermanshah. In order to collect information, a personal profile questionnaire and a 12-question mental health questionnaire (12-GHQ) were used.

**Result:** A total of 230 people were included in the study; Among them, 46 people (20 percent) were active in corona departments and 184 people were not active in corona departments. The highest average score of mental health belonged to the first and second semester students,  $4.9 \pm 3.2$ , and the lowest average score of  $2.18 \pm 3.2$  belonged to students of the fifth semester and later. Also, according to the obtained statistics, the average health of students who were in contact with corona patients was higher than other people, which indicates the unfavorable state of their mental health.

**Conclusion:** According to the obtained results, it is necessary to pay attention to the mental health of students during the covid-19 epidemic, so it is possible to hold mental health classes and workshops and provide the conditions for holding counseling sessions and provide ideal conditions in educational environments during the pandemic. Corona caused the preservation and promotion of health in the society.

**Keywords:** mental health, students, covid 19, epidemic

## **Investigating the effect of teaching nursing care at home to caregivers of Covid-19 patients on the well-being and recovery of patients**

**Authors:** Kousar Soltani & Mohammad Javad Ranjbari

**Introduction:** The outbreak of Covid-19 disease in 2020 is one of the challenges of the health and treatment system, which led to the infection of millions of people and also many deaths. Concerns and economic problems and fear of disease and death are factors that can cause people to suffer. Home quarantine is one of the ways that can be used for patients with less symptoms, but it should be noted that caregivers and patients may not have enough information for proper care. Therefore, in the present study, the effectiveness of remote nursing education on the comfort of patients with covid-19 in home quarantine has been investigated.

**Materials and methods:** In this clinical trial, 40 patients with covid-19 who visited Kermanshah hospitals (20 in the experimental group and 20 in the control group) were selected by simple random. The patients of the experimental group underwent orientation sessions for care education and education using mobile phones, and Kolkaba's general comfort questionnaire was used to measure the effectiveness of remote nursing education on the comfort level of patients. The questionnaire was completed before and after the experiment and the obtained data were analyzed using spss20 software.

**Findings:** After the care experiment with remote nursing education, the average comfort score in the experimental group increased compared to the control group; Also, in the test group after remote nursing education care, the average comfort score showed a significant increase compared to before the test in the same group.

**Conclusion:** According to the obtained results, the use of remote nursing education is more effective in increasing the comfort and convenience of patients with Covid-19 who have milder symptoms and were treated in home quarantine.

**Keywords:** Covid-19, epidemic, home care, nursing care education, patient comfort



## Probiotic supplementation: A prospective approach in the treatment of COVID-19

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### Abstract

**Background:** Despite strategies based on social distancing, the coronavirus disease 2019 (COVID-19) expands globally, and so far, many attempts have been made to achieve effective treatment for patients with COVID-19. This disease infects the lower respiratory tract and may lead to severe acute respiratory syndrome coronavirus (SARS-CoV). COVID-19 also can cause gastrointestinal infections. Therefore, COVID-19 patients with gastrointestinal symptoms are more likely to be complicated by SARS-CoV. In this disease, acquired immune responses are impaired, and uncontrolled inflammatory responses result in cytokine storms, leading to acute lung injury and thrombus formation. Probiotics are living microorganisms that contribute to the health of the host if administered in appropriate doses. **Aim:** This study aimed to provide evidence to show the importance of gut dysbiosis in viral disease, especially COVID-19. Therefore, we have focused on the impact of probiotics consumption on preventing severe symptoms of the disease. **Methods:** We have entirely searched SCOPUS, PubMed, and Google Scholar databases to collect evidence regarding the relationship between probiotics and viral infections to expand this relationship to the COVID-19. **Results:** It has been shown that probiotics directly counteract SARS-CoV in the gastrointestinal and respiratory tracts. Moreover, probiotics suppress severe immune responses and prevent cytokine storms to inhibit pathologic inflammatory conditions in the body via modulation of immune responses. **Conclusion:** According to available evidence based on their antiviral and respiratory activities, using probiotics might be an adjuvant therapy to reduce the burden and severity of this disease.

**Keywords:** Probiotics, coronavirus, coronavirus disease 2019 (COVID-19), severe acute respiratory syndrome coronavirus (SARSCoV)



## **Father– Son COVID- 19- associated mucormycosis: Important role of genetic susceptibility in combination with environmental factors**

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this report, a father with a history of diabetes mellitus and his son without a remarkable past medical history, both got COVID- 19- associated mucormycosis (CAM) as evidenced by their clinical and radiological findings. This suggests the possible role of genetics in combination with the environment in susceptibility to CAM.

**KEYWORDS:** coronavirus, COVID- 19, genetics, mucormycosis, SARS-CoV- 2



## **JAK/STAT signaling pathway polymorphisms in Covid-19 predisposition: What do we know thus far**

Fatemeh Moradi<sup>1</sup>, Mahdi Majidpour<sup>1</sup>, Hossein Shahriari<sup>1</sup>, Mahdi Atabaki<sup>1</sup>, Ebrahim Alijani<sup>1\*</sup>

Since 2019 when the world encountered a global health issue, Covid-19, many studies have been done to find any way to reduce complications of the disease. In inflamed tissue, immune cells are accumulated, and various intercellular signals are involved in the pathogenesis. Janus kinases (JAKs) are typical tyrosine kinases involved in mediating the signaling of multiple cytokines and growth factors and inducing the transcription of molecules related to inflammation or immunity caused by Covid-19 via the transcription factor signal transducers and activators of transcription (STAT). Many researchers prefer to study and find the way genetically and consider JAK-STAT polymorphism and its correlation to Covid19.

Hence, they have garnered significant interest as a therapeutic target. Therefore, due to this role, we hypothesize that single nucleotide polymorphisms (SNPs) of the JAK-STAT signaling pathway can affect the functional folding form of these proteins. Results of in vitro mutagenesis studies, together with the protein structural context of each mutation, are used to develop a model for assigning a mechanism of action for each mutation at the protein level.

In this study, We have analyzed the effect of a set of the most common pathogenic SNP-induced missense mutations and a set of newly determined SNPs from the general population to predict changes affecting the pathogenic mechanism of Covid-19.

**Key words:** JAK; STAT; polymorphism; Covid-19.

## Evaluation of appendicitis scoring systems in patients with Covid-19 disease and its comparison with non-involved patients

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### Background:

Covid-19 has become a pandemic. This disease is a systemic disease that affects the whole body. In this study, we evaluated the clinical and para-clinical findings of patients with suspected acute appendicitis by three scoring systems [(Appendicitis Inflammatory Response Score or AIR), (Alvarado Score), (Pediatric Appendicitis Score or PAS)] and compared them with those not suffering from covid-19.

**Methods:** Our hospital triage system identified suspected Covid-19 patients and transferred them to covid-19 ward. We included patients with acute abdomen signs in the case group after serological confirmation of coronavirus infection. The nurses completed the questionnaires of three scoring systems. We enrolled patients with acute abdomen without coronavirus infection in the control group. Surgeons managed the patients without knowing about these groups. We compared the clinical, para-clinical, intraoperative, and pathological findings groups. We followed patients for one month after admission.

**Results:** We had 160 patients in this survey. Forty-and-five patients (28%) were coronavirus seropositive. The mean age was  $7.91 \pm 2.82$  years in the case group and  $8.03 \pm 2.72$  in the control group. The sex of patients was 64.5% and 68.8% in groups consecutively. In the PAS scoring system, test sensitivity and specificity were 36.6% and 80% in the case group and 59.7% and 91.8% in the control group. In the Alvarado scoring system, test sensitivity and specificity were 46.6% and 71.4% in the case group and 74.6% and 81.6% in the control group. In the AIR scoring system, test sensitivity and specificity were 53.3% and 53.3% in the case group and 95.5% and 59.1% in the control group.

**Conclusion:** In covid-19 patients, changes in appendicitis evaluation scores are significant. We must change the scoring system or abandon them in covid-19 pandemic. We need safer tools for the diagnosis of appendicitis.

**Keyword:** Appendicitis, Appendicitis Inflammatory Response Score, Alvarado Score, Pediatric Appendicitis Score, covid-19, coronavirus.

## Title: Effect of Vitamin D status on COVID-19 susceptibility: A systematic review of observational studies

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### Abstract

**Introduction:** The coronavirus disease 2019 (COVID-19) pandemic has strongly affected global healthcare systems. Vitamin D deficiency has long been associated with reduced immune function that can lead to viral infection such as COVID-19. However, previous studies lack consistent conclusions as to whether Vitamin D deficiency is actually linked to COVID-19 susceptibility as claimed. This systematic review, aims to study the effect of vitamin D supplementation on COVID-19 susceptibility.

**Methods:** We conducted searches of published literature in PubMed, Scopus, Web of Science, and Google Scholar databases from inception until February 2023. All observational studies (cross-sectional or cohort or case-control) which investigated the effects of vitamin D status on COVID-19 susceptibility were included in our study. Two researcher independently checked titles and abstracts, evaluated full-text studies, extracted data, and appraised their quality using the Newcastle-Ottawa Scale (NOS). The search consisted of the terms ("Vitamin D," OR "25-Hydroxyvitamin D," OR "Low vitamin D.") AND ("COVID-19" OR "2019-nCoV" OR "Coronavirus" OR "SARS-CoV-2") AND ("disease severity" OR "ICU admission" OR "mortality" OR "hospitalization" OR "infection"). We followed the recommended PRISMA guidelines in executing this study.

**Results:** Of 3,245 search results, 18 studies satisfying eligibility criteria were included. All the included studies reported a positive relationship between vitamin D sufficiency and improved COVID-19 outcomes. Five studies reported that vitamin D-deficient patients were more likely to develop severe COVID-19 disease compared to vitamin D-sufficient patients. Four studies found that vitamin D-deficient patients were more likely to die from COVID-19 compared to vitamin D-sufficient patients. Additionally, nine studies reported that vitamin D-deficient patients were more likely to be COVID-19 infected compared to vitamin D-sufficient patients. Results from these observational studies propose that vitamin D may serve as a mitigating effect for COVID-19 infection, severity, and mortality.

**Conclusion:** Observational studies propose vitamin D deficiency/insufficiency increases susceptibility to COVID-19 and severe COVID-19. Vitamin D might play an important role in protecting from COVID-19, and in high-risk patients with COVID-19 from progressing to critical clinical complaint and reducing mortality.

**Keywords:** COVID-19; 25-hydroxyvitamin D; vitamin D; systematic review



## **Title: The effect of probiotics on COVID-19: A systematic review of observational studies**

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### **Abstract:**

**Introduction:** Coronavirus Disease 2019 (COVID-19) is a pandemic disease caused by a new corona virus. Gut most infected people with COVID-19 will develop mild to moderate gastrointestinal (GI) symptoms such as diarrhea, vomiting, and stomachache, which is caused by impairment in gut microbiota. Probiotics are live microorganisms that they provide health benefits when consumed, generally by improving or restoring the gut microbiota. No integrated analysis has been performed to summarize the effect of probiotics for the treatment of covid-19 patients to date. In this study we aimed to systematically review the effects of probiotics on the COVID-19.

**Methods:** A literature search was conducted in PubMed, Scopus, Web of Sciences and Google scholar databases from inception to February 2023, to identify studies that investigated associations about effect of probiotics on COVID-19. Two researcher independently checked titles and abstracts, evaluated full-text studies, extracted data, and appraised their quality using the Newcastle-Ottawa Scale (NOS).

**Results:** Eighteen studies were included in this review. Our study shows that among COVID-19 patients, particularly moderate to severe cases, the gut and lung microbiota was different compared to healthy individuals. The probiotics significantly affects the host insusceptible reaction, and on invulnerable responses at close by mucosal locales. In addition, the severity, and viral load of COVID-19 disease would probably also be influenced by the gut, and lung microbiota's composition.

**Conclusion:** Our study concludes that there was a significant difference in the composition of gut microbiota in COVID-19 patients compared to the general healthy individuals, with an increase in opportunistic pathogens. Further, research is needed to investigate the probable bidirectional association of COVID-19 and human microbiome.

**Key words:** COVID-19; SARS-CoV-2; gut microbiota; microbiome; microbiota; probiotics.

## Presenting a Model of the Role of Covid-19 Stress in Predicting the Temptation to use Drugs by Mediating the Occurrence of Marital and Parent-Child Problems in Drug Addicts who Quit

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### Abstract:

**Aim and Background:** The aim of the present study was to present a model of the role of the stress of Covid-19 in predicting the temptation to use drugs by mediating the occurrence of marital and parenting problems in drug addicts.

**Methods and Materials:** This research is descriptive and path analysis model type; The statistical population of this research was all drug addicts who quit and had a case in the addiction treatment centers of Bandar Abbas city in 1400, and 200 people were selected as a sample. In order to collect information from Tempting Beliefs Questionnaire (CBQ) by Wright, Beck, Newman and Lacy (1993), Corona Stress Scale (CSS-18) by Salimi et al. - The child (PCRS) was Pianta (1992); According to the results, there is a direct relationship between the stress of Corona and the temptation to use drugs in addicts who quit.

**Findings:** According to the results, there is a direct relationship between Corona stress and marital conflict in addicts who quit. The results showed that there is a direct relationship between the corona stress and the parent-child relationship in addicts who quit. The findings indicate that there is a direct relationship between marital conflict and the temptation to use drugs in drug addicts.

**Conclusions:** According to the findings of this study the Corona period causes people to experience a level of stress, and this stress can enter the marital and family boundaries, resulting in marital and family conflicts and violence. harmful use of the substance.

**Keywords:** Corona stress, drug use, marital problems, parenting.

## The impact of the covid-19 pandemic on the diagnosis ;treatment and prevention of colorectal cancer: a systematic review

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### Abstract:

**Introduction:** Following the official announcement of the COVID-19 pandemic by (WHO) in March 2020 and decreased activity of healthcare systems and the possible reluctance of patients to seek medical help and Given that colon cancer is the third most common cancer and the second deadliest cancer in the world. colorectal cancer patients were exposed to significant.

**Methods and materials:** The purpose of this study was to investigate the impact of covid-19 on the diagnosis and treatment of colorectal cancer, and the evaluation results of 18 studies were reviewed. A comprehensive search performed on June 2021 in various databases, including SID,MagIran,Iran Medex PubMed,Google Scholar, Crossref,Science Direct. Keywords such as "diagnosis," "treatment," "covid -19" "colorectal neoplasm," and "colorectal cancer " was used individually or a combination of these words.

**Results: Findings:** The purpose of this study was the effect of covid-19 on the diagnosis and treatment of colorectal cancer and the results showed that : the diagnosis of colorectal cancer and the number of diagnostic procedures have decreased. Emergency visits in advanced stages of cancer have increased, Treatment of colorectal cancer has also decreased significantly .

**Conclusions:** Considering that the reduction in colorectal cancer screening following COVID-19 pandemic is and the lack of referrals due to the fear of developing COVID-19 infection. due to the decrease in the diagnosis and treatment of colorectal cancer , to prevent the continuation of this declining trend, it requires serious and effective interventions to prevent its further consequences.

**Keywords:** COVID-19; Colorectal cancer; Diagnosis; Treatment; screening

## Laparoscopic cole cystectomy surgeries during the covid-19 pandemic: a systematic review

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### Abstract:

**Introduction:** The COVID-19 pandemic has led to global changes in healthcare systems. Laparoscopic cholecystectomy (LC) is the standard technique for treatment of gallbladder disease. During the first wave of hospital admissions associated with COVID-19, most guidelines recommended conservative treatment in order to limit the admission rates and free up spaces for COVID-19-infected patients.

**Methods and materials:** The study was conducted using a systematic review method. The results of 15 studies were reviewed by searching for Persian studies using the keywords: covid-19, cholecystectomy, laparoscopy, acute cholecystitis in the internal databases of MagIran, SID and Iran Medex and searching for the keywords covid-19, corona virus, laparoscopic, cholecystectomy were collected in Google Scholar, PubMed, Crossref, Science Direct databases, in the period from March 1, 2020 to October 2023.

**Results:** delayed cholecystectomy was associated with increased operative difficulties such as extensive adhesions, intraoperative blood loss, and/or complicated gall bladder pathologies such as perforated or gangrenous gall bladder. More patients with a higher risk profile underwent urgent operations, which were accompanied by a significant increase in conversion from laparoscopic to open cholecystectomy.

**Conclusions:** The crisis approach for acute cholecystitis management failed to deliver the hoped outcome, leading to longer hospital stays and extra burden to the patient and the healthcare system. If appropriate treatment is delayed, complications can develop as a consequence with a grave prognosis. Percutaneous cholecystostomy has shown to be an effective and safe treatment thus acquiring an increased relevance in the first phase of the pandemic.

**Keywords:** COVID-19; cholecystostomy; laparoscopic

## The Impact of the COVID-19 pandemic on HPV Vaccination

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### Introduction:

The COVID-19 pandemic has had a profound impact on global healthcare, including cancer prevention activities such as HPV vaccination. HPV vaccination is the most effective way of protecting against cervical cancer, and its efficacy among adolescent females is estimated to be between 80-90%, potentially preventing tens of thousands of cancer cases annually.

### Materials and Methods:

A search of scientific databases like PubMed, Scopus, and Google Scholar from 2021 to 2022 was conducted using the keywords "COVID-19" and "HPV vaccination".

### Results:

The pandemic caused a 24% decrease in vaccine coverage rates (VCRs) within a year, as well as a sharp decline in the number of HPV vaccine doses administered. Social constraints, patient apprehension, difficult vaccine access, and transportation issues all contributed to this decline. However, healthcare providers (HCPs) were able to improve HPV vaccination rates during the pandemic by promoting public acceptance and confidence in COVID-19 vaccines.

### Conclusion:

The impact of a widespread contagion on immunization initiatives is a significant concern and can lead to the spread of other communicable diseases. Therefore, it is critical to identify individuals with a higher susceptibility to HPV and ensure they have access to inoculation against HPV and other communicable diseases. HCPs play a vital role in promoting HPV vaccination during the pandemic and beyond, and must continue to do so to prevent a rise in cervical cancer cases.

**Keywords:** COVID-19, HPV vaccination, healthcare providers, vaccine coverage rates, cancer prevention.



## The Relationship between COVID-19 and Oxidative Stress

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**Introduction:** Oxidative stress profoundly affects the pathogenesis of COVID-19. Factors such as high blood sugar, male gender, black ethnicity, and old age can increase oxidative stress and the severity of the disease of COVID-19. The disease of Covid-19 causes excessive activation of the immune response in the lung tissue, which is associated with the creation of oxidative stress. The choice of oxygen therapy in this disease can cause hyperoxia and as a result oxidative stress, which increases the severity of the disease of Covid-19. Therapeutic balance of ROS by antioxidants or opposition to ROS production by mononuclear phagocytic cells (MPS) can prevent severe covid-19 infection. In elderly patients with Covid-19, the expression of the antioxidant enzyme superoxide dismutase 3 is decreased in the lungs. As a result of oxidative stress in the lungs, a cascade of events occurs that affects the severity of the disease, such as the effect of ROS on alveoli and red blood cells (RBC), which causes hypoxic respiratory failure.

**Method:** Articles and studies related to COVID-19 and oxidative stress were extracted and analyzed from reliable scientific databases such as PubMed and Google Scholar.

**Results:** During the covid-19 disease, oxidative stress markers such as lipid peroxidation, rTEH, high ratio of neutrophils to lymphocytes are observed, according to which we can choose the treatment path.

