



ABSTRACT BOOK

East Asian Medical Students' Conference (EAMSC) 2022





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(ISSN: 2226-3403)

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The Journal of Asian Medical Students' Association (JAMSA) (ISN 2226-3403) is an international, online open-access, peerreviewed, student-led biomedical research journal of the Asian Medical Students' International Association (AMSA International). Established in 2011, JAMSA published its first issue in the year 2012. It is currently indexed in Ulrichsweb, Google Scholar, Index Copernicus, Gale Cengage Learning, ROAD (Directory of Open Access Resources) Indexing, BASE Scholarly (Bielefeld Academic Search Engine) and Genamics Journal Seek. JAMSA's vision is to bring international recognition to the research work of young researchers, including but not limited to the member countries of AMSA International, without having them to pay for hefty publication costs. JAMSA welcomes all forms of scientific articles including original research articles, review (systematic as well as narrative), metaanalyses, case reports, letters to the editor, commentaries, perspectives, etc., related to medicine, public health and biomedical sciences.

Over the past 35 years, AMSA International has thrived and developed into a diverse and esteemed medical student organisation, representing and connecting medical students spanning Asia-Pacific, Oceania, The Kingdoms and beyond. AMSA United International, with its vision of Knowledge, Action and Friendship, encourages young and budding researchers who are beginning their careers in the medical and scientific fields to publish their research work in JAMSA. JAMSA being an indexed journal free of any publication cost is making its way into the ever-expanding world of scientific research. AMSA International provides JAMSA with an array of methods to communicate with its 27 member chapters worldwide.

TABLE OF CONTENTS

COVER PAGE	1
ABOUT JAMSA AND EDITORIAL BOARD	2
TABLE OF CONTENTS	3
ABOUT EAMSC AND FOREWORD FROM ORGANISING COMMITTEE	5
FOREWORD - OSHIN PURI	6

PAPER COMPETITIONS:

- Application of Traditional Chinese Herbal Medicine on the Prevention of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2)
- Health utilization dynamics for the leading causes of inpatient and 10
 ambulatory care in Mongolia; COVID-19 indirect effects and beyond
- School Reopening during COVID-19 Pandemic: Is It Safe? A Systematic 12 Review
- Prognostic Value of Early Stage Biomarkers on COVID-19 Severity: A 14 Systematic Review and Meta-Analysis
- Insights from the Paralympic Experience on COVID-19 Infection Control 16
 Measures for People with Disabilities
- Diabetes Mellitus Control and Care in the COVID-19 Pandemic Quarantine ¹⁸
 in Mongolia: Retrospective Study
- Development of immunoinformatics program for amino acid sequence 20 alignment and linear B cell epitope prediction based on spike proteins of SARS-CoV-2
- Addressing Factors Associated with Public Compliance Towards 22 Quarantine Measurements as A Breakthrough Way Fighting Covid-19 Pandemic: A Meta-analysis
- Efficacy and Safety of COVID-19 Vaccines for Patients with Solid Cancer: A 24 Systematic Review and Meta-Analysis
- Self-Medication Practices for the Prevention and Treatment of COVID-19 26
 among Undergraduate Medical Students

TABLE OF CONTENTS

POSTER PRESENTATIONS:

•	Respiratory Rate and Systolic Blood Pressure on Hospital Admission as	29
	Prognostic Factor in COVID-19: A Systematic Review and Meta-Analysis	
•	Possible Correlations between Social Media, Search Engines and the Covid-	31
	19 Pandemic	
•	Traditional Mongolian Mana-4, Norov-7 Medicine Used in the Treatment of	33
	COVID-19 Infection: A Comparative Study	
•	Effectiveness of Digital Handwashing Intervention as a Breakthrough to	35
	Control COVID-19 and Transmissible Disease Outbreaks: A Meta-Analysis of	
	Clinical Trials	
•	Effect of the COVID-19 Pandemic on Mental Health of Indian Medical	37
	Professionals & the Relevant Role of Health Communication	
•	Contact Tracing System in Taiwan During COVID-19	39

table of

FOREWORD

Dear Readers,

AMSA International is a peak representative organisation for medical students from across Asia, the Asia-Pacific and beyond. Standing on the three pillars of Knowledge, Action, and Friendship, AMSA International aims to nurture and give her members valuable experience outside of their medical student curricula. East Asian Medical Students' Conference (EAMSC) is one of the biannual flagship international conferences of AMSA International hosted by one of its chapters in the month of January each year.