**Conclusion:** Knowing the mechanism of oxidative stress helps us to choose different treatment paths, but this path is not the only factor in our selection.

**Keywords:** Oxidative stress, COVID 19

## Low Ang-(1–7) and high des-Arg<sup>9</sup> bradykinin serum levels are correlated with cardiovascular risk factors in patients with COVID-19

**Running title:** Ang-(1–7) and des-Arg<sup>9</sup>BK in COVID-19

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### Abstract

**Background:** It is predictable that the renin-angiotensin-aldosterone and kinin-kallikrein systems are dysregulated in COVID-19 (COV) patients because SARS-CoV-2 requires ACE2, the enzyme that has a critical role in the regulation of RAAS and KKS, to cause an infection. These systems are also dysregulated in hypertension (HTN), diabetes (DM), and obesity (OB). This study aimed to assess the serum levels of des-arg<sup>9</sup>-bradykinin (DABK) and ang-(1-7) in patients with COV who had the above-mentioned cardiovascular disease risk factors.

**Method:** In a cross-sectional study in 2020, sixty-nine COV patients were selected among patients referred to the main referral center for these patients, in Kerman, Iran, and 73 matched control (non-COV) individuals among individuals who participated in KERCARD cohort study. Serum levels of des-arg<sup>9</sup>-bradykinin (DABK) and ang-(1-7) were measured by ELISA in the eight groups of CTL (healthy), HTN, DM, OB, COV, COV+HTN, COV+DM, and COV+OB.

**Results:** Ang-(1-7) levels were lower in the COV+HTN group compared to the HTN group ( $74.9 \pm 5.1$  vs  $92.6 \pm 9$  pg/dl,  $P = 0.04$ ). DABK levels were higher in the COV ( $P = 0.001$ ), HTN ( $P = 0.008$ ), and OB ( $P = 0.04$ ) groups and in DM+COV ( $P = 0.008$ ) subjects compared to their corresponding control group. The levels of ang-(1-7) and DABK were related to HTN and OB, respectively.

**Conclusion:** According to the findings, we can infer that an increase in DABK production or a decrease in ang-(1-7) may contribute to the adverse outcomes of SARS-CoV-2 infection, especially in those with the pre-existing risk factors of diabetes, obesity, and hypertension.

**Keywords:** angiotensin-(1-7), des-Arg (9)-bradykinin., COVID-19, cardiovascular risk factors

## Effectiveness of Home-based Exercise Interventions to Improve Physical Activities in Older adults in Covid 19 Pandemic: A scope of review

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**Introduction:** A large number of older adults have experienced social isolation and lack of exercise during COVID-19 pandemic. To reduce inactivity and sedentary behavior in these older people, some exercise programs were conducted at home. The aim of this study was to examine the effectiveness of home-based exercise programmed in community-dwelling older adults in Covid 19 pandemic.

**Methods:** PubMed, Google Scholar, Science Direct were searched from 2020 to 2022. for the following keywords: social isolation, physical activity, older adult, Covid 19 pandemic. Overall, the quality of the articles was average. Sixteen articles were finally selected and reviewed. Five were systematic review studies, four were observational, three comparative studies, three were randomized control trials, and one case study.

### Results:

The finding showed that home-based exercise educational interventions can decrease the rate of fragility and falls around 30% in older people. In addition, two educational programs showed there was a positive relationship between improving physical functionals and reducing anxiety, depression, sleep quality and physical inactivity during the isolation period

### Conclusion

Exercise interventions are cost-effective methods for preventing inactivity and falls in the elderly that have to stay in their home and this can be a close relationship with their independence and self-efficacy. Therefore, a multicomponent program with exercise and health strategies are highly recommended for seniors during the confinement.

### Key words:

Home based exercise, educational interventions, Elderly people, Covid 19.



## Factors related to COVID-19 Vaccine Acceptance

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### Abstract

The global pandemic of SARS-CoV-2 (COVID-19) resumes imposing massive burdens on morbidity and mortality in the world. COVID-19 is a deadly viral disease generated by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), a novel coronavirus disease that has spread worldwide and has become a severe public health crisis. COVID-19 vaccines have met differing levels of acceptance in different regions of the world, which has implications for eliminating the COVID-19 pandemic. The general healthcare workers and nurses had the highest acceptance rates. The reasons behind vaccine hesitancy and acceptance were similar across the board. Low vaccine acceptance was associated with low education and understanding levels and inefficient government efforts and initiatives. On social media, poor influenza-vaccination history, conspiracy theories related to infertility, and misinformation about the COVID-19 vaccine also resulted in vaccine hesitancy. Strategies to address these concerns may increase global COVID-19 vaccine acceptance and accelerate our efforts to eliminate this pandemic. Also, past chronic medical disease, training on the COVID-19 vaccine, history of vaccine uptake, the perception that a vaccine can control COVID-19, perception of herd immunity evolution against COVID-19, and severity of COVID-19 infection were factors associated with the acceptance and hesitancy of COVID-19 vaccine.

**Keywords:** COVID-19, Vaccine Acceptance, SARS-CoV-2.



## Effect of *Nigella sativa* L. on Covid-19 Treatment

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### Introduction and aim:

Corona virus disease 2019 (Covid-19) caused many challenges in human life. The epidemic of this disease prompted researchers to search for different drugs and treatments. The low side effects of herbal traditional plants have attracted lots of attention in treatment field. *Nigella sativa* L. is an annual flowering plant with black seeds that is used as a valuable source of natural compounds with antiviral property. Therefore, the aim of this study is evaluation of effect of *nigella sativa* L. on covid-19 disease.

### Methods:

Data were obtained by searches some keywords including *Nigella sativa* L., black seed, antiviral effects and covid-19 in PubMed, Web of science, Scopus, Google Scholar and etc.

### Results:

*Nigella sativa* L. has been reported as an immunomodulator, antioxidant, anti-inflammatory with protective effects on lungs. This herb prevent of virus spread by blocking the connection of the virus and inhibiting the entry of ACE2 to infected host cells. In addition, host-directed therapies through ACE2 inhibition have been effective for treatment. *Nigella sativa* L. has many compounds, including thymoquinone, which reduced the level of pro-inflammatory mediators while enhancing interferon-c. In addition, administration of this herbal increased the serum levels of IgG1 and IgG2a, and improved pulmonary function tests in restrictive respiratory disorders. There are other effective compounds such as niglidin and alpha hydrin, which inhibit this virus by binding to the main protease.

### Discussion:

The use of natural medicines has more stable and safe effects than chemical medicines. In addition, *nigella sativa* L. can be one of the effective herbal medicines for the treatment and prevention of covid-19.

**Keyword:** *Nigella sativa* L., Black seed, Covid-19



## Related Risk Factors and Reinfection Rate of COVID-19 in 2020-21

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### Abstract

Reinfection with Coronavirus Disease 2019 (COVID-19) has raised remarkable public health concerns globally, attracting the attention of healthcare researchers and policymakers. Therefore, the present study intended to investigate the COVID-19 reinfection rate in Fars province in Iran. The present retrospective cohort included all the patients with COVID-19 who presented to the healthcare facilities of the Fars province, Iran, during a 14-month period, from early February 2020 to late April 2021. The patients' data, including the COVID-19 infection, symptoms, comorbidities, and demographics, were collected using the Health Information Systems (HISs) of all the medical universities of the province. The patients were divided into 3 groups in terms of the duration between the initial infection and reinfection, including 28-44 days, 45-89 days, and more than 90 days. Following the univariate analysis, logistic regression was used to investigate the factors effective on COVID-19 reinfection. Moreover, data analysis was performed using the Excel and STATA 15 software. A total of 562152 patients presented to the healthcare facilities of the province with respiratory symptoms suggestive of COVID-19, of which 213768 patients had a positive PCR test. Of these confirmed COVID-19 patients, 2079 (0.97%) had another positive test 28 day later or more. 14.9%, 18.5%, and 66.6% had their second positive test 28-45, 45-89, and  $\geq 90$  days later, respectively. It was found that the mean duration between the initial infection and reinfection was 130.56 days with a range of 29-370 days. The patients' symptoms had negligible differences between the first and second infections. The regression model results showed that the chance of COVID-19 reinfection was significantly higher in the young age group (OR: 2.055), men (OR: 1.283), residents in urban areas (OR: 1.313), and healthcare providers (OR: 4.453) (all P-values  $< 0.05$ ). Also, in terms of underlying diseases, the patients with chronic pulmonary diseases, chronic kidney diseases, and malignancy were 1.421, 2.239, and 3.437 times more likely to experience reinfection (all P-values  $< 0.05$ ). According to our findings, there is a risk for COVID-19 reinfection. Despite the related risk being limited, it cannot be ignored. Therefore, policymakers should emphasize the implementation of social distancing and related health protocols in high-risk groups, including healthcare providers, young individuals, residents of the urban areas, men, and individuals with underlying diseases. Also, governments are recommended to extend the vaccination coverage rapidly.

**Keywords:** Coronavirus, Incidence, Reinfection, COVID-19, Infectious Disease, SARS-CoV-2

## The effect of the COVID-19 pandemic on healthcare workers' mental health

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**Background:** The COVID-19 pandemic represents one of the most stressful events of recent times. Among the population, healthcare professionals who treat COVID-19 patients are most likely to develop psychological distress and posttraumatic stress symptoms (PTSS). The present study thus aimed to investigate the psychological impact of the COVID-19 outbreak on healthcare workers.

**Methods:** We searched in PubMed, Google Scholar, Scopus, Web Of Science with keywords covid-19, corona, mental health, healthcare workers. We found and reviewed 10 articles related to the topic in English.

**Results:** The 10 studies indicate that COVID-19 has a considerable impact on the psychological wellbeing of front-line hospital staff. Risk factors identified were underlying organic illness, gender (female), concern about family, fear of infection, lack of personal protective equipment (PPE) and close contact with COVID-19. Systemic support, adequate knowledge and resilience were identified as factors protecting against adverse mental health outcomes.

**Conclusion:** This study showed a high proportion of poor mental health among nurses, especially those who provided care to COVID-19 patients or experienced quarantine/social isolation.

**Keywords:** Corona, Covid, healthcare workers, mental health

## A comparison between the costs of dental procedures during Covid-19 pandemic and earlier by activity-based micro costing

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**Background:** Activity-based costing method directly enumerate every input consumed in treatment, and it uses for the cost of new interventions. The Covid-19 pandemic changed the dental treatment protocols and the ordinary circumstances of patients. In this study, we decided to do the costing for the three most common dental services in Iran from the perspective of the service provider and service recipient and compare them to before the pandemic.

**Methods:** We considered direct medical and non-medical costs from the service provider's perspective. Direct medical costs, indirect costs, direct non-medical costs, and intangible costs were considered from the recipient's perspective. The costs of 1398 SH were calculated considering the Present Value of 16% and 1400 SH as the base year.

**Result:** Our findings showed the cost of dental services from the provider's perspective in the days before the pandemic for dental amalgam restoration was 2,851,235 Rials; for root canal treatment was 6,351,580 Rials and for tooth extraction was 1,887,295 Rials. The cost of the mentioned services was for the year 1400, respectively 5,562,150 Rials, 8,070,591 Rials, and 4,865,563 Rials. From the recipient's perspective, tooth restoration was 715,466 Rials, endodontic treatment was 2,883,001 Rials, and extraction was 3,267,359 Rials before the pandemic. The cost of the mentioned services was for the year 1400 SH, respectively, 1,212,528 Rials, 3,971,640, and 3,680,880 Rials. From the provider and recipient's perspective, the cost of all services was higher than before the pandemic.

**Conclusion:** The Covid-19 pandemic has been affected in increasing the cost of dental services from both the service provider and the service recipient, but economic fluctuations have a vital role in increasing the estimated costs in the country. In addition, brokers of dental tools and equipment may have been effective in increasing costs.

## Psychological complications caused by the spread of Covid-19 and its rehabilitation

Parsa\* - Farmahin farahany

**Background:** Considering that only about two and a half years have passed since the epidemic of Covid-19 and during this period the priority of the health and treatment system has been to pay attention to the symptoms and physical problems of this disease and to prevent its further spread, there is enough evidence about the mental problems caused by Corona is not available. The purpose of this review is to investigate the state of psychological problems caused by Corona among patients and medical staff and also to provide rehabilitation solutions to solve this problem.

**Methods:** Medline, Web of Science, PubMed, and Scopus databases were searched using keywords related to COVID-19, restrictive measures, and psychological outcomes and guidelines were done. Almost all the articles were written in English and their focus was on mental disorders and factors related to the coronavirus. The time period of the reviewed articles was chosen between 2019 to 2022.

**Results:** In searching for related studies, 21 original articles were considered. Overall, the review of the literature showed that the Covid-19 disease has changed people's lifestyles. In addition to physical symptoms and mortality, this disease also has negative psychological effects such as anxiety, depression, loneliness, stress, fear and excitement. However, in most cases these symptoms are not very severe. Psychological problems can be more severe in certain groups, such as pregnant women or people with underlying problems. Rehabilitation interventions can also have a positive effect in improving conditions such as the patient's breathing and help reduce psychological symptoms.

**Conclusion:** In addition to physical symptoms, the disease of Covid-19 can also cause mental problems for the patient. On the other hand, changes in people's lifestyles following the spread of Covid-19, such as travel restrictions, quarantine, social distancing, and the slowdown of businesses, may also contribute to the occurrence of mental disorders following the spread of Covid-19. Attention should be paid to the psychological problems caused by Covid-19 in some groups such as pregnant women, medical staff, and children. Rehabilitation interventions and increasing public awareness can be effective in improving psychological symptoms.

**Keywords:** COVID-19, Psychological complications, Rehabilitation, Mental disorders.



## Coronavirus (Covid-19) on Nozzle surfaces of fuel supply stations in Ardabil province, Iran

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### Abstract

**Background:** There are several ways that the corona virus can be transmitted to humans, and one of these ways can be through contact with infected surfaces. One of the places, which coronavirus can transmit through surfaces, is fuel stations. Fuel stations have been a major concern for people and health experts due to the frequent use of common nozzles. This study was performed to identify the COVID-19 virus in the nozzles of fuel supply stations

**Methods:** In the current research, 25 fuel supply stations along the main street ways were investigated to recognize Coronavirus infection on the surfaces of the nozzles. For each fuel supply station, 4 nozzles were chosen (totally 100 samples). The sampling was carried out at two periods of time; before and after quarantine restrictions. Swapping was used for surface sampling and the real-time PCR was used to determine the positive and negative results.

**Results:** The results showed that 5 out of 9 fuel supply stations (36 samples of nozzle surfaces) were positive for the presence of Covid 19 on the nozzle surfaces before the corona restriction. The results showed that in the conditions after coronary restriction, all samples were negative in terms of the presence of Covid 19 on the surfaces of the nozzles. There was significant difference between the number of positive cases before and after restrictions. Also there was not significant difference at temperature and humidity before and after restriction.

**Concussion:** In spite of the fact that gas stations can be one of the foremost inclined places for the transmission and spread of coronavirus due to the nearness and visit of individuals, but through the observance of health behaviors and implementing some procedures, cutting the transmission chain in gas stations can be facilitated.

**Keywords:** SARS-CoV-2, Surface contamination, Fuel supply stations, Nozzle surfaces



## Investigating of SARS-CoV-2 RNA in municipal wastewater treatment plants, hospital wastewater and wastewater collection networks during the COVID-19 pandemic in Ardabil province, Iran.

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### Abstract

**Background:** The current outbreak of coronavirus disease (COVID-19) has led to creating a public health emergency conditions since 2019. COVID-19, which is caused by SARS-CoV-2, is spread via human-to-human transmission by direct contact or droplets. Through conducting this study, we were looking for detecting SARS-CoV-2 in wastewater produced in Iran country (Ardabil, Nir, Khalkhal and Kowsar) (wastewater collection network, wastewater treatment plant and hospital wastewater).

**Methods:** In this research, samples (n=76) were collected from influent and effluent of municipal and hospital wastewater treatment plants and some samples were also collected from Ardabil municipal wastewater manholes. The sampling duration included the white (lower risk of covid-19) and red (high risk of covid-19) conditions. Samples were stored at -20 °C for further diagnostic tests. The specific primer and probe real-time reverse transcriptase- polymerase chain reaction (Real Time PCR) targeting ORF1ab and N genes (Nucleoprotein gene) were applied to detect viral genomes of the SARS-CoV-2 virus in the wastewater samples.

**Results:** Out of 76 samples, a total of 15 samples (19.73%) collected from wastewater in Ardabil province (Ardabil, Nir, Khalkhal, and Kowsar), were positive in terms of SARS-CoV-2. WBE is a suitable way to recognize the prevalence of viruses among the population based on wastewater treatment plants, because sewages contain the viruses from individuals with and without symptoms that enter the wastewater treatment plant.

**Concussion:** Wastewater epidemiology can facilitate detection of the incidence of pathogens through metropolises, measurement of population prevalence without direct testing, and provision of information to public health system about the efficiency of intervening efforts. These results can help decision makers to make appropriate decisions on the main prevention measures such as social distancing and quarantine efforts based on wastewater catchment-level estimations of prevalence.

**Keywords:** SARS-CoV-2, Municipal Wastewater, Coronavirus, Wastewater Treatment Plant, Collection network, Hospital Wastewater.

## Frequency study of suicidal ideation in patients with COVID-19 disease admitted of Bou Ali Sina Hospital in Qazvin in 2020-2021

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### Abstract

**Introduction:** Many patients with coronavirus have long-term physical symptoms. This study aims to identify or reject the possible correlation of suicidal ideation in patients admitted with COVID-19 in Bou Ali Sina hospital, Qazvin

**Methods:** The present study is a descriptive-analytical cross-section. The statistical population of this study includes patients with COVID-19 infection admitted to Bou Ali Sina hospital in Qazvin. In this study, a questionnaire was used; the first part of the checklist includes demographic characteristics and history of coronary death due to relatives and friends and the presence of underlying physical illness, number of days of hospitalization, history of intubation, hospitalization in the ICU. The second part included the Beck Suicide Thought Scale. Finally, the data were analyzed using SPSS statistical software version 23.

**Results:** Data from 206 patients with Covid-19 showed that 12.8% of patients had high suicidal ideation. Patients at high risk of suicidal ideation were young in the age range of  $31.96 \pm 12.59$  years old (P-value <0.001). In addition, patients who were single (P-value <0.001) and had a history of coronary death in relatives and friends had a higher risk of suicidal ideation (P-value = 0.005).

**Conclusion:** About 12.8% of patients with Covid-19 admitted to Bou Ali Sina hospital, Qazvin, had a high risk in suicidal ideation. The present study was not significantly different from the data identified in the general population in pre-epidemic period of COVID-19 in Iran.

**Keywords:** Suicidal Ideation, COVID-19, High-Risk

## Nurses' burnout during the COVID-19 pandemic: A systematic review

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**Background and aims:** Nurses are in close contact with COVID-19 patients and due to the high risk of infection, they experience fear and anxiety that can result in burnout. This study aimed to review the studies on burnout among nurses during the COVID-19.

**Methods:** This study was a review study that was conducted using Scopus, PubMed, Magiran, SID and Iranmedex databases. Among the 49 primary studies, 12 articles were reviewed.