Originally scheduled to be held in Egypt from January 4 – 9 2022, EAMSC 2022 was cancelled in light of the recent rise in cases from the new COVID-19 variant -Omicron. Pertaining to the persistent efforts of the delegates towards participating in the Academic Competition, four chapters namely AMSA Australia, AMSA India, AMSA Singapore and AMSA Thailand came together under the support and guidance of AMSA International to organise a one day program named as EAMSC 2022 Online Academic Competition.

Focusing around the theme of 'Outbreaks and Healthcare', this year's East Asian Medical Students Conference (EAMSC) Online Academic Competition aims in aiding towards the epidemiological response including but not limited to: Recent updates on outbreaks diagnosis, prognosis, and prevention control, Innovation and technological breakthroughs in tackling outbreaks, Sociodemographic issues relating to outbreaks, Involvement and optimisation of current healthcare systems in combating outbreaks.

The Organising Committee is beyond grateful to JAMSA for its meticulously detailed and persistent hard work in curating this abstract book for the EAMSC 2022 Online Academic Competition under the theme 'Outbreaks and Healthcare'. We hope that this abstract book serves as a source of inspiration for revolutionising research efforts in their journeys to become clinician-researchers of the future.

Viva AMSA! Happy Reading!

ORGANISING COMMITTEE EAMSC Online Academic Competition 2022

From Top right in clockwise Khushman Kaur Bulhar (RC, AMSA India) Reece Ansaar (VRCE, AMSA Australia) Chawisa Teansue (RC, AMSA Thailand **Beverly Chan (RC, AMSA Singapore)**





OSHIN PURI Chief Editor Journal of Asian Medical Students' Association 2021/2022 Dear Readers,

In our pursuit of providing a solid ground for an international, indexed, peer-reviewed, student-led biomedical journal in the regions of Asia, Asia-Pacific, Oceania, The United Kingdoms, and beyond, we now present to you the Book of Abstracts of the scientific papers and posters presented at the East Asian Medical Students' Conference (EAMSC) 2022 Online Academic Competitions.

The Journal of Asian Medical Students' Association (JAMSA) is beyond thrilled to blow your minds with the mind boggling research on "Outbreaks and Pandemics" conducted by students accross Asia and discussed at this year's EAMSC through this Abstract Book.

Resonating with AMSA International's vision to revolutionise student-led research by providing them a platform to gain international recognition for their contribution to the medical sciences, JAMSA was established in the year 2011, having published it's first issue in 2012 and completing a decade of scientific publishing this year. Since then, JAMSA has been growing exponentially and upholding its vision of revolutionizing student-led research by documenting their scientific writings.

JAMSA believes that research is one of the central pillars of the practise of medicine and gives it its dynamic nature. Representing medical students of one of the world's largest continent, AMSA must contribute to the growing field of medicine by supporting young and budding researchers to embark their journey on this road not taken. JAMSA strongly believes that the potential of these young, ignited, curious minds, with experienced guidance, can change medicine in a way others can't.

We wish that this abstract book can become a source of inspiration and make your critical thinking vou realize and problem-solving potential, encouraging you to contribute to this endless pool of medical knowledge. Along with becoming clinicians in the near future, may you all unleash the scientists within you and become the physicianscientists of tomorrow.

Viva AMSA! Happy Reading!