**Findings:** nurses are most affected by the pandemic and are at risk for developing burnout syndrome. Nurses caring for patients who contract coronavirus disease 2019 (COVID-19) have experienced significant traumas in the form of increased workloads, negative patient outcomes, and less social support system access. Nurses should be provided with information regarding early detection, coping skills and treatment for anxiety, depression, post-traumatic stress syndrome (PTSS)/post-traumatic stress disorder (PTSD), and other mental health disorders. Early intervention is important as mental health disorders can cause dysfunction, internal suffering, and in the most extreme situations, lead to death if not properly cared for.

**Conclusion:** Nurses experience high levels of burnout during the COVID-19 pandemic, while several sociodemographic, social and occupational factors affect this burnout. The main results that are found, showed an increase in the rate of burnout, dimensions of emotional exhaustion, depersonalization, and compassion fatigue.

**Keywords:** COVID-19- Burnout- SARS-CoV-2- Nurses- PTSD

## Investigation of the relationship between high blood pressure and covid-19 :A systematic review

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**Background and aims:** Coronavirus disease 2019 (COVID-19) has become a worldwide pandemic responsible for millions of deaths around the world. Hypertension has been identified as one of the most common comorbidities and risk factors for severity and adverse outcome in these patients.

**Methods:** This article is a systematic review that was conducted between 2019 2022 by searching PubMed, Google Scholar, SID, Scopus and Iran Medex databases. It was searched with the keywords "COVID-19, Hypertension, high blood pressure". Among the ۲۰۷ primary studies, 14 articles were reviewed . Early reports suggested that hypertension might represent a risk factor for susceptibility to SARS-CoV-2 infection, a more severe course of COVID-19 and increased COVID-19-related deaths. Hypertension was the most common cardiovascular risk factor for acute cardiovascular outcomes, including acute coronary disease, stroke, chronic kidney disease and congestive heart failure.

**Findings:** Recent investigations have raised the question whether hypertension represents a predictor of outcome in COVID-19 patients independently of other common comorbidities.

**Conclusion:** The results of this study show that patients with high blood pressure have a higher mortality rate. The number of factors of white blood cells, lymphocytes, neutrophils, negatively reactive protein, blood urea nitrogen, blood creatinine, and lactate dehydrogenase are the same as those of the deceased.

**Keywords:** COVID-19, Hypertension, high blood pressure



## **Investigating the relationship between covid-19 and the sense of smell (Olfactory) :A systematic review**

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**Background and aims:** In recent months it has emerged that the novel coronavirus-responsible for the COVID-19 pandemic-causes reduction of smell in a large fraction of patients. The chemosensory deficits are often the earliest, and sometimes the only signs in otherwise asymptomatic carriers of the SARS-CoV-2 virus.

**Method:** This article is a systematic review that was conducted between 2019-2022 by searching PubMed, Google Scholar, SID, Scopus and Iran Medex databases. It was searched with the keywords "SARS-CoV-2, COVID-19, olfactory, smell ". Among the 222 primary studies, 11 articles were reviewed. Olfactory dysfunction is a hallmark symptom of COVID-19 disease resulting from the SARS-CoV-2 virus. The cause of the sudden and usually temporary anosmia (loss of sense of smell) that most people suffer from COVID-19 is entirely peripheral-inflammation and other damage caused by the virus in the sensory epithelium inside the upper recesses of the nasal cavity can damage or prevent chemicals from properly activating the olfactory sensory neurons.

**Findings:** loss of sense of smell is one of the most prevalent symptoms reported by patients after COVID-19 infection. Recent studies have demonstrated that up to 7% of the patients remain anosmic more than 12 months after onset, leaving millions worldwide with severe olfactory dysfunction.

**Conclusion:** SARS-CoV-2 can cause inflammation and viral invasion of the olfactory bulb, initiating a cascade of degeneration similar to Alzheimer's disease and Lewy body disease. People who have had even mild cases of COVID-19 show signs of degeneration in cortical areas connected with the olfactory system. However, persistent olfactory dysfunction from COVID-19, in the form of hyposmia and parosmia (decreased or altered smell) may affect as many as 15 million people worldwide.

**Keywords:** SARS-CoV-2, COVID-19, olfactory, smell



## Investigation of the effectiveness of vitamin C on covid-19: A systematic review

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**Background and aims:** In this article, the roles of vitamin C in the immune system are discussed in relation to COVID-19. There are limited proven therapies for COVID-19. Vitamin C's antioxidant, anti-inflammatory and immune modulating effects make it a potential therapeutic candidate, both for the prevention and amelioration of COVID-19 infection, and as an adjunctive therapy in the critical care of COVID-19. This study was conducted with the aim of investigating the effect of vitamin C on the immune system in relation to covid-19.

**Search Methods:** This article is a systematic review that was conducted between 2019-2022 by searching PubMed, Google Scholar, SID, Scopus and Iran Medex database. It was searched with the keywords "Vitamin C - Anti-inflammatory- Immune system- Covid-19 ". Among the 101 primary studies, 12 articles were reviewed. Vitamin C increased the survival rate of COVID-19 patients by attenuating excessive activation of the immune response. Vitamin C increases antiviral cytokines and free radical formation, decreasing viral yield. It also attenuates excessive inflammatory responses and hyper activation of immune cells to COVID-19.

**Findings:** Vitamin C increased the survival rate of COVID-19 patients by attenuating excessive activation of the immune response. Vitamin C increases antiviral cytokines and free radical formation, decreasing viral yield. It also attenuates excessive inflammatory responses and hyper activation of immune cells to COVID-19.

**Conclusion:** The evidence to date indicates that oral vitamin C (2-8 g/day) reduce the incidence and duration of respiratory infections and intravenous vitamin C (6-24 g/day) has been shown to reduce mortality.

**Keywords:** Vitamin C - Anti-inflammatory- Immune system- Covid-19

## Examining the impact of Covid 19 on kidney system and function: A systematic review

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**Background & aims:** Current data show that many hospitalized COVID-19 patients suffer from kidney damage, in the form of proteinuria, hematuria or acute kidney injury (AKI). Independently of baseline kidney function, acute kidney injury (AKI) is a common complication of COVID-19, associated with increased mortality and morbidity.

**Method:** About 5% of patients with Covid-19 have severe symptoms including septic shock, acute respiratory distress syndrome, and the failure of several organs, while most of them have mild symptoms. Frequently, the kidneys are involved through direct or indirect mechanisms. Kidney involvement mainly manifests itself as proteinuria and acute kidney injury (AKI). Moreover, lower oxygen delivery to kidney may cause an ischemic injury. Understanding the fundamental molecular pathways and pathophysiology of kidney injury and AKI in Covid-19 is necessary to develop management strategies and design effective therapies.

**Finding: :** This article is a systematic review that was conducted between 2019 2022 by searching PubMed, Google Scholar, SID, Scopus and Iran Medex databases. It was searched with the keywords" covid-19 , kidney, damage, AKI , SARS-CoV-2 ." Among the 1025 primary studies, 24 articles were reviewed. Over the course of the COVID-19 pandemic, numerous studies have aimed to address the challenges faced by patients with kidney disease and their caregivers.

**Conclusion:** The risk of mortality increases significantly in kidney patients with covid-19 compared to the general population. The function of the immune system of these people, as well as the existence of underlying diseases such as blood pressure and the diseases of these diseases, makes them more prone to covid-19, causing severe disease and ultimately increasing the death rate.

**Keywords:** covid-19 , kidney, damage, AKI , SARS-CoV-2

## Effect of High-Dose Vitamin D on Inflammatory Status of ICU Patients with COVID-19; a Double-Blind, Parallel Randomized Clinical Trial

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### Abstract

**Background:** Vitamin D can stall hyper-inflammatory responses, and there are mechanistic reasons for the positive effects of vitamin D in COVID-19 patients. Therefore, this study aimed to evaluate the effect of a single high dose of vitamin D on inflammatory markers in critical patients with COVID-19.

**Methods:** A single center, double-blind, randomized clinical trial was conducted on 61 patients with COVID-19 admitted to the intensive care units. The intervention and placebo groups received a dose of 300,000 IU vitamin D intramuscular and identical placebo respectively. Patients were followed up for one week. Lactate Dehydrogenase (LDH) (IU/ml), C-reactive protein (CRP) (mg/L), interleukin-6 (IL-6) (Pg/L), lymphocyte, neutrophil, and neutrophil/lymphocyte (N/L) ratios were checked at the beginning and 7<sup>th</sup> day of the study.

**Results:** A total of 44 patients with COVID-19 have completed this trial with vitamin D insufficiency in the baseline. The lymphocyte level increased while LDH (IU/ml), neutrophil level, and N/L ratio decreased after intervention with a high vitamin D dose, which was insignificant. The CRP (mg/L) and IL-6 (Pg/L) were significantly reduced after high-dose vitamin D intervention.

**Conclusions:** Based on the results, the effect of high doses of vitamin D on inflammatory indices was significant in patients with COVID-19 hospitalized in the ICU.

**Keywords:** Vitamin D; C-reactive protein; Interleukin- 6; Lactate dehydrogenase; Neutrophil; Lymphocyte



## Ethical Context and Issues in Taking Care of COVID-19 Patients in Iran: A Content Analysis Based on Nurses Experiences

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**Introduction :** Healthcare professionals are in the front line during COVID-19 pandemic and among them nurses are the most high-risk group to acquire this infection. The aim of this study was exploring the perspectives and experiences of nurses on care delivery in COVID-19 infected hospitalized patients.

**Methods :** We conducted a qualitative conventional content analysis. The method of data collection was interviews and field note. This qualitative study was carried out from June to September 2020. A total of 15 Semi-structured interviews were held with nurses who were delivering care to COVID-19 infected patients. MAXQDA 10 software and Granheim Lundman's content analysis method was used for data analysis.

**Results :** One main themes that emerged from the data analysis was "try to appropriate taking care despite the challenges. In addition, four categories extracted consist of "challenging care context", "negative issues for nurses", "ethical reasons for providing care" and "multi-dimensional care", besides, 10 subcategories were generated.

**Conclusion :** The nurses are at risk of physical and physiological consequences directly as the result of providing care to patients with COVID-19, and shortages that existed in Iranian care delivery system exacerbate the condition but despite these issues, nurses provide comprehensive care with an empathetic approach.

**Keywords:** COVID-19, Nursing, Pandemic, Content analysis



## The effect of COVID-19 on the relationship between family members

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**Background:** On March 11, 2020, the World Health Organization declared the outbreak of Corona as a pandemic. The Corona epidemic brought global challenges, different governments adopted different policies to deal with this disease, including quarantine and closure of unnecessary activities and social distancing, which had different effects on the life process, including the relationships of family members with each other. Our goal is to examine the various effects of this disease and the measures taken on family relationships.

**Methods:** we searched in PubMed, Google Scholar, Scopus, Cochrane with keywords “Covid”, “Corona”, “family relationship”, “communication”. We found and reviewed 15 articles related to the topic in English.

**Results:** Our studies showed that the corona era and quarantine brought members of middle and high-income families closer, while marital problems arose in families that had economic problems, especially those who did not have the ability to work online, as well as the number Unwanted pregnancies and abortions increased. Its positive effects included increased time spent with family, better financial management, increased patience and tolerance, and finding new hobbies.

**Conclusions:** social media and online seminars are suitable solutions for solving problems within the family and teaching effective communication methods. Governments should provide financial and economic support to low-income families.

**Keywords:** Family members, family, covid, corona, communication



## Effects of Corona on tourism industry and rural economy

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**Background:** Today, the tourism industry is one of the most important and dynamic sectors in the developing world economy and an important factor in the economic and social development of regions and countries. This industry, especially in the rural tourism sector, can help the growth and development of local businesses and the economy of rural people. The rural economy is considered as the economic foundation of a country due to the provision of food security and essential and basic good. Our goal is to investigate the various effects of this epidemic on the economy and tourism of rural areas.

**Methods:** we searched in PubMed, Google Scholar, Scopus, Cochrane with keywords “industry”, “economic”, “rural”, “covid”, “corona”. We found and reviewed 10 articles related to the topic in English and Persian.

**Results:** Corona disease has significantly caused the lack of income from tourism. This is despite the fact that most of the villages have closed their borders for the entry of non-natives and the tourists themselves are not interested in visiting. All of these crisis factors have caused both a negative supply shock and a negative demand shock.

**Conclusions:** The sustainability of village people's jobs is dependent on the sale of products and income from tourism, the most important thing to support these people is to provide them with a market for their products. It is suggested that governments support the villagers by applying financial policies such as tax reductions and providing supportive loans.

**Keywords:** Corona, Covid, Tourism, Economic, Rural



## Association between COVID-19 and cardiovascular disease

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**Background:** Corona disease was reported for the first time in late December 2019 in the city of Wuhan, China, and it quickly spread around the world and became a pandemic, affecting more than 200 countries. In this study, we intend to investigate the relationship between cardiovascular diseases and this disease and their effects.

**Methods:** Using the keywords “corona”, “covid”, “heart”, “cardiovascular diseases”, we checked and studied 15 articles related to the subject in PubMed, google scholar, Scopus databases.

**Results:** Our studies showed that people who already have cardiovascular diseases such as high blood pressure or myocardial damage are more likely to get corona. Also, infection with corona increases the possibility of complications such as high blood pressure, myocardial injury, acute coronary syndrome, venous thromboembolism and arrhythmia.

**Conclusions:** The awareness of patients and people should be increased, and sports and mobility activities should be done during quarantine to prevent complications.

**Keywords:** Covid, Corona, heart, cardiovascular.



## Effect of Some Micronutrients on Clinical outcomes in COVID-19 Patients

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### Abstract

**Introduction:** Due to the known anti-inflammatory and antiviral effects of zinc, 25(OH)D, and vitamin B12, in this study, we explored the association between serum levels of these micronutrients in COVID-19 patients at the time of admission and clinical outcomes.

**Methods:** This study carried out on 293 patients with COVID-19 who were hospitalized at Imam Hassan hospital (Bojnourd, Iran). We collected demographic data, clinical characteristics, values of serum biochemical parameters in the first week of admission, and clinical outcomes from electronic medical records. We also measured serum levels of zinc, 25(OH)D, and vitamin B12 within three days of admission.

**Results:** Of 293 hospitalized, the median age was 53 years, and 147 (50.17%) were female. Thirty-seven patients (12.62%) admitted to the ICU, and forty-two (14.32%) died. We found significant correlations between age and ICU admission, intubation, or death ( $P < 0.05$ ). Our results also indicated that there are significant relationships between mortality with intubation ( $P < 0.01$ ), ICU admission ( $P < 0.001$ ), and comorbidities ( $P < 0.01$ ). We observed that serum levels of zinc, vitamin B12, and 25(OH)D are lower in patients who died than those who admitted to ICU or non-ICU and survived; however, these differences were not statistically significant for vitamin B12 and 25(OH)D ( $P > 0.05$ ). The serum concentrations of zinc, vitamin B12, and 25(OH)D at the time of admission did not affect the length of hospital stay in COVID-19 patients.

**Conclusion:** In general, it seems that serum levels of 25(OH)D, vitamin B12, and especially zinc at the time of admission can affect clinical outcomes in COVID-19 patients.

**Keywords:** COVID-19; Vitamin B12, Zinc, 25(OH)D; Clinical outcome



## Factors associated with Covid-19 vaccine acceptance by parents in children 5 to 12 years old in Bojnourd city in 2022

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**Introduction:** In the current study, we investigated the factors related to the acceptance of the Covid-19 vaccine by parents for children aged 5 to 12 years in Bojnurd city.

**Methods:** In this cross-sectional descriptive study, demographic and socio-economic information of 340 parents and their knowledge and awareness about covid-19 and attitude towards covid-19 vaccine injection to children were investigated using an online researcher-made questionnaire.

**Results:** More than 60% of parents reported that they do not want to vaccinate their children against Covid-19. Among the various indicators examined, only age, gender and education level had a significant effect on the acceptance of the Covid-19 vaccination by parents. Parents mentioned their most important concern about vaccinating their 5-12 children against Covid-19 because the vaccine is not safe.

**Conclusion:** We concluded that the level of knowledge and awareness of parents about Covid-19 disease and its vaccine is in an average level and the intention of parents to vaccinate their 5-12-year-old child is in an unfavorable situation. The main reasons for parents' refusal were the fear that the covid-19 vaccines are not safe for children.

**Keywords:** Covid-19, Children, Parents, Vaccine



## Covid-19 and an overview of its prevention methods in the countries of the world

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**Introduction, goals and importance of the research:** the new epidemic of the infectious coronavirus 2019 (COVID-19) caused by the severe acute syndrome of the coronavirus 2 (SARS-COV-2) is a highly pathogenic human coronavirus and as a new threat to Global health has emerged and remains a global challenge. The effects of the COVID-19 pandemic on physical and mental health are significant. Therefore, prevention of infection can help control outbreaks. Therefore, in this research, a review of the prevention methods of covid-19 was done.

**Research method:** In this review study, Google Scholar, Pubmed, Web of Science and Science direct databases were searched using the keywords COVID-19, Hygiene, Prevention of COVID-19, Pandemic.

**Results:** Hand hygiene is an important measure in reducing the spread of pathogenic microorganisms. Social distance and quarantine can be mentioned as necessary measures to help prevent the transmission of the corona virus. The results of the studies showed that the mandatory general use of face masks can be considered as one of the necessary measures to prevent the transmission of the virus. According to the latest studies, social distancing, staying away from crowds, awareness, avoiding large group meetings, staying at home and online education are recommended. Appropriate lifestyle changes in nutrition, reducing the amount of smoking, respiratory hygiene against Covid-19, appropriate psychological support and compliance with standards, choosing an appropriate surface disinfectant are supportive factors.

**Discussion and exchange of opinions:** In order to reduce the spread of the corona virus or prevent infection, it can be said that compliance with health rules is the most important measure. Nutrients or food supplements can be effective in preventing Covid-19. A balanced diet and sufficient restorative sleep can be mentioned as prerequisites for the proper functioning of the immune system.

**Keywords:** COVID-19, Hygiene, Prevention of COVID-19, Pandemic



## Challenges in information during the covid-19 pandemic

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**Introduction and objectives:** The first problem observed in the field of information quality during the Covid-19 pandemic is incorrect information. In addition to facilitating access to information, social networks increase the spread of fake news and create a feeling of insecurity. Therefore, the current study has been conducted with the aim of investigating the information challenges that have arisen during the Covid-19 epidemic.

**Methods:** The current research was a summary review study that was designed in October 2022. In order to search for similar articles, reliable scientific databases such as PubMed/Medline, Scopus and ISI (Web of Sciences) were used. At first, 121 articles were retrieved, after applying the inclusion and exclusion criteria, finally 14 articles were extracted.

**Results:** Providing false information about the current trend of Covid-19 is one of the many factors that shape public sentiments. There is a significant negative relationship between the belief in exaggerating Covid-19 and following public health guidelines. The stronger this belief, the less compliance with government guidelines such as wearing a mask, quarantine, social and physical distancing, conducting antibody tests and there will be vaccinations. It also increases the lack of trust in government institutions and officials and thus creates or strengthens social instability.

**Conclusion:** In the highly digitized world we live in, information has a great impact on people's trust and their adherence to health guidelines, so e-health and media literacy should be considered as basic skills, just like reading and writing, so that citizens will be able to better recognize false information online.

**Keywords:** Covid-19, information, media.

## Side effects of vaccines effective against Covid-19

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### Abstract

**Introduction and objectives:** Vaccination, together with non-pharmacological interventions such as masks, is the best way to control the epidemic of Covid-19. The development of anti-Covid-19 vaccines has progressed at an unprecedented speed. However, these vaccines are also associated with side effects, which has caused many people to avoid vaccinations. Therefore, the purpose of this study is to investigate the side effects of vaccines produced against Covid-19.

**Methods:** The current research was a summary review study that was designed in October 2022. In order to search for similar articles, reliable scientific databases such as PubMed/Medline, Scopus and ISI (Web of Sciences) were used. At first, 121 articles were retrieved, after applying the inclusion and exclusion criteria, finally 14 articles were extracted.

**Results:** Acute local or systemic reactions, such as injection pain, swelling and redness, fatigue, fever, chills, headache, muscle and joint pain, anaphylaxis, nausea, muscle spasm, sweating, dizziness, flushing, relief, brain fog, anorexia, local swelling, reduced sleep quality, itching, tingling, diarrhea, nasal congestion and heart palpitations, myocarditis, thrombocytopenia, immune thrombotic, immunological response, the expansion of polyclonal B cells and the formation of immune complex and the phenomenon of vasculitis, after Vaccination for COVID-19.

**Conclusion:** It is recommended that all vaccine recipients should be monitored for at least 15 minutes after receiving the vaccine, and if needed, adrenaline should be available at the vaccination site. Also, people with a history of anaphylaxis to polyethylene glycol (PEG) or polysorbate should avoid both mRNA vaccines for COVID-19.

**Keywords:** Covid-19, vaccine, side effects.

## The barriers to family-centered care in pediatric rehabilitation ward: a qualitative study

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### Abstract

**Purpose:** this study was conducted to explore the barriers to Family-centered care (FCC) to disabled children (DC) in pediatric rehabilitation ward.

**Materials and methods:** Participants were 21 rehabilitation staff (n = 9) and mothers of hospitalized DC (n = 12) purposively selected from the pediatric rehabilitation ward. Eleven semi-structured interviews and three focus group discussions were conducted. Conventional content analysis was used for data analysis.

**Results:** Three main categories of the barriers to FCC in pediatric rehabilitation ward were family-related barriers, staff-related barriers, and organizational barriers. The subcategories of these categories were family's lack of knowledge about child care, family's sociocultural background, family's poor collaboration, staff's lack of knowledge, staff's limited professional commitment, lack of collaboration among staff, factors related to FCC policies, managerial factors, environmental factors, and factors related to the COVID-19 pandemic, respectively.

**Conclusions:** Caring for a disabled child is complex, and examining the barriers to implementing family-centered care has an impact on the effective implementation of this type of care. The experiences of the rehabilitation team and the family showed that at the same time as the corona virus pandemic, the conditions of the family, employees and the organization had an impact on the quality of FCC. Stakeholders can use the results to identify the barriers to the implementation of FCC and improve this method of care in the rehabilitation of hospitalized children.

**Keywords:** Family-centered care, Rehabilitation, Children

## Nurses' perceived ethical challenges of home care during the COVID-19 pandemic

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### Abstract

**Introduction:** Providing nursing care during the COVID-19 pandemic, has been challenging due to the limited number of skilled nurses and the rapid spread of corona virus. Caring for patients at home is more sensitive compared to hospital due to different conditions. This study was conducted to explore nurse's experiences of perceived ethical challenges of home care during the COVID-19 pandemic.

**Materials and Methods:** This qualitative study was conducted in Tehran (Iran), 2021. Nineteen nursing employed in home care service centers were enrolled using purposive sampling. In-depth and semi -structured interviews were used for data collection and continued until reaching data saturation. Data were analyzed by conventional content analysis using Graneheim and Lundman's approach. Lincoln and Guba's (1985) criteria were used to ensure trustworthiness.

**Results:** Four main categories and twelve categories emerged from the data analysis:

Managing family distress (continuous debate, client-nurse relationship), Inadequate care due to lack of resources (Ethical dilemmas, Breaches of the patient's autonomy, unsatisfactory nursing care), Moral Residue (ethical conflict, moral distress, paternalism, Disagreements), and Impacts on career (professional strength and values, job competency, Tensions ). Inadequate care due to shortage of resources was an important ethical problem. Ethical issues led to moral distress and burnout if not adequately addressed and thus affected the quality of care provided.

**Discussion and Conclusion:** Nurses described working under numerous ethical challenges during the COVID-19 pandemic. Nurses faced ethical challenges on multiple fronts in caring for COVID-19 patients. Nurses need to be prepared to face ethical problems for future crises by enhance the development of ethical sensitivity and competence to deal with similar ethical challenges.

**keywords:** COVID-19; Nurse, Challenge, Qualitative.

## Effect of postural drainage on physiological parameters of patients with covid-19 hospitalized in critical care unit

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### Abstract

**Introduction:** One of the most important organs involved in the development of patients with Covid 19 is the respiratory system. So far, no study has investigated the effect of Postural drainage on physiological parameters of these patients in Iran. The aim of this study was to determine the effect of postural drainage on physiological parameters of patients with Covid 19 admitted to the intensive care unit.

**Materials and Methods:** This double-blind clinical trial study was performed on 90 patients with moderate to sever grade of Covid-19 without intubation admitted to the intensive care unit of Amir -Almomenin and Khansari hospitals in Arak. Patients were randomly divided into two groups of intervention (receiving postural drainage) and control group. In the intervention group, Postural drainage was done three times in the morning, evening and night for 30 minutes during 24 hours. This study has been registered in the country's trial system (number IRCT20220618055209N1) and has received ethics approval from the Ethics Committee of Arak University of Medical Science(ethical code: IR.ARAKMU.REC.1400.246).

Data were entered into SPSS 21 software and analyzed using Chi-square, independent t-test and analysis of variance with repeated measures (Repeated Measure ANOVA) and analyze of Covariance(ANCOVA).

**Results:** The mean age of patients in the intervention group was  $56.93 \pm 18.88$  and in the control group was  $57.24 \pm 12.06$ . After postural drainage, the average respiration rate in the intervention group decreased significantly ( $P < 0.001$ ) compared to the control group. The results of ANCOVA test showed that the parameters of VBG test (pH,  $H_2CO_3$  and  $CO_2$ ) after the intervention group changed significantly to the normal state in the intervention compared to the control group. After the intervention in the intervention group, there was no significant difference in Mean heart rate ( $P = .79$ ), systolic blood pressure ( $P = .91$ ) and diastolic blood pressure ( $P = .73$ ) compared to the control group.

**Discussion and Conclusion:** Based on the results of this study, Postural drainage leads to the improvement of respiratory components of patients with moderate to critical level of covid-19.

**keywords:** Postural drainage, physiological parameters, Covid-19, intensive care unit.



## Investigating the effect of anxiety caused by Corona on emotional eating behavior of students of Iran University of Medical Sciences in 2021

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### Abstract

**Background and purpose:** Corona disease spread in the world since the end of December 2019 and a corona pandemic was formed. The conditions caused by this disease can cause anxiety. Considering the change in the education process and the closure of universities, the impact of anxiety caused by this disease on various aspects of students' lives, including their diet, is one of the subjects that needs to be studied. The purpose of this study is to determine the effect of anxiety of corona disease in students and emotional eating behavior in them.

**Materials and methods:** In this cross-sectional study, which is descriptive analytical method, on 273 people (170 women and 103 men) of medical, paramedical, nursing and midwifery students who were selected by the cluster sampling method of faculties and from Each faculty was selected as available. In order to collect information, the Dutch Eating Behavior Questionnaire (DEBQ) and the Corona Anxiety Standard Questionnaire (CDAS) were used. Data in SPSS software version 26, using descriptive indices (number, percentage, mean and standard deviation) and statistical tests (independent t, analysis of variance, chi-square, Pearson correlation coefficient and linear regression analysis) was analyzed.

**Findings:** The mean and standard deviation of the total anxiety score was  $9.42 \pm 42$  in men and  $9.22 \pm 42$  in women, which did not differ significantly ( $P < 0.05$ ). The mean and standard deviation of the total anxiety of male students was  $9.29 \pm 42$ , which was in a small amount. The average score of clearly labelled and diffuse emotional eating behavior, restricted eating behavior and external stimulation was in the average range. In general, the gender of the students was a predictor of disordered eating, clear eating and restriction in eating, and the average score of these variables was lower in men than in women. In particular, there was a significant difference in eating restrictions in male and female students ( $P < 0.05$ ). The average restriction in eating in men (23.73) was lower than that in women (26.42). There is a direct and weak relationship between age and eating restrictions. With increasing age, the restriction in eating also increases ( $p < 0.05$ ). The abnormal eating variable was a predictor of disordered, clear, and external stimulus eating, and the average score of these variables was higher in people who experienced abnormal eating than others. ( $P > 0.001$ ). Body mass index was the predictor of all four variables of disordered eating, clearly labeled & diffused emotions ( $P < 0.001$ ), external stimulus ( $P < 0.011$ ) and restriction in eating ( $P < 0.002$ ). With the increase in body mass index, the average of these four variables also increased. Physical anxiety and mental anxiety had no significant relationship with any of the eating behavior variables ( $P > 0.05$ ).

**Conclusion:** The mean score of physical anxiety was higher in non-native students. Diffused and clearly labeled emotional eating behaviors and restriction in eating were more in female students. External eating style was also higher among unemployed students than employed students. With increasing age, restrictions on eating also increase. It is necessary to design promotional interventions in the field of reducing physical anxiety in non-native students and clear and diffused emotional eating behaviors in female students, reducing eating restrictions in older students and external eating style in unemployed students.

**Keywords:** anxiety, corona, emotional eating behavior, students

## The effect of corona epidemic on hospital services and revenues: a case study of Fars province / Iran

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### Abstract

**Background:** The economic impact of corona virus (COVID-19) disease on hospital performance in Iran is unknown.

**Objectives:** The aim of this study was to examine the effect of corona epidemic on hospital services and revenues: a case study of Fars province / Iran.

**Methods:** The study was cross-sectional and descriptive. The information recorded in the hospital information system (HIS) of hospitals affiliated with Shiraz University of Medical Sciences, Iran from March to August 2019 and 2020 was used to identify the number of services provided. Revenues from services were derived from HIS and accrual accounting systems.

**Results:** The results showed that the total number of services provided from March to August 2019 and 2020 were 75,415,652 and 59,436,379, respectively, indicating that the total number of services in 2020 has decreased by 21% compared to 2019. The finding also indicated that the total revenue of services provided from March to August 2019 and 2020 is \$ 166,929,626, and \$ 146530916, respectively, indicating that the total revenue of services provided in 2020 decreased by 12% compared to 2019.

**Conclusions:** Corona epidemic could accelerate the redesign of the health care system to make it more efficient, active, sustainable and patient-centered. Some strategies to measure and control costs and revenues and improve clinical outcomes as well as changes in reimbursement systems that maintain the structure of the health system are vital to reaching this redesign and the desired results.

**Keywords:** Corona Epidemic, Hospital income, Iran

## Challenges of the Iranian Health System dealing with Covid-19 pandemic

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### Abstract

**Introduction:** The covid-19 pandemic has become a global threat for the general public and health care workers and it has created major challenges for all healthcare sectors. The challenges created by this disease can vary in different countries depending on cultural, social, and economic factors. To explain the challenges of the Iranian health system in fighting the covid-19 pandemic from the managers' and executive authorities' viewpoints.

### Methods

The present study is a basic-applied research performed using a qualitative approach. It has studied 30 managers of the hospitals and medical centers' managers, and deputies of the Ministry of Health, and the universities of medical sciences which were selected by purposive and snowball sampling with the maximum variety in March-September 2020. Data collection was done through semi-structured interviews and content analysis was used to explain the challenges of the Iranian health system in fighting the covid-19 pandemic (2020).

### Results

Most of the interviewees (87%) had a Ph.D. degree (34%), and 40% of the participants were graduated in management and health economy and policymaking fields. Analysis and synthesis of the data collected from the interviews led to the creation of 19 sub-themes and 12 main themes classified into four general scopes including the organizational factors, resources, management factors, and other factors.

### Conclusion

Identifying the mentioned challenges can provide useful information for the managers and policymakers to develop appropriate plans and take the necessary measures for resolving the challenges and using the available resources to provide the most effective services.

**Keywords:** health system, challenges, covid-19, pandemic, Iran

## The Actions of the Iranian Health System in Fighting Covid-19 pandemic

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### Abstract

### Introduction

The covid-19 pandemic has created a lot of challenges for countries all over the world. Different countries have taken different measures to fight this pandemic and reduce its challenges depending on their cultural, economic, and social structure. This study aims to explain the actions of the Iranian health system to fight the covid-19 pandemic from the managers' and authorities' viewpoints.

### Method

This study is a fundamental applied research performed by qualitative approach. In this study, 30 people, including the managers of health centers and deputies and heads of the Ministry of Health, Treatment, and Medical Education and Medical Universities, were selected by purposive snowball sampling and participated in semi-structured interviews March-May 2020. The researchers explained the actions of the Iranian health system in fighting the covid-19 pandemic in 2020 by content analysis.

### Results

As a result of analyzing the data obtained from the interviews, 14 subthemes were found and classified into four major themes, including the informative and regulative actions, administrative and supportive actions, preventive and curative actions, and resource-related actions.

### Conclusion

Due to its strong health structures such as urban and rural health networks, various general and specialized hospitals, experienced doctors, and committed health staff, Iran has taken effective actions in fighting the covid-19 pandemic. However, the findings of this study and the relevant measures can help combat this pandemic in countries with similar social and cultural structures or countering future similar crises.

**Keywords:** health system, actions, covid-19, coronavirus, pandemic, management



## Evaluation of the effects of the COVID-19 pandemic on Dentist working conditions

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**Introduction and Purpose:** Due to specific working conditions, dental professionals represent a high-risk group for infection, and the COVID-19 pandemic has affected their work environment in many ways. The purpose of this study is to review various studies that have investigated the effect of the CoVID-19 pandemic on the working conditions of dentists in this period.

**Methods:** An electronic search was conducted in PubMed (MEDLINE), Scopus and Google limited to English language publications using key words COVID-19, Working Conditions, Dentist.

**Discussion:** In a study conducted among Iranian dentists, the majority of participants (n=170, 70%) did not perform non-emergency procedures during the epidemic. Dentists have suggested several strategies to reduce the risk of transmission, such as reducing treatment sessions (n=90, 37%), careful triage of patients (n=156, 64%), and using personal protective equipment (n=108, 45%), 97% (n=234) of the participants reported that they faced a decrease in their financial income since the prevalence of the pandemic. Dental procedure times increased significantly during the COVID-19 pandemic in Poland and Turkey. The use of N95/FFP2 or N99/FFP3 masks and surgical gowns was significantly higher during the COVID-19 pandemic compared to the pre-COVID-19 period. During the COVID-19 pandemic, the 25% decrease in dentists' income in Poland (81%) was significantly higher than in Turkey (47.5%).

**Conclusion:** Considering the impact of the COVID-19 epidemic on the different working conditions of dentists, it was suggested that the increase of dentists' representatives in the management of the epidemic and the future policy process, taking steps for the future by creating planning processes, can eliminate ambiguities and dissatisfactions and ensure preparedness for new epidemics.

**Key Words:** COVID-19, Working Conditions, Dentist.



## The impact of the COVID-19 pandemic on the mental health of dentists

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**Introduction and Purpose:** Dentists are at high risk of SARS-CoV-2 infection due to their proximity to patients. Therefore, the fear of contamination or the spread of the virus to family members, along with financial need, can lead them to a heavy burden and psychological suffering. The purpose of this study is to examine various studies on the COVID-19 pandemic and the mental health of dentists in different geographical areas.

**Methods:** An electronic search was conducted in PubMed (MEDLINE), Scopus and Google. The key words were selected based on Medical Subject Heading (MeSH) terms. The studies limited to English language publications and these studies were retrieved by searching for the following keywords: COVID-19, Dentist, Mental health, Anxiety, Psychological effect.

**Discussion:** In a study conducted among Iranian dentists, it was reported that 42.5% of dentists had anxiety related to Corona virus and 32.5% of them had mild anxiety and no severe anxiety was observed, and in general, the prevalence of anxiety and mental disorders related to Corona virus in Iranian dentists was average. In Brazil, among the evaluated dentists, 80.8% had suspended their activity for some time, 74.8% were afraid of infection at work, 86.1% were afraid of transmitting the virus to their family, 30.1% were already infected, 54% with Hearing the news of death from SARS-CoV-2 felt fear, and 63.9% reported that they had protective knowledge to prevent infection. Another study in the UK found high levels of stress among dentists, with 82% of respondents saying stress levels within the dental team had increased significantly. Three-quarters of respondents have gone to work despite not being psychologically well enough. The working conditions and financial pressures caused by the pandemic have directly affected the mental health of many dentists.

**Conclusion:** Various studies show the need for more psychosocial support for dentists so that they can overcome the problems and provide good dental care to the population, Also, continuing education should update the professions with the scientific and clinical knowledge necessary to confront the pandemic.

**Key Words:** COVID-19, Dentist, Mental health, Anxiety, Psychological effect.

## Can covid-19 infection history affect the need for recovery in operating room practitioners?

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**Introduction:** Operating room practitioners are at the heart of the covid-19 pandemic. They could be contaminated by coronavirus, as their workplace is a high-risk zone for transmission of respiratory infections. Covid-19 infection imposes a high pressure on operating room practitioners, so it could affect their physical and mental health. Fatigue and excessive workload can result in high need for recovery. Recovery from work is the period of time that a person needs to return to a normal level of function after working time. The study of psychological burden and exhaustion in healthcare staff is important because it can lead to medical errors, a decrease in productivity, and a lack of empathy in treating patients. This study aimed to compare the need for recovery in the operating room practitioners with and without covid-19 infection history.

**Methods:** This cross-sectional study was conducted in the operating room department of a public hospital on 217 operating room practitioners, including operating room technicians, anesthesiologists, and service staff. The data collection tools were demographics questionnaire and the need for recovery scale. Descriptive statistics, independent sample t-test, and one-way ANOVA test were used for data analysis.

**Results:** The mean and standard deviation of the need for recovery score in studied population were  $71.30 \pm 21.40$ . The practitioners with a history of covid-19 infection had a significantly higher need for recovery ( $P\text{-value}=0.001$ ) than those without a history of covid-19. The service staff had a higher percentage of covid-19 infection and had more need for recovery than operating room technicians ( $P\text{-value}=0.014$ ).

**Conclusion:** The operating room practitioners with a history of covid-19 infection had significantly higher need for recovery than those without a history of infection. Therefore, protecting the operating room practitioners against covid-19 infection is the first step in preventing excessive need for recovery levels. Increasing the number of operating room staff, reducing the number of working hours, and paying more attention to their quality of work-life can help to reduce their need for recovery.

**Keywords:** Covid-19 pandemic, operating room practitioners, need for recovery.

## Corona disease anxiety in medicine and post-graduate students of Shiraz University of Medical Sciences

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**Introduction:** Covid-19 disease is a contagious disease that firstly was identified in Wuhan, China. This disease has affected physical and mental health of society. Students who study in healthcare domain majors are at the risk of covid-19 disease infection. Meanwhile, post-graduate and medicine students experience higher risk of being affected by corona virus, as they had to study in the hospitals and deal with patients. This study aimed to assess corona disease anxiety in post-graduate students of Shiraz University of Medical Sciences.