EAMSC 2022 ABSTRACT BOOK | 6





Application of Traditional Chinese Herbal Medicine on the Prevention of Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2)

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Introduction

Numerous disease outbreaks have been reported throughout history, causing unprecedented damage to our lives. Focusing on the most recent coronavirus disease-2019 (COVID-19) pandemic, scientists have been investigating viral mechanisms with the aim of developing effective prevention and antiviral treatments. As the spread quickens, an approach is needed to lower infection rates in order to minimize damage.

Objective

We aimed to evaluate the effectiveness of traditional Chinese medicine (TCM) herbs as Severe Acute Respiratory Syndrome Coronavirus-2 (SARS-CoV-2) prevention agent, and to open up more possibilities with regards to prevention and control.

Methods

We conducted experiments with 18 TCM herbs for prevention of COVID-19 infection. The SARS-CoV-2 main protease (Mpro) functional assay concentrated on how these herbs inhibit the Mpro in charge of virus replication. The viral pseudoparticle (Vpp) assay examined the activity of SARS-CoV-2 entry with the herbs infected with a pseudovirus. We also looked through various research studies and conducted a thorough analysis to strengthen our perspectives on its application.

Results

The experiments indicated that *Forsythia suspensa* (Lianqiao), *Salvia miltiorrhiza* (Danshen), and *Scutellaria baicalensis* (Huangqin) showed the greatest inhibition of the SARS-CoV-2 main protease, while *Scutellaria baicalensis* (Huangqin) and *Artemisia capillaris* (Mieninchen) expressed suppression of SARS-CoV-2 entry.

Conclusion

Altogether, we showed that several TCM herbs turned out to be effective in main protease targeting and SARS-CoV-2 Vpp inhibition. We concluded that some of those TCM herbs might be used to lower infection rates and prevent outbreaks. In terms of its application, while there are many aspects that need to be further investigated, the TCM herbs have shown their potential as preventive measures.

Keywords

Herbal medicine, Main protease, SARS-CoV-2, Traditional Chinese medicine, Viral pseudoparticles



Health utilization dynamics for the leading causes of inpatient and ambulatory care in Mongolia; COVID-19 indirect effects and beyond

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Introduction

In 2020, Mongolia was one of the first countries in the world to implement a comprehensive policy response to the COVID-19 pandemic, early and timely manner. A detailed study of these transitions is of paramount importance in developing recommendations to reduce disease burden and reduce mortality.

Objective

We aimed to investigate the epidemiological shifts observed in Mongolia for the leading causes of hospitalization and outpatient visits during the pandemic year, as observed by the health system across the country.

1.To study changes to inpatient and outpatient care of diseases observed in Mongolia in 2020, for interrupted time-series analyses 2019 as a baseline2.Assessing the community mobility and the incidence of other concomitant diseases, including injuries and poisoning in relevance to lockdown measures

Methods

Data analysis was based on nationwide epidemiological data gathered to the H-Info system of the Center for Health Development of Mongolia. The epidemiological transition and shifts of diseases and injuries of total patients who visited the Mongolian health care services in 2020 were studied using the R(2020/2019) rate, compared to 2019 by the series of interrupted time-series analyses.

Results

We found healthcare utilization (R>1) has increased as the growing number of stroke, uterine prolapse, and acute upper gastrointestinal complications cases. However, pulmonary arterial hypertension, congenital disorders, peptic ulcer, non-ST-Elevation myocardial infarction did not show remarkable change (R=1). The majority of the diseases including decompensated cirrhosis and other chronic liver diseases, all types of myocardial infarction indicated a decline. Surprisingly, lower and upper respiratory tract infections showed a remarkable decrease, which has been the leading cause for hospitalization (R<1). Regarding the comparison of before and after pandemic mobility rates with injury epidemiology, total cases of injury and trauma seem to be reduced, but the burn injury cases have increased.