**Methods:** This cross-sectional study was conducted on 110 post-graduate and medicine students during 2021. The number of students was determined using simple random sampling. Data was collected using a demographic questionnaire and the Corona Disease Anxiety Scale (CDAS) which determines physical and mental symptoms of covid-19 anxiety. Descriptive statistics indexes and independent sample t-test were used for data analysis.

**Results:** The mean and standard deviation of age in the studied population was  $23.48 \pm 2.47$  years. 58 students were female, while 52 of them were male. 38 students were studied master's degree. The mean score of Corona disease anxiety was  $13.36 \pm 10.23$ , which indicates a low level of anxiety. The mental symptoms of anxiety mean score was  $10.73 \pm 6.41$ , while the physical anxiety mean score was  $2.62 \pm 0.50$ . Both scores indicate a moderate level of anxiety in the studied population. The students of master's degree experienced a higher level of mental and physical symptoms of covid-19 anxiety ( $P$ -value  $< 0.001$ ). There was no significant difference in corona disease anxiety between male and female students ( $P$ -value = 0.226).

**Conclusion:** The studied post-graduate and medicine students showed a moderate level of anxiety. Higher scores in mental symptoms is a concerning issue. It is necessary to pay attention to the anxiety level of the studied students and provide a better situation for them. Teaching coping strategies to the students, and providing them a flexible time-table for being graduated especially for students of master's degree can help in reducing their anxiety.

**Keywords:** Covid-19, anxiety, students, postgraduate, medicine.

## Structural Model of Brain-Behavioral Systems and Coronavirus Anxiety: The Mediator Role of Resilience

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**Introduction and Aim:** Medical students have experienced more anxiety due to being in environments infected with the Covid-19 virus during clinical training, especially due to the fear of transmitting the virus to their families and loved ones. The present study was conducted with the aim of investigating the mediating role of resilience in the relationship between brain-behavioral systems and corona anxiety in students.

**Materials and Methods:** The research design was correlational through structural equation modeling. The sample consisted of 212 students of North Khorasan University of Medical Sciences (medical, operating room, nursing, obstetrics, and midwifery) who volunteered and online through an internet call. Participates answered the brain-behavioral systems questionnaires of Carver and White (1994), the Connor-Davidson Resilience Scale (2003) and the Corona Anxiety Questionnaire of Alipour et al. (2018). Validity and reliability of all questionnaires have been reported as favorable. The structural modeling analysis, with the application of Anderson & Gerbing's two-step approach through Amos -22 and SPSS -22 software packages were used to test the proposed model. Bootstrap in Preacher and Hayes' Macro program (2008) was used for testing mediation.

**Results:** The results showed that the level of corona anxiety in students was average. Also, the proposed model was suitable for the data. The behavioral inhibition system had a significant direct effect on coronavirus anxiety ( $\beta = 0.31$ ,  $p < 0.0001$ ). The behavioral activation system had a non-significant direct effect on the coronavirus anxiety ( $\beta = 0.02$ ,  $p < 0.805$ ) Also, the mediating effect of resilience in the relationship between brain-behavioral systems and coronavirus anxiety was confirmed ( $p < 0.0001$ ).

**Conclusion:** The results showed that resilience can mediate the relationship between brain-behavioral systems and coronavirus anxiety in students of medical sciences. It is also recommended to include education related to resilience skills at the beginning of the educational chapters of medical students and to strengthen this skill through educational-practical protocols.

**Keywords:** Brain-behavioral systems, Corona anxiety, Resilience, Medical sciences students



## Predicting preventive behaviors against covid-19 based on health literacy dimensions among medical workers in Sistan and Baluchistan province

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**Background and purpose:** health literacy and preventive behaviors are known as one of the biggest determinants of health. treatment staff; Providers are the first care providers in the country's healthcare system; In order to play their broad role in the society, these people need to have an appropriate level of health literacy, in order to meet the needs of the society, especially patients with insufficient health literacy. Therefore, the present study aims to determine the prediction of preventive behaviors against covid-19 based on the dimensions of literacy. Health was conducted among the health workers of Sistan and Baluchistan province.

**Materials and methods:** This descriptive analytical (cross-sectional) study was conducted on 400 medical workers in Sistan and Baluchistan province in 1400. Sampling was accurate. Data collection was done by a valid and reliable researcher-made questionnaire on health literacy and preventive behaviors against covid-19 online. Data were analyzed using frequency, mean, Pearson correlation coefficient and linear regression.

**Findings:** Only the health literacy level of 11.1% of medical staff was favorable. The average health literacy score of the treatment staff was  $59.88 \pm 9.68$  out of 88. between preventive behaviors from Covid-19 and health literacy ( $p=0.000$ ,  $r=0.286$ ), access ( $p=0.000$ ,  $r=0.183$ ), understanding ( $p=0.000$ ,  $r=0.248$ ), evaluation ( $p=0.000$ ,  $r=0.209$ ) and use of information and health services ( $p=0.000$ ,  $r=0.276$ ) positive and significant correlation was observed. Health literacy and its dimensions were able to predict 27% of the variance of preventive behaviors against the covid-19 disease. Total health literacy was the strongest predictor ( $\beta = 0.357$ ). The average score of preventive behaviors was  $30.33 \pm 6.34$  out of 48.

**Conclusion:** According to the findings of this research, the average level of health literacy and preventive behaviors among medical staff were evaluated as average. Also, considering the predictability of health literacy, it is necessary to pay more attention to health literacy in health promotion programs.

**Keywords:** health literacy, preventive behaviors, covid 19, medical staff, corona virus



## Renal failure and its relationship with clinical findings, length of hospitalization and mortality in patients with covid-19

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**Introduction:** The Covid-19 disease has been the most important health challenge in the world in the last two years. Almost all organs of the body are involved in this disease. Although the respiratory system and immunity are the main targets of the Covid-19 disease, kidney damage has also been observed in some patients. The severity of disease complications in people with underlying diseases, especially people with kidney diseases, is higher than in people without underlying diseases. This study aims to investigate the relationship between kidney disease and clinical manifestations and death in patients with covid-19.

**Method:** This cross-sectional study was conducted on kidney patients with covid-19 admitted to Shahid Zadeh Hospital in Behbahan city. In this study, patients' information was collected through their medical records and spss software version 26 was used to analyze the data.

**Results:** The average age of hospitalized patients with the age range of 35 to 92 years was  $66.44 \pm 14.3$ . Among the patients, (68%) were male and (32%) were female. The average duration of hospitalization was  $3.21 \pm 6.4$  days. Most of the people who died were old (71.13%) and male (80%). The most obvious symptoms in kidney patients with covid-19 were shortness of breath (48%) and weakness and lethargy (32%). The mean systolic and diastolic blood pressure were 113.54 and 71.25, respectively. The blood oxygen level (60%) of the patients was less than 93% ( $\text{Spo}_2 < 93$ ). The levels of creatinine (Cr) and blood urea nitrogen (BUN) in the patients who finally died were significantly different from the recovered group ( $P < 0.05$ ), so that the average level of BUN and Cr in the deceased group was more than twice that of the recovered group.

**Conclusion:** BUN and Cr levels were significantly high in kidney patients with covid-19 and these two factors can be a predictor of death risk in kidney patients with covid-19.

**Keywords:** renal failure, mortality, covid-19

## **Designing and evaluating the educational program based on the Health Belief Model on the promotion of preventive behaviors against COVID-19 in women of reproductive age referring to comprehensive health service centers in Urmia**

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**Background and Purpose:** Considering the lack of access to proven treatment against COVID-19 as a new viral disease that threatens public health, one of the important ways to deal with it is to adopt preventive behaviors. Since it is said that women can be role models and their participation in the prevention of diseases is very important, by exposing women to health issues, we can witness the model of correct education and promotion of a healthy way of life to the next generation. . Therefore, the present study was conducted with the aim of designing and evaluating an educational program based on the health belief model on promoting preventive behaviors against COVID-19 in women of reproductive age referring to comprehensive health service centers in Urmia.

**Materials and methods:** The present semi-experimental and controlled intervention study was conducted among 92 women of reproductive age who were selected by multi-stage cluster sampling method and divided into two intervention and control groups, in 1400 in Urmia. The data collection tool was a valid and reliable electronic researcher-made questionnaire consisting of four sections (demographic characteristics, knowledge, constructs of the health belief model and preventive behaviors) which were completed in three stages (before, immediately and one month after the intervention). Five 45-minute training sessions were held for the intervention group. Data were analyzed in SPSS software.

**Results:** Following the implementation of the educational intervention, in the intervention group compared to before the intervention and compared to the control group, the average scores of knowledge, preventive behaviors and structures of sensitivity, intensity, perceived benefits and self-efficacy and guide for action; There was a significant increase and a significant decrease in perceived barriers.

**Discussion:** Education based on the Health Belief Model, which includes the attitudes and opinions of women of reproductive age, can be useful and effective in promoting preventive behaviors against COVID-19.

**Keywords:** education, COVID-19, Health Belief Model, preventive behavior, women

## Assessment of risk factors for COVID-19 infection among health care workers

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**Background:** Understanding COVID-19 infection among health care workers (HCWs) and identifying the risk factors for adverse outcomes is important not only for characterizing virus transmission patterns, but also for preventing the future infection of HCWs and reducing secondary COVID-19 transmission in health care settings. The objective of this study was to identify risk factors for infection in health care workers exposed to COVID-19 patients.

**Methods:** This case-control study was conducted using a standardized questionnaire according to the WHO protocol, for 190 HCWs from COVID-19 treatment hospitals of Zahedan city, in east Iran. 95 HCWs with confirmed positive PCR test were recruited as cases and 95 HCWs in the same hospital with negative PCR test were recruited as controls. All participants were asked to complete a questionnaire on risk factors for COVID-19 infection. Approval was obtained from the Ethics Committee of Zahedan University of Medical Sciences in Zahedan, Iran (IR.ZAUMS.REC.1400.232).

**Results:** The case group consisted 80 males and 15 females (aged  $27.85 \pm 2.96$  years) and the control group consisted 79 males and 16 females (aged  $27.09 \pm 2.52$  years). Among our participants, 95% were nurses and 5% were medical doctors. There was no significant difference in mean of age, gender and smoking habit between the two groups ( $p > 0.05$ ). In the control HCWs group, the training levels on Infection Prevention and Control (IPC) for COVID-19 (92.6% vs. 83.2%), the use of personal protective equipment (84% vs. 67%) (PPE includes; mask, respirator, gloves, gown and shoe cover) and proper hand hygiene after contact (98.9% vs. 71%) were significantly higher than the case HCWs group ( $p < 0.001$ ). However, there was no significant difference between the groups regarding the levels of physical distance and close contact with the surfaces around the patient.

**Conclusions:** The results of this study can help risk assessments of COVID-19 IPC measures among healthcare workers, with the aim of limiting onward transmission.

**Keywords:** COVID-19, PPE, Health care workers, Iran

## Assessment of general health status of nurses during the COVID-19 pandemic

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**Background:** Globally, nurses provide intensive and protracted support to patient population, but knowledge about the impact of COVID-19 on these subjects is limited. This study aimed to determine physical and psychological states and explore the experiences of COVID-19 with nurses.

**Methods:** This cross-sectional study was conducted using Goldberg's General Health Questionnaire-12 (GHQ-12) and personnel information form, for 111 nurses, from COVID-19 treatment hospitals of Zahedan city, Iran between May and July 2020. Descriptive statistics were generated for numerical data. Approval was obtained from the Ethics Committee of Zahedan University of Medical Sciences in Zahedan, Iran (IR.ZAUMS.REC.1400.269).

**Results:** A total of 111 nurses (57 men and 54 women) with an average age of  $28.85 \pm 3.15$  were enrolled in the study. The results indicated that the mean GHQ-12 Scores of depression ( $15.58 \pm 3.02$ ), anxiety ( $10.21 \pm 1.93$ ), sleep disorder ( $4.42 \pm 0.84$ ) and physical symptoms ( $12.89 \pm 2.82$ ) in the nurses with more than 110 working hours per week were significantly higher than those who worked less than 110 hours per week in the Covid-19 department ( $p < 0.001$ ). We highlighted that nurses who experienced greater workload and shift work during the COVID-19 pandemic obtained significantly higher mean scores on the GHQ-12.

**Conclusions:** Results have highlighted the psychological impact, in terms of burnouts and anxiety disorders in our sample of nurses. As the pandemic has continued, it is important to consider the long-term impact on an already stretched workforce including the risk of developing psychological disorders. Future research and interventions are required to understand and improve the provision of psychological support for nursing personnel.

**Keywords:** COVID-19, General health, nurses, Iran.



## **Title: Comparison of two Behavior Change Models in predicting the Intention and COVID-19 Preventive Behaviors: Health Belief Model and Theory of Planned Behavior**

Sima Ghorbanzadeh\*, Alireza Didarlo, Mina Maheri, HamidReza Khalkhali, Kajal Yasamani

**Background and Purpose:** COVID-19 is a highly contagious and preventable disease that has caused high mortality worldwide. Due to the ineffectiveness of existing vaccines in permanent and long-term immunity, the best way to deal with the disease is to adopt preventive behaviors. Considering people's non-compliance with preventive behaviors, it is necessary to understand the factors influencing people's decision-making in the field of following behaviors. The constructs of models can be effective in predicting behavior. Therefore, this study aimed to compare the health belief model and the theory of planned behavior in predicting intention and COVID-19 preventive behaviors.

**Materials and Methods:** This descriptive-analytical study was conducted by cross-sectional method in 1400 among 500 Urmia citizens who were selected by convenience sampling method. Data were collected by using a four-part researcher-made electronic questionnaire including demographic variables, knowledge questions, constructs of Health Belief Model and Theory of Planned Behavior and COVID-19 Preventive behaviors and were analyzed by using descriptive and analytical statistics in SPSS software.

**Results:** The mean and standard deviation of intention and preventive behaviors were  $21.53 \pm 3.67$  and  $22.37 \pm 3.22$ , respectively. Based on regression analysis, the constructs of the health belief model and the theory of planned behavior predicted 47% and 65% of the variance of preventive behaviors and 53% and 73% of the variance of the intention of these behaviors, respectively. Among the constructs, self-efficacy was the strongest predictor of intention and behavior based on the health belief model and perceived behavioral control and behavioral intention were the strongest predictors of intention and behavior based on the theory of planned behavior, respectively.

**Discussion:** In the social and cultural context of the present study, the theory of planned behavior better than the health belief model can be used in developing educational programs and interventions to change the citizens' behavior towards COVID-19.

**Keywords:** Health Belief Model; Theory of Planned Behavior; COVID-19; Prevention and control



## Predictive factors of adopting COVID-19 Preventive behaviors among the Urban Population: An application of the Health Belief Model

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### Abstract

**Background and Purpose:** COVID-19 is a contagious respiratory infection. Due to the resistance of new virus variants to existing vaccines, the best way is to adopt preventive behaviors. But most people don't follow them. Understanding the factors affecting people's decision making in adherence to behaviors is essential. Constructs of models can be effective in predicting behavior. Hence, the present study aimed to determine the Predictive factors of adopting COVID-19 Preventive behaviors by using the health belief model.

**Materials and Methods:** This descriptive-analytical study was conducted by cross-sectional method in 1400 among 500 Urmia citizens who were selected by convenience sampling method. Data were collected by using a researcher-made questionnaire with four sections including demographic variables, items of knowledge, constructs of health belief model and COVID-19 Preventive behaviors. Data were analyzed by using descriptive statistics, Pearson correlation coefficient and linear regression in SPSS software.

**Results:** The mean and standard deviation of preventive behaviors was  $22.37 \pm 3.22$ . It was also shown that among the constructs of the HBM, self-efficacy, knowledge, cues to action, benefits, and barriers were predictors of COVID-19 preventive behaviors. Overall, these variables, along with demographic characteristics could predict 47% of behavioral changes.

**Discussion:** In designing educational interventions, special emphasis should be placed on the self-efficacy construct as the most important predictor of adopting COVID-19 preventive behaviors among citizens.

**Keywords:** Health Belief Model; COVID-19; Prevention and control

## Association between Corona Disease Anxiety and Post Traumatic Stress Disorder with Quality of Life among the General Population

Sima Ghorbanzadeh, Mina Maheri\*

### Abstract

**Background and Purpose:** Covid-19 pandemic drastically was changed the life of the general population that can provide various psychological problems and reduce people's quality of life. It is necessary to provide evidence on its psychological effects to develop effective psychological interventions. Therefore, present study aimed to investigate the association between Corona disease anxiety and post-traumatic stress disorder with quality of life among the general population.

**Materials and Methods:** This cross-sectional study was conducted on 500 adults living in Urmia, Iran. Data were collected using an electronic questionnaire that consisted of four sections: demographic information, Corona Disease Anxiety Scale, Impact of Event Scale-Revised, and 12-item Short-Form Health Survey, which were sent through WhatsApp to participants. Data were analyzed by SPSS 16 software using descriptive and analytical statistics.

**Results:** The mean scores of Corona disease anxiety, post-traumatic stress disorder, and quality of life were  $16.03 \pm 11.12$ ,  $31.64 \pm 18.78$  and  $66.12 \pm 22.83$  respectively. Corona disease anxiety ( $p < 0.001$ ,  $\beta = -0.396$ ) and post-traumatic stress disorder ( $p < 0.001$ ,  $\beta = -0.225$ ) were predictors of quality of life among the general population of Urmia.

**Discussion:** The level of anxiety and post-traumatic stress disorder caused by COVID-19 was slightly lower than the moderate level among the general population of Urmia. It is proposed to design and implement various interventions to improve their psychological status due to the indisputable negative effects of the COVID-19 epidemic on individuals' psychological status and because of the negative impact of anxiety and stress on their Quality of Life.

**Key words:** Covid-19, Anxiety, Post-traumatic stress disorder, Quality of life, General population

## How are COVID-19 and diabetic retinopathy related to vitamin D levels?: An overview of concepts and the latest research

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Diabetes is defined by abnormally high blood glucose levels (hyperglycemia) in the body. This is primarily due to the body's poor production and/or usage of insulin. If left unchecked, metabolic abnormalities can result in many acute and chronic consequences. Chronic problems are further classified as microvascular or macrovascular. Neuropathy, diabetic retinopathy (DR), and nephropathy are all microvascular consequences. Ischemic heart disease, cerebrovascular, and peripheral vascular disease are all macrovascular outcomes. Among these, DR is the most recurrent and common complication, characterized as a complex ocular manifestation of diabetes that alters various pathways affecting the retina. The basic indicators of DR include loss of pericytes, microaneurysms, lipid deposits (exudates), neovascularization, thickening of the basement membrane, and breaking down of the blood-retinal barrier. Several investigations have linked the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and ocular symptoms. SARS-CoV-2, the novel coronavirus, causes coronavirus disease 2019 (COVID-19) and has begun to spread globally. SARS-CoV-2, unlike SARS-CoV, is transmitted from persons without symptoms. COVID-19 symptoms range from mild to severe and patients with DR have an elevated risk of unfavorable conditions. Significant evidence supports a link between vitamin D deficiency and COVID-19 severity. Experimentally, vitamin D renders an increase in the ratio of angiotensin-converting enzyme 2 (ACE2) to ACE. This increases angiotensin II hydrolysis and reduces the subsequent inflammatory cytokine response to pathogens and lung injury. Through its effects on the immune system, vitamin D has a role in the pathogenesis of diabetic retinopathy (DR), and a deficiency of vitamin D was found to accelerate the severity of retinopathy. Inflammatory cytokines such as TNF- $\alpha$ , TNF- $\beta$ , IL-6, and plasminogen activator inhibitor-1 are upregulated in type 2 diabetes mellitus. Vitamin D decreases the production of several pro-inflammatory cytokines, such as IL-2, IL-6, IL-8, IL-12, and TNF- $\alpha$ , and exerts an anti-inflammatory effect by reducing the proliferation of helper T-cells, cytotoxic T-cells, and natural killer cells. The active metabolite of vitamin D, calcitriol, is a potent inhibitor of retinal neovascularization in vivo. Calcitriol also inhibits retinal endothelial cell capillary morphogenesis in vitro. Here we review the latest research to show how COVID-19 and diabetic retinopathy are related to vitamin D levels.

**Key words:** Diabetic retinopathy; Vitamin D; COVID-19

## ACE2-, HLA-, and TLR-related genes in susceptibility to COVID-19 infection: An updated mini review

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In nearly 20 years, the world has witnessed three different epidemics of coronaviruses, including severe acute respiratory syndrome coronavirus (SARS-CoV), Middle East respiratory syndrome (MERS)-CoV, and SARS-CoV-2, which have rendered many deaths. SARS-CoV-2 led to a pandemic called COVID-19. The characteristics of transmission, epidemiology, and clinical course of COVID-19 have been shown but have yet to be fully detailed. Moreover, the transmission speed of SARS-CoV-2 and the severity of the disease symptoms caused by COVID-19 still need to be fully understood. The genes of an individual or a population play a fundamental role in COVID-19 pathogenesis. Different genes play an essential role in the entry and replication of SARS-CoV-2 and in creating an immune response in the host.

This review addresses three genes essential to the severity and mortality of COVID-19 infection. Variation in the angiotensin-converting enzyme 2 (ACE2) gene dramatically affects the transmission of COVID-19. The human leukocyte antigen (HLA) repertoire can be a critical regulator of immunity in the face of infection. It significantly affects the host's susceptibility and severity of infection with COVID-19 and could be the second essential gene in this field. Toll-like receptors (TLR) related genes also play an essential role in innate immune response to COVID-19. These genes represent the third genetic gate. Host-pathogen interaction is a complex event, so other genes are also involved in the dynamics of COVID-19.

Overall, the three genes studied here appear to be strongly associated with the risk, rate, and complications of COVID-19. Genetic changes in these three genes are crucial in understanding the demographic differences in COVID-19. Here, we review the latest knowledge on population genetic diversity associated with different forms of COVID-19.

**Key words:** ACE2; HLA; TLR; COVID-19; gene.

## The Challenges Confronting Pregnant Women regarding Covid-19 Vaccination : a Systematic Review

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### Abstract

**Background and Objective:** More than any other group, pregnant women are in danger of covid-19 as a pandemic disease. This study aims at studying the challenges confronting pregnant women regarding covid-19 vaccination.

**Materials and Methods:** systematic review searches to find the published studies until the end of 2022 in databases (PubMed, Google Scholar) and the recently published abstracts were done using the keywords Covid-19, Doubt in vaccination, Pregnancy, Vaccination, Hecitancy. This systematic review study was conducted according to the Preferred Reporting Items for Systematic Reviews (PRISMA) guidelines (figure 1)

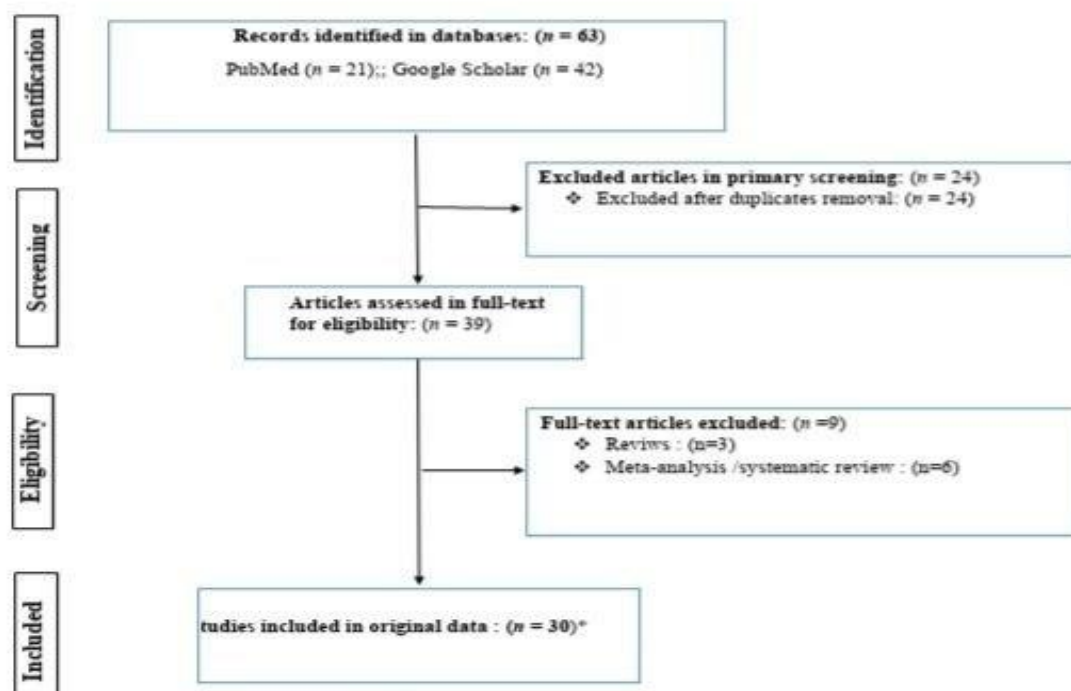


Figure1. PRISMA flow chart showing the process of study selection.





**Results:** Using the data gathered from 30 studies indicate that vaccination is the major strategy for prevention, management, and controlling contagious infectious diseases such as covid-19. According to WHO, doubt (refusal or uncertainty) about vaccination is a great threat to general health and the main barrier to safety. Fear of harming the unborn baby (fetus in the mother's stomach), anxiety about the undesirable effects of vaccination, doubts about the efficiency and safety of vaccination, lack of public trust, insufficient perception of the disease threat, and insufficient recommendation of vaccination presenters are among the main reasons of doubts regarding vaccination among pregnant women. Various factors such as ethnicity, occupational status, education, social situation, age, and religion are involved in the appearance of this doubt.

**Conclusion:** By providing educational interventions to provide accurate information about making decisions regarding covid-19 vaccination, healthcare experts play the main role in increasing pregnant women's awareness in society.

**Keywords:** Covid-19, Doubt in vaccination, Pregnancy, Vaccination, Hecitancy





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## Abstract

**Background:** Accurate diagnosis, appropriate treatment, and [vaccination](#) with the highest quality science is the most effective way to break the COVID- 19 pandemic.

**Methods:** In a cross-sectional study, the IgM/IgG antibodies as well as age and sex were evaluated in the individuals suspected or infected with COVID-19, referred to the Maragheh Pathobiology/Iran from March 2020 to March 2021. The Chi-Square test, independent sample t-test, bivariate correlation, and linear regression tests were used to evolution the relationships by SPSS. 26.

**Results:** For 628 participants, the positivity rates of IgM, IgG, and either IgM or IgG were 16.4%, 36.6%, and 38.7%, respectively. There were no differences in gender regarding the positivity rates and antibodies; however, antibodies' levels were higher in males than females. There was a significant difference between prevalence and level of both antibodies with age (IgG in all participants:  $r=0.12$  and in positive participants  $r=0.16$ ) while age could be a predictive factor for those (Beta coefficient IgM= 0.13, 0.12 and IgG= 0.23, and 0.26 for all and positive participants, respectively) with best estimates for patients aged 60 years or above.

**Conclusions:** Age and sex variables could be considered in studies on interpreting the results, treatment, and most importantly, for development of vaccines against the COVID-19.

**Keywords:** COVID- 19; Association; Antibody; Age; Sex



## Management of COVID-19 in Liver Transplant Recipients with immunosuppressant therapy

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### Abstract

**Background:** Knowledge on SARS-CoV-2 infection in liver transplant recipients is insufficient, particularly in terms of severity of the disease and immunosuppressive therapy. The aim of this study was to describe the demographic, clinical characteristics, immunosuppressive therapy and the outcomes of liver transplant recipients with COVID-19.

**Methods:** A retrospective study was conducted across Northwest of Iran on liver transplant recipients with SARS-CoV-2 infection during the first and second outbreak of COVID-19 pandemic in Iran. Baseline characteristics, clinical presentation, management of immunosuppressive therapy and outcomes were collected.

**Results:** 7 patients were included (99% male, median (IQR) age at diagnosis 64 (44-74) years). Two patients had arterial hypertension and one had ulcerative colitis. The most common symptoms were cough, hoarseness and nasal congestion. Immunosuppression was continued in all of the patients. 6 patients were hospitalised and one was cared at home. Overall, 5 patient recovered from the COVID-19 and 2 patients died. One of the seven patients who died had a history of cancer.

**Conclusion:** According to the results of this study all of the liver transplant recipients with SARS-CoV-2 infection received immunosuppression as before infection. It seems that it did not increased the fatality rate any more. Therefore it is necessary to do more studies to see if the immunosuppression should be discontinued or continued after infection.

**Keywords:** COVID-19; Liver Transplant Recipients; Immunosuppressant

## Unsuccessful experience of using chloroquine and Hydroxychloroquine during the Covid-19 pandemic: A lesson for future pandemics

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### Abstract

**Background:** Following the COVID-19 pandemic, different drugs, including Hydroxychloroquine (HCQ) and chloroquine (CQ), have been used to treat this disease.

**Objective:** The aim of study was to assess the efficacy of CQ & HCQ drugs in the treatment of patients infected with COVID-19.

**Methods:** A search was performed in PubMed, Embase and Scopus databases on systematic review articles by the keywords “COVID-19” OR “SARS-CoV-2” AND “Hydroxychloroquine” or “Chloroquine” AND “Systematic Review” OR “Meta-analysis”

**Results:** Out of 21 systematic review studies, 28.5% of studies have shown a positive effect for the use of HCQ and CQ and 28.5% of studies have suggested under certain conditions; however, 33.5% studies have recommended not using the drugs and 9.5% of studies did not suggest any use or non-use due to lack of sufficient evidence.

**Conclusion:** Most of these studies, even studies that recommended the use of these two drugs, did not show a reduction in the risk of mortality in recipients of these two drugs. Summarizing the findings of these articles showed that although the need for an effective drug is essential in epidemic conditions. But the use of existing drugs without scientific support will not help to control pandemics. Even it may delay in finding the appropriate treatment.

**Keywords:** COVID-19, Efficacy, Chloroquine, Hydroxychloroquine.

## Determining the effective factors in the death of patients receiving convalescent plasma

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**Introduction:** Despite the wild spread of covid-19 around the world, unfortunately, no definitive treatment has been found for the disease yet. A wide range of drugs have been tried to reduce mortality rate. Convalescent plasma injection is considered as a beneficial method to control the illness. The aim of this study is determining the outcomes of patients receiving this therapy in Qazvin boali hospitals.

**Methods:** The present study is a case series of 60 samples. The samples were selected by purposive method and the survey was only conducted after ethics license and patients' consent had been obtained in 1399. Having a lung scan confirmed by an internist or infectious disease specialist, a positive PCR test, and a history of receiving plasma during treatment were the inclusion criteria into the population.

**Results:** Out of 60 patients with Covid-19 who received convalescent plasma, 33 (55%) patients survived. The findings indicate that patients who received plasma and died were not significantly different with surviving patients in terms of age, sex, underlying disease and length of hospital stay ( $p > 0.05$ ). There was a significant difference between the deceased and surviving patients in terms of plasma receiving time ( $p = 0.005$ ).

**Conclusion:** Convalescent plasma injection of patients the closer to the time of admission, the greater the effect on reducing patient mortality.

**Keywords:** covid19, covid19 treatment, convalescent plasma therapy.

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## Hand Dermatitis among Health Care Workers during the COVID-19 Pandemic: Prevalence, and Risk Factors

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### Abstract

**Background:** Health care workers (HCWs) need to perform new preventive measures to protect themselves and patients against ongoing COVID-19 transmission, which can increase the occurrence of hand dermatitis (HD) among them. This study aimed to investigate the prevalence of HD among HCWs and its possible risk factors in IRAN.

**Materials and Methods:** A survey of 159 HCWS working in university hospitals was performed between August to September 2020. Research data were collected via standardized self-administered questionnaire. The history of HD was determined via standardized Nordic Occupational Skin Questionnaire (NOSQ-2002), which including two forms: the first form included questions about demographic information, and the second form included questions about the occupational and environmental risk factors for formation of HD, and its symptoms. Chi-square and Logistic regression tests were used for data comparisons. Data analysis was done using SPSS (ver.18).

**Results:** The prevalence of HD in the study population was 51.6%. Females had a 3.84 fold higher risk of HD than males (confidence interval (CI): 1.85-8). HCWs older than 40 years and those who aged 30-39 years had a 9.6 and 1.72 fold higher risk of HD than HCWs aged 20-29 years (CI: 2.6-35.7; CI: 0.87-3.4, respectively). A significant association was found between the prevalence of HD among HCWs and working hours per week, and wearing gloves ( $P < 0.05$ ).

**Conclusion:** Possible risk factors for developing HD among HCWs are female gender and older age. Preventive measures for HD are needed for HCWs, especially during the COVID-19 pandemic.

## Investigation of blood brain barrier by DCE-MRI and evaluation of visual evoked potential after covid-19 infection, with and without history of multiple sclerosis

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**Introduction:** The blood-brain barrier is a defensive shield for the brain capillary system that protects the nervous tissue against neurotoxic substances and pathogenic agents. Disruption of BBB has a significant role in the pathophysiology of MS. This research aims to investigate the changes in the blood-brain barrier, visual evoked potential (VEP), and some blood factors after mild and severe forms of covid-19 infection and whether it may lead to MS disease .

**Method:** 80 human samples has prepared from covid-19 infected persons in the age range of 20-50 years old from March 2020 to the end of November 2021. The techniques used in this research were MRI with gadolinium contrast agent and VEP. Blood erythrocyte sedimentation rate, complete blood count, antinuclear antibodies, and C-reactive protein were measured. In addition, research procedures have been explained to all participants, and everybody fills out an informed consent form and sign it .

**Results:** Among the 80 participants, 13 patients with a severe form of covid-19 history and hospitalization with lung involvement have shown MS signs, but they didn't have any MS symptoms before covid-19 infection. In 66.6% of MS patients, VEP has impaired. VEP includes the P100 latency, the amplitude, and the P100 latency difference of the two eyes examined in the research. Minor abnormalities have also been observed in blood factors .

**Conclusion:** The spike protein of the covid-19 virus can cross the blood-brain barrier and lead to brain injury and demyelination lesions. Therefore covid-19 infection can lead to MS. But, this idea needs more research.



## Exploring the Reasons of Moral Distress in Nurses during early Stage of COVID-19: A Qualitative Study

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### Abstract

**Background:** The COVID-19 pandemic situation faced the nurses to moral challenges in providing healthcare services to patients. The aim of the study was to explore the reasons of moral distress in nurses during COVID-19.

**Methods:** A qualitative study with a conventional content analysis approach was adopted. A purposeful sampling method with maximum variation was used and thirteen nurses caring for COVID-19 patients participated in this study. Data were collected using individual semi-structured interviews until data saturation and concurrently analyzed.

**Results:** Three main categories including 'trial and error in care of COVID-19 patients', 'negligence in performing professional duties' and 'inappropriate organizational structure' emerged as the reasons of moral distress in nurses during COVID-19 in Iran's cultural context.

**Conclusions:** This article highlights the role of evidence-based care and treatment, availability to adequate personal protective equipment, sufficient manpower, a supportive work environment, and adhere to professional commitment in preventing moral distress.

**Key words:** Ethics, Morals, Nurses, COVID-19, Qualitative research



## Severity and Frequency of Nurses' Moral Distress in Clinical Settings During the Outbreak of COVID-19

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### Abstract

**Background & Aim:** The Covid-19 pandemic has posed numerous ethical challenges to nurses and has exacerbated moral distress in clinical settings. Hence, due to the important role of nurses in epidemics, this study was conducted to investigate the severity and frequency of moral distress in nurses in clinical wards.

**Methods & Materials:** This was a cross-sectional study that was performed on 174 nurses working in surgery, intensive care, pediatrics and emergency wards of Maragheh hospitals. Data were collected using Moral Distress Scale-Revised of Corley.

**Results:** The mean scores of severity and frequency of moral distress in nurses were (51±10) and (51±12), respectively. The experience of moral distress in the intensive care and emergency wards was (56±10) and (46±6), which was more severe than other wards. The frequency and severity of moral distress in men were (54±19) and (51±11) and in women (49±11) and (50±11), respectively. The severity and frequency of moral distress had a statistically significant relationship with age and years of service ( $p > 0.05$ ) so that with increasing age and work experience, the severity and frequency of moral distress decreased.

**Conclusion:** Given the high frequency of moral distress among nurses during the Covid 19 pandemic in specific clinical settings, the use of management strategies to improve working conditions and create a positive setting can be helpful. It seems that holding courses on coping with moral distress in nurses in the context of the Covid 19 pandemic is a good practical solution.

**Keywords:** Moral distress, Nurses, Clinical settings, COVID-19

## The feeling of overcoming COVID-19: experiences of Iranian nurses in clinical settings: a content analysis study

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### Abstract

**Introduction:** The outbreak of COVID-19 disease imposed significant challenges in physical, psychological, and social dimensions to the medical staff, and especially nurses. Spreading awareness about the disease and disease control methods resulted in a reduction in the incidence of the disease. The present study aims to explore nurses' experiences of working in clinical settings after the reduction of the burden of disease.

**Methodology:** This qualitative content analysis study was conducted in 2022 in the clinical settings of educational hospitals of Maragheh University of Medical Sciences. In this study, 18 nurses were included in the study using purposive sampling method. In order to collect data, individual unstructured interviews were used. Eligible participants were invited to participate in the interview in a quiet and comfortable environment. Four participants were re-interviewed. The collected data were analyzed using conventional content analysis method and using Maxqda10 software.

**Results:** "The feeling of getting back to normal conditions" was extracted as the main theme, which includes five sub-categories: expanding knowledge, changing society's attitude, improving disease management, changing the nature of the disease, and expansion of facilities.

**Conclusion:** Getting more familiar with the disease of COVID-19, changing the society's attitude towards the disease, increasing the possibilities of dealing with the disease of COVID-19, and better and accurate management of the disease have led to the feeling of overcoming the disease and getting back to normal conditions in nurses. According to the results of the study, increasing awareness about the disease, creating awareness at the community level, and facilitating access to diagnostic, therapeutic, and protective facilities have resulted in a reduction of tension in the nurses and will provide the basis for providing quality care.

**Keywords:** Covid-19, nurses, Iran, content analysis



## Comparison of The Effectiveness of Mindfulness-Based Cognitive Therapy (MBCT) and Positive Psychological Interventions (PPIs) on Resilience and Psychological Distress in Recovered from Covid- 19

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### Abstract

**Introduction:** The post-acute COVID-19 syndromes experienced by survivors after discharge from hospital are unknown. This study was compared the effectiveness of mindfulness-based cognitive therapy and positive psychological interventions on resilience and psychological distress in Recovered from Covid- 19.

**Materials and Methods:** The study was a quasi-experimental type of pretest-posttest control group design with a 2-month follow-up. The statistical population comprised patients (Tehran) with moderate psychological distress . 45 people was selected using purposive sampling technique based on the inclusion criteria, they matching assigned into two experimental and one control group .The experimental groups received 8 sessions of 60 minutes of MBCT and PPIs but the control group received no intervention. The research tools were DASS-21(Depression, Anxiety and Stress Questionnaires) and Resilience (Connor-Davidson, 2003). Data were analyzed using mixed analysis test and Ben Foroni using SPSS software (version 23).

**Results:** The results showed that MBCT and PPI both positively affected the Resilience ( $F=53.77$ ,  $P$  value= $0.003$ ) and negatively affected the Psychological Distress ( $F=350.41$ ,  $P$ value= $0.018$ ) . Psychotherapies were effective in the psychological rehabilitation and there is a significant difference between the experimental and control groups ( $p < 0.050$ ).

**Conclusions:** In the follow-up phase, the effectiveness of MBCT in increasing resilience and reducing psychological distress has been greater than PPIs .In general, the use of psychotherapies is recommended in post-acute COVID-19 syndrome

**Keywords:** Mindfulness, Positive Psychological Interventions, Resilience, Psychological Distress, post-acute COVID-19 syndrome

## The role of miRNAs in COVID-19 disease

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### Abstract:

**Introduction:** Nowadays, the SARS Coronavirus 2 (SARS-CoV-2) infection is recognized as the primary cause of mortality in humans. SARS-CoV-2 is transmitted through human-to-human contact and is asymptomatic in most patients. In addition to approved vaccines against SARS-CoV-2 infection, miRNAs may also be promising options against this new virus.

**Materials and Methods:** This study reviewed the literature on the potential role of cellular miRNAs in the SARS-CoV-2-host interplay as a therapeutic option in COVID-19 patients.

**Results:** miRNAs are small and noncoding RNAs 18–25 nucleotides in length that target the mRNAs to degrade them or obstruct their translation miRNAs act as an observer in cells. Indeed developing nanoformulations of the COVID-19-related miRNAs can successfully transfer the miRNAs to the cells. Also, miRNAs-based therapeutics could be used in the nanovaccines that are specific with minimal off-target effects. Furthermore, nanobased miRNAs vaccines can be used as nasal spray or drops. In the case of COVID-19 disease, nanovaccine in the form of nasal spray seems to be more effective due to the activation of the immune response in the respiratory tract as the common initial site for SARS-CoV-2 virus entry.

**Conclusion:** Due to the importance of miRNAs in infectious diseases and the concerns about the increase in the mortality rate caused by COVID-19 disease, especially in immunosuppressed patients, we reviewed the literature on the potential role of cellular miRNAs in the SARS-CoV-2 and introduced them as therapeutic options for SARS-COV-2 infection.

**Keywords:** coronavirus • COVID-19 • miRNA • SARS-CoV-2

## The role of SARS-CoV-2 accessory proteins in immune evasion

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### Abstract

**Background:** The SARS-CoV-2 genome encodes some accessory proteins that are essential for infection. Notably, accessory proteins of SARS-CoV-2 play significant roles in affecting immune escape and viral pathogenesis. Therefore SARS-CoV-2 accessory proteins could be considered putative drug targets.

**Methods:** The main SARS-CoV-2 accessory proteins involved in immune evasion are discussed in this article for comprehensive learning on viral entry, replication, and transmission in vaccines and antiviral development.

**Results:** IFN-I and IFN-III responses are the primary mechanisms of innate antiviral immunity in infection clearance. Previous research has shown that SARS-CoV-2 suppresses IFN- $\beta$  by infecting host cells via ORF3a, ORF3b, ORF6, ORF7a, ORF7b, ORF8, and ORF9b. Furthermore, ORF3a, ORF7a, and ORF7b have a role in blocking IFN $\alpha$  signaling, and ORF8 represses IFN $\beta$  signaling. The ORF3a, ORF7a, and ORF7b disrupt the STAT1/2 phosphorylation. ORF3a, ORF6, ORF7a, and ORF7b could prevent the ISRE promoter activity. Accessory proteins usually collaborate rather than function independently. They coordinate the various viral replication cycle activities and foster an environment that is favorable for viral reproduction both within and outside of cells. They also regulate host immunity, including stress response, autophagy, apoptosis, and innate immunity.

**Conclusion:** Studies have shown that all of the SARS-CoV-2 accessory proteins play a substantial role in the processes of viral particle replication and immune evasion, suggesting these proteins candidates for the development of new antiviral drugs. Although there have been significant improvements, the development of antiviral drugs based on the SARS-CoV-2 protein structures remains a challenge for this research.

**Keywords:** Immune evasion, SARS-CoV-2, ORF, Accessory proteins

## Management of dead bodies: challenges after emerging corona virus

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### Abstract

### Introduction:

Morgue management and transmitting infection from bodies of death persons with suspected or confirmed COVID-19 is still challenging issue and global question. This study was conducted to assess literature about morgue managing of infectious patients.

### Methods:

In this review, through December 2019 to October 2021 electronic databases were searched in MEDLINE (PubMed, Scopus, Web of Science, Cochrane Library, Embassy and Google Scholar) for the following key words: morgue, corpse, dead management, COVID-19 and coronavirus.

### Results:

After comprehensive search, included 14 peer-reviewed papers that met inclusion criteria. This systematic review was performed based on Preferred Reporting Items for the Systematic reviews and Meta-Analysis protocol (PRISMA) ([www.prisma-statement.org](http://www.prisma-statement.org)). Finally, of 237 selected papers, 14 papers and guidelines were included in the final analysis. The thematic analyses revealed 8 major categories of morgue management and burial, such as Awareness of routes COVID-19 transmission, contingency planning requirements, preparation team member (multidisciplinary team), decontamination, personal protective equipment, education and training, family organization, ethical issues, as well as planning barriers and challenges for morgue management.

### Conclusion:

Based on the result of studies and guidelines, we understanding that COVID-19 transmission from dead bodies to health care and handling staff with standard precautions are unlikely. But some issues related to morgue management such as religious ceremonies and burials, gather people for burial and psychological problems of the families of the dead due to not seeing and touch the body of the deceased COVID-19 case, are very important.

**Keywords:** morgue, corpus, COVID-19, corona virus

## The effects and complications of covid-19 in the nervous system

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### Abstract

Covid-19 can affect different parts of the body. So that different parts of the nervous system including brain tissue and cerebrospinal fluid are involved during this disease and various neurological manifestations appear. The purpose of this review study is to investigate the effects and complications of covid-19 in the nervous system.

### Method:

This review was conducted in 1401. Pubmed, Google scholar and Scopus databases were searched using the keywords nervous system, corona virus and covid-19. Articles that were published between 1990 and 2022 were extracted. These articles were first checked in terms of the relevance of the title and abstract, then the full text of the selected articles was studied and after extracting the required information, this information was reported in the present study.

### Findings:

A total of 50 articles were collected in this study. By removing irrelevant articles, finally 32 articles were examined. By invading the human nervous system, the corona virus can cause a range of neurological changes and complications, including impaired consciousness, anxiety, depression, acute cerebral-menstrual disease, acute cerebrovascular events, stroke, and viral encephalitis. Taste and smell disorders and anosmia (due to olfactory epithelial damage by the respective virus) are among the most common sudden neurological symptoms of Covid-19, which are related to the involvement of the peripheral nervous system. There have also been reports of a possible relationship between coronaviruses and demyelinating disorders, including MS.

### Conclusion:

From the available data, it can be concluded that a wide range of neurological complications reported in connection with Covid-19 are caused by the direct effects of the virus on the nervous system, but these effects have not yet been fully determined and there is a need for more extensive research. Also, measures should be taken to solve the challenges in order to better identify this virus, so that neurological pathology symptoms can be detected earlier and therapeutic intervention can be done before irreversible damage.

**Keywords:** nervous system, corona virus, covid-19



## Comparison of stress, anxiety and depression in nurses working in inpatient wards of covid-19 patients with other nurses

Mohsen davarpanah<sup>1</sup> Zahra makyani<sup>2</sup> Mohammad Mehdi bahrami<sup>3</sup>

### Abstract

**Introduction and purpose:** Recently, the epidemic of the new corona virus disease (covid-19) has led to an increase in stress, anxiety and psychological disorders in the society, especially in the medical staff, and because healthcare workers, especially nurses, are the first line of dealing with this disease, need special attention. Among the nurses, the group who work in the inpatient centers of covid-19 patients are at greater risk, therefore this study is to compare the level of stress, anxiety and depression among nurses involved with covid-19 patients and others Nurses.

**Materials and methods:** In this descriptive-cross-sectional study, 120 nurses working in inpatient centers affiliated with Ahvaz social security organization participated in the spring of 1400. Entry criteria includes: having at least one year of work experience and at least one month working during the Covid-19 pandemic. Nurses with a history of mental illness and taking sedative drugs were excluded from the study. Data collection tools were demographic questionnaire and depression, anxiety and stress questionnaire (DASS-42). Also, in order to analyze data, SPSS-22 software and descriptive statistics methods and Kolmogorov Smirnov test and independent t test were used for inferential statistics.

**Findings:** The sample size of nurses dealing with covid-19 patients was 66 (55%) and other nurses were 54 (45%), of which 60% were women and 40% were men. The average scores of stress, anxiety and depression in nurses working in the covid ward are 27/2, 26/3 and 28/81, respectively, while these values are 15/3, 15/01 and 14/21 in other nurses. The results showed that stress, anxiety, and depression were more in nurses dealing with covid-19 patients compared to other nurses ( $P < 0.0001$ ).

**Discussion and conclusion:** Considering the important role of nurses, especially nurses working in centers and inpatient wards of covid-19 patients in improving the health of the community in the critical conditions of covid-19, it is suggested to support them mentally and emotionally and reduce anxiety, stress and depression, health policy makers should consider the necessary measures and plan to provide financial, spiritual and social support for this group.

## Comparison of stress, anxiety and depression in nurses working in inpatient wards of covid-19 patients with other nurses

Mohsen davarpanah<sup>1</sup> Somayeh mirzavand <sup>2</sup>Zahra makyani<sup>3</sup> Mohammad Mehdi bahrami<sup>4</sup>

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## Investigating the process of prehospital emergency missions in Mashhad before and after COVID-19

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### Abstract

#### Background

In February 2020, Iran faced the first suspected cases of covid-19, and since then, the number of cases has increased rapidly. In the meantime, Emergency Medical Services and ambulance requests also changed and affected the number of emergency calls and missions. Therefore, as regards that few studies have been done on the effect of Covid 19 on prehospital emergency services in Mashhad, in this study, we will examine the number of requests and emergency ambulance calls before and after the epidemic.

**Objective:** The main purpose of this study is to compare the number of emergency missions of the prehospital emergency in Mashhad before and after covid-19. Also, our policies in epidemics, future incidents are determined based on it, and it determines the need of patients for emergency medical services in times of crisis so that we can have better planning in case of similar crises.

**Methods:** This study is descriptive and retrospective. Information was recorded in the emergency automation system affiliated with Mashhad University of Medical Sciences. We divided our study into two periods before covid-19, from February 2018 to January 2020. The period from February 2020 to January 2022 was used to identify the number of services provided.

**Results:** The results showed that before the epidemic, 53.2 % of these were men and 46.8 % were women and the mean age was  $45.2 \pm 22.5$ , but after the epidemic, 56.4% of these were men, and 43.6 % were women, and the mean age was  $45.20 \pm 21.5$ . The missions after the epidemic showed that the mean age of the patients was  $30.5 \pm 16.3$ . The number of missions related to respiratory problems increased by 40% and fever and infectious diseases by 32% after the epidemic. The odds ratio of mission with patients with symptoms and respiratory problems before covid-19(1.41-1.45, p-value=<0.0001) was 1.43 times compared after covid-19.

**Conclusion:** During the Covid-19 epidemic, the number of missions and emergency calls increased. The prehospital emergency department increased its operational capacity by changing its plans and approaches by increasing its response capacity and the number of staff and related training.

**Keywords:** Emergency Medical Services, Covid-19, Ambulances.

## Assessment of general health status of nurses during the COVID-19 pandemic

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**Background:** Globally, nurses provide intensive and protracted support to patient population, but knowledge about the impact of COVID-19 on these subjects is limited. This study aimed to determine physical and psychological states and explore the experiences of COVID-19 with nurses.

**Methods:** This cross-sectional study was conducted using Goldberg's General Health Questionnaire-12 (GHQ-12) and personnel information form, for 111 nurses, from COVID-19 treatment hospitals of Zahedan city, Iran between May and July 2020. Descriptive statistics were generated for numerical data. Approval was obtained from the Ethics Committee of Zahedan University of Medical Sciences in Zahedan, Iran (IR.ZAUMS.REC.1400.269).

**Results:** A total of 111 nurses (57 men and 54 women) with an average age of  $28.85 \pm 3.15$  were enrolled in the study. The results indicated that the mean GHQ-12 Scores of depression ( $15.58 \pm 3.02$ ), anxiety ( $10.21 \pm 1.93$ ), sleep disorder ( $4.42 \pm 0.84$ ) and physical symptoms ( $12.89 \pm 2.82$ ) in the nurses with more than 110 working hours per week were significantly higher than those who worked less than 110 hours per week in the Covid-19 department ( $p < 0.001$ ). We highlighted that nurses who experienced greater workload and shift work during the COVID-19 pandemic obtained significantly higher mean scores on the GHQ-12.

**Conclusions:** Results have highlighted the psychological impact, in terms of burnouts and anxiety disorders in our sample of nurses. As the pandemic has continued, it is important to consider the long-term impact on an already stretched workforce including the risk of developing psychological disorders. Future research and interventions are required to understand and improve the provision of psychological support for nursing personnel.

**Keywords:** COVID-19, General health, nurses, Iran.

## **Title: Designing and evaluating the educational program based on the Health Belief Model on the promotion of preventive behaviors against COVID-19 in women of reproductive age referring to comprehensive health service centers in Urmia**

Kajal yasamani\*, Alireza Didarloo, Hamidreza Farrokh Eslamlou , Hamidreza Khalkhali, Sima Ghorbanzadeh

**Background and Purpose:** Considering the lack of access to proven treatment against COVID-19 as a new viral disease that threatens public health, one of the important ways to deal with it is to adopt preventive behaviors. Since it is said that women can be role models and their participation in the prevention of diseases is very important, by exposing women to health issues, we can witness the model of correct education and promotion of a healthy way of life to the next generation. . Therefore, the present study was conducted with the aim of designing and evaluating an educational program based on the health belief model on promoting preventive behaviors against COVID-19 in women of reproductive age referring to comprehensive health service centers in Urmia.

**Materials and methods:** The present semi-experimental and controlled intervention study was conducted among 92 women of reproductive age who were selected by multi-stage cluster sampling method and divided into two intervention and control groups, in 1400 in Urmia. The data collection tool was a valid and reliable electronic researcher-made questionnaire consisting of four sections (demographic characteristics, knowledge, constructs of the health belief model and preventive behaviors) which were completed in three stages (before, immediately and one month after the intervention). Five 45-minute training sessions were held for the intervention group. Data were analyzed in SPSS software.

**Results:** Following the implementation of the educational intervention, in the intervention group compared to before the intervention and compared to the control group, the average scores of knowledge, preventive behaviors and structures of sensitivity, intensity, perceived benefits and self-efficacy and guide for action; There was a significant increase and a significant decrease in perceived barriers.

**Discussion:** Education based on the Health Belief Model, which includes the attitudes and opinions of women of reproductive age, can be useful and effective in promoting preventive behaviors against COVID-19.

**Keywords:** education, COVID-19, Health Belief Model, preventive behavior, women



## Assessment of risk factors for COVID-19 infection among health care workers

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**Background:** Understanding COVID-19 infection among health care workers (HCWs) and identifying the risk factors for adverse outcomes is important not only for characterizing virus transmission patterns, but also for preventing the future infection of HCWs and reducing secondary COVID-19 transmission in health care settings. The objective of this study was to identify risk factors for infection in health care workers exposed to COVID-19 patients.

**Methods:** This case-control study was conducted using a standardized questionnaire according to the WHO protocol, for 190 HCWs from COVID-19 treatment hospitals of Zahedan city, in east Iran. 95 HCWs with confirmed positive PCR test were recruited as cases and 95 HCWs in the same hospital with negative PCR test were recruited as controls. All participants were asked to complete a questionnaire on risk factors for COVID-19 infection. Approval was obtained from the Ethics Committee of Zahedan University of Medical Sciences in Zahedan, Iran (IR.ZAUMS.REC.1400.232).

**Results:** The case group consisted 80 males and 15 females (aged  $27.85 \pm 2.96$  years) and the control group consisted 79 males and 16 females (aged  $27.09 \pm 2.52$  years). Among our participants, 95% were nurses and 5% were medical doctors. There was no significant difference in mean of age, gender and smoking habit between the two groups ( $p > 0.05$ ). In the control HCWs group, the training levels on Infection Prevention and Control (IPC) for COVID-19 (92.6% vs. 83.2%), the use of personal protective equipment (84% vs. 67%) (PPE includes; mask, respirator, gloves, gown and shoe cover) and proper hand hygiene after contact (98.9% vs. 71%) were significantly higher than the case HCWs group ( $p < 0.001$ ). However, there was no significant difference between the groups regarding the levels of physical distance and close contact with the surfaces around the patient.

**Conclusions:** The results of this study can help risk assessments of COVID-19 IPC measures among healthcare workers, with the aim of limiting onward transmission.

**Keywords:** COVID-19, PPE, Health care workers, Iran



## Association Between Expression of Zbp1, Aim2, And Mda5 Genes and Severity of COVID-19

nasir arefinia , Amin Ramezani , Mehrdad Farokhnia , Ramin yaghobi , Jamal Sarvari\*

Antiviral and inflammatory responses following the detection of the virus genome by nucleic acid sensors play a vital role in the pathogenesis and outcome of diseases. In this study, we investigated the ZBP1, AIM2, and MDA5 expression levels in COVID-19 patients with different intensities of the disease. 75 quantitative Real-Time PCR (qRT-PCR)-confirmed COVID-19 patients were included consecutively and divided into 3 groups of mild, severe, and critical based on the severity of the disease. Also, 25 healthy volunteer subjects were included. PBMCs were collected from the whole blood, and RNA was extracted using commercial kit. The expression of ZBP1, AIM2, and MDA5 genes was investigated using qRT-PCR technique. The mean age of the patients and healthy volunteers was  $52.73 \pm 13.78$  and  $49.120 \pm 12.490$ , respectively. In each group, 13 out of 25 participants were male. The expression levels of ZBP1 ( $P=0.001$ ), AIM2 ( $P=0.001$ ), and MDA5 ( $P=0.003$ ) transcript were significantly higher in COVID-19 patients than the control group. The results also revealed that the expression levels of ZBP1, AIM2, and MDA5 were significantly higher in the critical and severe COVID-19 patients compared to those with mild disease ( $P<0.05$ ). Moreover, regarding the gender, the expression levels of AIM2 and MDA5 were significantly elevated in male severe ( $P=0.04$  and  $P=0.003$ , respectively) and critical ( $P=0.005$  and  $P=0.0004$ , respectively) patients than the female ones. The results indicated that ZBP1, AIM2, and MDA5 genes might have an important role in the severity of COVID-19 disease. Moreover, the severity of COVID-19 disease in male and female patients might be related to AIM2, and MDA5 expression levels. More studies are recommended to be conducted to clarify this issue.



## A comprehensive narrative review of the cutaneous manifestations associated with COVID-19

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The systemic and respiratory clinical manifestations of coronavirus disease 2019 (COVID-19) include fever, coughing, sneezing, sore throat, rhinitis, dyspnea, chest pain, malaise, fatigue, anorexia and headache. Moreover, cutaneous manifestations have been reported in 0.2% to 20.4% of cases. Early diagnosis of COVID-19 leads to a better prognosis; knowledge of its cutaneous manifestations is one way that may help fulfil this goal. In this review, PubMed and Medline were searched with the terms “dermatology”, “skin” and “cutaneous”, each in combination with “SARS-CoV-2” or “COVID-19”. All articles, including original articles, case reports, case series and review articles published from the emergence of the disease to the time of submission, were included. In this comprehensive narrative review, we tried to provide an analysis of the cutaneous manifestations associated with COVID-19, including maculopapular rash, urticaria, Chilblain-like, vesicular lesions, livedo reticularis and petechiae in asymptomatic/ symptomatic COVID-19 patients that might be the first complication of infection after respiratory symptoms. Immune dysregulation, cytokine storms, side effects of antiviral drugs, environmental conditions and high-dose intravenous immunoglobulin (IVIG) therapy might be involved in the pathogenesis of the cutaneous manifestations in COVID-19 patients. Therefore, knowledge of cutaneous COVID-19 manifestations might be vital in achieving a quick diagnosis in some COVID-19 patients, which would help control the pandemic. Further research is very much warranted to clarify this issue.

## Association of IFITM1 Promoter Methylation with severity of SARS CoV-2 infection

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### Abstract:

**Background:** During viral infections such as SARS-CoV-2, epigenetic changes in the promoter region of the immune system genes might occur and affect the immune system response as well as disease outcome.

**Aim:** We aimed to evaluate and compare the methylation level of the *IFITM1* gene promoter in different stages of COVID-19 disease with a healthy control group.

**Materials and Methods:** In this cross-sectional study, 75 COVID-19 patients (25 mild, 25 severe, and 25 critical as well as 25 age- and gender-matched healthy volunteers) were included. DNA was extracted from the peripheral white blood cells using commercial DNA extraction kit. PCR was performed using two types of primers designed for methylated and un-methylated form of the *IFITM1* gene promoter.

**Results:** The mean age of the patients and healthy volunteer were  $52.733 \pm 13.780$  and  $49.120 \pm 12.490$ , respectively. Out of 100 participants, 52 were male. The results showed that severe ( $P = 0.03$ , OR 6.729) and critical ( $P = 0.001$ , OR 11.156) patients were more likely to perform the methylation of the *IFITM1* gene in comparison with mild patients. Moreover, *IFITM1* methylation was significantly higher in COVID-19 patients in comparison with the healthy volunteer group ( $P = 0.004$ , OR 3.17). Furthermore, *IFITM1* methylation in male critical patients ( $P = 0.01$ ) was significantly higher than male mild patients. In addition, *IFITM1* methylation of male ( $P = 0.03$ ) and female ( $P = 0.01$ ) critical patients was significantly higher compared to males and females in the healthy volunteer group.

**Conclusion:** Increased methylation of the *IFITM1* gene in severe and critical stage of COVID-19 diseases may indicate the role of SARS-CoV-2 infection in increasing methylation of this antiviral gene. This might be involved in suppressing the immune system, promoting SARS-CoV-2 replication and disease outcome.

## Investigating the Relationship between Job Stress and Job Performance among Nurses Facing Covid-19 Virus in Zahedan Teaching Hospitals In 2021

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### Introduction

Coronavirus is an infection disease with respiratory symptoms and it is a virus that can be transmitted between humans as a mutated virus. Coronavirus-19 disease can lead to stress and anxiety among hospital staff. At present, one of the most important factors affected the occupational performance of the treatment staff and their ability to perform the overshadowed tasks effectively is Covid-19 disease. Therefore, this study was conducted to investigate the relationship between job stress and job performance of nurses in the covid-19 epidemic from the perspective of nurses in Zahedan teaching hospitals in 2021.

### Materials and Methods

This descriptive-analytical study was performed by available sampling method. Data were obtained using forms collected during three months in the inpatient ward of covid-19 in Zahedan teaching hospitals. The research samples were 235 nurses working in different wards of the hospital participated in this study and answered the three-part questionnaire containing demographic and job information, stress resulted by covid-19 and job performance. The collected data were statistically analyzed using SPSS software, version 20. There were used the descriptive and analytical statistics including frequency, mean, standard deviation and t test.

### Results

Most of the participants in this study were women (68%) under the age of 30 (59.4%). There is a significant relationship between the effect of Covid-19 on job stress and job performance. Thus, the effect of Covid-19 on job stress is direct, i.e. with the greater effect of Covid-19, the amount of stress increases by 39% (  $p = 0.00$ ,  $r = 0.39$ ). The effect of Covid-19 on the job performance was inversely so that with increasing the effect of Covid-19, job performance decreased by -20% ( $-r = 0.20$ ,  $p = 0.01$ ). The findings showed there is a significant relationship between stress resulted by Covid-19 and the job performance.

### Discussion

The level of stress in nurses working in Covid-19-related wards in Zahedan teaching hospitals is moderate. It seems that paying attention to nurses' education to deal with critical situations similar to Covid-19 and increasing personal protective equipment can be effective in preventing nurses from developing stress and anxiety, and then their job performance will be improved.

**Keywords:** Nurses, Covid-19, Job stress, Job performance



## Quarterly survey of corona patients in corona special care department

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### Introduction

Corona virus is an infection with respiratory symptoms, and as a virus that can be transmitted between humans and animals, it has mutated and adapted in such a way that it provides the possibility of causing disease among humans. It seems that by taking advantage of the experiences gained in this period, we will see more success, less deaths and losses, and more coherent management. Therefore, this study aims to investigate the three months of deceased patients with Corona in the special care department of Corona. , was conducted in Zahedan Hospital in 1999 to investigate the danger signs and underlying diseases.

### Materials and Methods

This study was conducted with the available sampling method and using forms collected in 3 months in the special care department of Corona in ali ebne abitaleb Zahedan Hospital and examining deceased patients with Corona in this department and after It was analyzed using SPSS version 20 software, and descriptive and analytical statistical analysis including frequency, mean, standard deviation and t-test was performed.

### Results

In this study, the average age, weight, spo2, RR, HR were respectively 59.53 - 74.09 - 74.07 - 28.48 - 92.16, the minimum and maximum systolic blood pressure was 80 and 140, and in the case of diastolic blood pressure It was 50 and 82. Also, the average hospitalization time until death of patients with corona in men and women was  $8.38 \pm 9.34$  and  $5.26 \pm 5.96$ , respectively, and a statistically significant difference was observed based on the t test ( $p$  value  $\leq 0.001$ ).

In this study, the average hospitalization time until death of patients with corona in men and women was  $8.38 \pm 9.34$  and  $5.26 \pm 5.96$ , respectively, which shows that women will have less resistance in dealing with this disease after contracting it. The characteristics of the corona virus, the impact of this deadly virus is more severe than what the experts estimated.

### Discussion

In this study, the average age was 59.5 years, which shows the vulnerability of elderly people with weak immune system, that the elderly population and people with weak immune system and heart diseases, diabetes or other chronic diseases are more serious to this virus. d They are more sensitive, so they must follow all precautionary and preventive measures carefully, because these people will be more susceptible to corona disease with more severe complications



## **An overview of the conceptual themes of the reports of the national crown headquarters: lexical association and communication strategies based on critical discourse analysis**

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### **Abstract**

**Background and purpose:** After the corona disease was declared an epidemic (pandemic). Top officials of the global health system, including Iran's health minister, informed the public about the results of the effort and medical and health measures through the media. This study aimed to analyze media coverage of the Iranian Health Minister on COVID-19 in the form of a qualitative study focusing on vocabulary, discourse and communication strategies.

**Materials and Methods:** This research is a chronological summary of news reports published on the Mare News Agency website during the period from December 20, 2018 to the end of the third wave of COVID-19 (February 1, 2019) in the same format. It is extracted. Collected in the form of 316 news reports (155,800 words). Next, the frequencies of related and commonly used words in the speech text were checked against the context of the speech. Themes were identified in six steps using the Clark and Brown (2013) model. Exploring data, coding, discovering themes, reviewing themes, introducing and naming themes, and finally creating summaries and final analyses.

**Findings:** The concepts were extracted into nine categories: Describing the Ministry of Health's mandate, assigning mandates to the people, Uniting the power of the people, creating hope in the audience, Emphasizing the foundations of beliefs, Methods of virtual education. description, using metaphors. Express your international side and use emotional tools.

**Conclusion:** The concepts show the efforts of the National Corona Center to understand the problem, win cooperation and unite people to combat the spread of the disease.

**Keywords:** Covid-19, news reports, Iran, conceptual themes, communication strategies





## The impact of the COVID-19 pandemic on medical tourism in Iran: an interrupted time series analysis

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**Background and Aim:** Medical tourism refers to travel to receive health services abroad. The COVID-19 crisis affected a wide range of tourism-related businesses, including medical tourism, and caused a decrease in the supply and demand of health services in this market. This study aimed to investigate the impact of the COVID-19 pandemic on medical tourism in Iran.

**Materials and methods:** This cross-sectional study was conducted in Iran in 2021. The data used in this study were extracted from the information system of the Ministry of Health from 2018 to 2021, which includes the number, origin, and destination of medical tourists, per capita revenue, and monthly revenue two years before and one and a half years after the COVID-19 pandemic. For data analysis, t-tests of independent groups and interrupted time series regression were used in SPSS 26 and EViews 10 software.

**Results:** The number of medical tourists, monthly revenue, and per capita revenue of each medical tourist decreased significantly due to the COVID-19 pandemic ( $p < 0.05$ ). The arrival of medical tourists from the Republic of Azerbaijan, Bahrain, Iraq, and Oman has decreased by more than 80%, and the largest decrease in the number of tourists has been related to Ahvaz, Urmia, Tabriz, and Shiraz. In all diagnostic groups except obstetrics and gynecology, there has been a decrease between 50 to 70 %. The declining trend of medical tourism indicators stopped in the second year of the Covid-19 pandemic and has continued as a constant trend.

**Conclusion:** The COVID-19 crisis has hurt the number of international patients and their revenue in Iran. Relative success in controlling COVID-19 can return to a pre-pandemic situation that requires appropriate policies and administrative measures by government and industry players, such as policies to facilitate patient entry, marketing measures, branding and creating a positive image of the country to potential clients, use of telemedicine facilities for consultations and follow-up, etc.

**Keywords:** COVID-19, Tourism, Medical Tourism, Trend Analysis



## The potential application of electrochemical biosensors as a future diagnostic approach for COVID-19: systematic review

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**Introduction:** Biosensors are important devices in clinical diagnostics and environmental monitoring for detecting various analytes, especially viruses. These biosensors provide rapid and effective instruments for qualitative and quantitative detection of infectious diseases in real-time. During the COVID-19 pandemic, electrochemical platforms have shown the potential to address significant limitations of conventional diagnostic platforms.

**Method:** this study was a review study that conducted by using PubMed and Google Scholar databases by using keywords of Covid-19, Biosensors, Electrochemical Biosensor and their Persian equivalents. Finally 22 out of 346 results up to 2023 were examined in detail.

**Results:** the findings showed that Biosensor technology is one of the most promising approaches to solving the problems of low sensitivity and high cost in clinical diagnosis. It consists of two important components: the biological part reacting with the target material and the detection signal generation. Electrochemical biosensors are based on electrochemical analysis to convert the chemical quantity of the analyte to be measured into an electrical quantity to achieve the monitoring of the target analyte. Electrochemical biosensors can be divided into enzyme electrode biosensors, microbial electrode biosensors, electrochemical immunosensors, and electrochemical nucleic acid biosensors. Primary biosensors that commonly used to detect viruses are immunosensors and nucleic acid biosensors.

**Discussion:** Although there have been tremendous methodological breakthroughs in detecting viruses by electrochemical biosensors, it cannot be denied that these efforts have been mainly investigated and discussed at the scientific level and have not presented an undeniable commercial value because there are still challenges facing the current electrochemical biosensors in virus detection.

**Keywords:** biosensor; COVID-19; electrochemical sensor

## Trying to Control the Situation: A Theory of Iranian Midwives' Experiences of the Coping Process with their Professional Roles Following COVID-19

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**Background:** Midwives are at the frontlines of the fight against the Coronavirus Disease

(COVID-19) pandemic. Working under these circumstances threatens their lives and that of their family members; midwives' adjustment to work increases their efficiency in providing care services to pregnant mothers, but midwives' coping process is ambiguous and complex. Thus, the aim of this study was to explore the coping process of midwives with their professional roles following COVID-19.

**Materials and Methods:** This study was conducted using grounded theory during 2020 to 2021. For this purpose, 30 midwives were purposively and theoretically selected from two educational hospitals and health centers in Mashhad and Torbat Heydarieh cities, Iran. The data were collected using in-depth semi-structured interviews. The collected data were analyzed using the Strauss and Corbin method (2008) in MAXQDA software.

**Results:** The main concern of the participants was "perception of the threats to their health" and the core category revealed from the data was "trying to control the situation." Midwives coped with the COVID-19 pandemic in four steps, namely early initial confrontation, reaction to the COVID-19 pandemic, management of challenges, and reconstructing. Support from family and the health system and religious belief were the interventional conditions in this theory. **Conclusions:** Results of this study can be used to provide health managers with a better understanding of the conditions affecting the coping strategies of midwives with their professional roles during COVID-19. Therefore, this study provides the required data for developing an effective intervention to help nurse midwives to cope with this issue.

**Keywords:** COVID-19, grounded theory, nurse midwives, Professional role



## COVID-19 vaccines efficacy in different races and ethnicities: A systematic review

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Vaccine uptake amongst ethnic minority populations has been persistently lower which may be due to socioeconomic factors such as health literacy, health insurance status, mobility, and social marginalization. This review aimed to assess to what extent covid-19 clinical trials have considered the impact of race and ethnicity on covid-19 vaccine safety and efficacy.

Data regarding ethnicity in covid-19 vaccine clinical trials was systematically reviewed according to prisma guidelines in this systematic review until june 2021. Pubmed, scopus, and web of science were used to conduct systematic article searches. Out of a total of 356 identified studies, 11 were included after considering both inclusion and exclusion criteria. The total population included in the 11 studies was 90,095, of which 85% were of a caucasian ethnicity. The efficacy of the mrna-1273 vaccine was confirmed to be 95% in caucasians and 97.5 percent in 'people of color'. Bnt162b2 mrna vaccine efficacy was reported to be 95.2 percent in caucasians, 100 percent in afro-caribbean or african americans, 94.2 percent in hispanic or latinx, and 95.4 percent in non-hispanic, non-latinx people.

Our results indicate that ethnic minority participation in clinical trials is reduced. Various reasons have been postulated to account for this phenomenon such as language barriers, health illiteracy, mistrust of research, stigma, cultural factors, and loss of earnings in deprived populations.

It is evident that several covid-19 vaccine clinical trials have not considered the impact of ethnicity on the safety and efficacy of covid-19 vaccines, in concordance with the surrounding literature. Given the highly differing effect of covid-19 upon the afro-caribbean, hispanic and south asian populations, it is imperative for covid-19 vaccine clinical trials to thoroughly assess the safety and efficacy of vaccines in different ethnicities, and if necessary, develop ethnicity-specific protocols which can minimize the disproportionate effect of covid-19 on ethnic minority populations.

## Epidemiological, clinical, and demographic features of COVID-19 deaths in Behbahan city in 2019-2021

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### Abstract

**Background:** Despite the extensive studies that have been done on various aspects of Covid-19 disease, there are still many ambiguities about it. The aim of this study was to determine the epidemiological, clinical, and demographic features of COVID-19 deaths in Behbahan county in 2019-2021.

**Methods:** In the present cross-sectional study, 437 PCR-confirmed covid-19 infected patients who died from the infection in all hospitals of Behbahan were analyzed. We used a questionnaire including data about the demographic, epidemiologic, and clinical of each patient, and finally, all the results were surveyed by the SPSS 21 software.

**Results:** Out of total cases, 61 % and 39% were men and women respectively. The highest mortality rate was among those aged 61 to 70 years (27%), and the lowest number was among children and adolescents below 20 years old. There are three main risk factors, including diabetes (28% cases), cardiovascular diseases (25% cases), and blood pressure (17% cases), that contributed to the death in these groups. It is worth noting that the highest mortality rate occurred in July 2021.

**Conclusion:** There was a meaningful correlation between the age of the patients and at least one chronic disease history and the mortality rate in infected patients. For this reason, it is crucial to implement pre-caution procedures to reduce the number of deaths among infected people. So, the results of the present study can depict a better picture of the patient's condition in Behbahan county and increase insight into future approaches.

**Keywords:** Epidemiological features, Demographic features, Clinical features, COVID-19, Coronavirus, Behbahan.

## Association of *TMPRSS2* gene polymorphisms with COVID-19 susceptibility and severity: A case-control study with computational analyses

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### ABSTRACT

Coronavirus disease 2019 (COVID-19) is a severe disease caused by a new variant of beta-coronavirus that first appeared in China. Human genetic factors, including polymorphisms, serve pivotal roles in the high transmission of SARS-CoV-2 and the stubbornly progressing sickness seen in a small but significant percentage of infected people, but these factors remain ill-defined. 288 COVID-19 patients and 288 controls were genotyped for *TMPRSS2* polymorphisms with the tetra-amplification refractory mutation system polymerase chain reaction method. Different genotypes of *TMPRSS2* were compared regarding the disease susceptibility and mortality. The statistical analysis showed that minor alleles of all studied variants could statistically increase the risk of COVID-19 except rs75603675C>A, the T allele of rs12329760 had more risk for the COVID-19, among others AG/AC/TT/AG combined genotype significantly enhanced the risk of COVID-19 in our population GATG haplotypes were more associated haplotype to the risk of COVID-19. Regarding the clinical and paraclinical characters, a statistically significant difference was found between non-severe and severe forms except for gender, platelet, C-reactive protein (CRP), erythrocyte sedimentation rate (ESR), and underlying diseases. In addition, case genotypes of *TMPRSS2* rs17854725 A>G, rs12329760 C>T, rs4303795 A>G had a statistically significant difference regarding severe and non-severe form with  $P<0.001$ . Specifically, death was more frequent in the AG genotype of rs17854725 ( $P=0.022$ ). Patients who carry the minor alleles of all studied *TMPRSS2* variants are rather vulnerable to COVID-19 infection. Our findings indicated that rs17854725 A>G (AA vs. AG and AA vs. GG), rs12329760 C>T (CC vs. CT and CC vs. TT), rs4303795 A>G (AA vs. AG), genotypes of *TMPRSS2* are associated with a more invasive disorder pattern.

**KEYWORDS:** COVID-19; SARS-CoV-2; Polymorphism; *TMPRSS2*; Respiratory distress