Conclusion

We observed some positive epidemiological shifts observed during the pandemic year. Based on these, we need to implement further interventions to reduce the prevalence of morbidity and mortality, as well as preventive and mitigation-based policies for lower respiratory infections and injuries. Injuries and both lower and upper respiratory tract infections have declined in Mongolia but the increase of burn injury cases in February to March of 2020 might be due to the kindergartens and schools' closure.

Keywords

Mongolia, lockdown, outbreak, injury, burn



School Reopening during COVID-19 Pandemic: Is It Safe? A Systematic Review

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Introduction

School closures around the world during the COVID-19 pandemic has brought adverse impacts to students' learning processes. School reopening has been implemented in some regions, accompanied with health protocols. Strict implementation of health measures and policies are keys in preventing outbreaks in school settings. It is also necessary to identify precipitating factors in outbreaks to design the most effective health policies.

Objective

To review the most effective health policies to prevent outbreaks and to identify precipitating factors in outbreaks during school reopening.

Methods

Studies were collected from PubMed, ScienceDirect, Cochrane and ResearchGate from 2020-2021 and were selected based on the inclusion criteria. This systematic review was reported according to the PRISMA (Preferred Reporting Items for Systematic Review and Meta Analyses) flow diagram. Quality of studies were assessed using the JBI (Joanna-Briggs Institute) checklist.

Results

From 209 studies, 7 studies were eligible for qualitative analysis. Current health measures implemented during the school reopening are sufficient to maintain low attack rates. Student attack rates are lower compared to staff (0.03% vs 4.4%) and students in higher levels of education are more likely to have higher attack rates (kindergarten vs high school: 17.5% vs 33.5%). Some effective health measures are physical distancing, hand hygiene, use of masks, bubbles and a mandatory 14-day quarantine before entering schools. Young adults and staffs tend to have lower compliance to health measures, which results in higher attack rates. Precipitating factors identified are frequency of school attendance, parents' occupation as healthcare workers, older age, certain ethnic groups, and positive COVID-19 cases in households.

Conclusion

It is safe to reopen schools if proper health protocols are actualized, such as wearing masks, maintaining hand hygiene, physical distancing, and early restriction to attend school for suspects, while main precipitating factors are frequency of attendance, age, and parents' occupation.

Key Words

school, reopening, COVID-19, outbreak, transmission, health measures



Prognostic Value of Early Stage Biomarkers on COVID-19 Severity: A Systematic Review and Meta-Analysis

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Introduction

The surge in morbidity and mortality rates of COVID-19 is happening worldwide. Identifying COVID-19 earlystage prognostic factors is imperative as it could help in monitoring and preventing disease progression and severity.

Objective

To identify profile and variations of specific biomarkers to monitor the severity outcomes of COVID-19. Furthermore, this study is expected to help clinicians in identifying the probability of disease progression towards severe COVID-19 on admission.

Methods

This study was reported based on PRISMA criteria. The literature search was conducted in databases such as MEDLINE, Scopus, and ScienceDirect. RevMan 5.4 was used to provide pooled estimates for standardized mean differences with 95% confidence intervals. Random effect model was used based on heterogeneity level. Risk of Bias was assessed for each study using QUIPS tool.

Results

Fifty studies were included in the qualitative synthesis and twenty three from it were included in the quantitative meta-analysis. These studies consist of a total cohort size of 12,720, 2965 and 9755 for severe patients and non-severe patients respectively. Plasma suPAR (pooled SMD = 1.54, 95% CI = 0.85-2.22, p <0.0001), serum KL-6 (pooled SMD = 1.21, 95% CI = 0.85-1.57, p <0.00001), and SP-D (pooled SMD = 1.75, 95% CI = 0.79-2.70, p = 0.0003) were shown to have significantly high prognostic values for COVID-19 severity.

Conclusion

This study provides evidence that plasma suPAR, serum KL-6, and SP-D can be used as excellent early stage biomarkers for COVID-19 severity.

Keywords

COVID-19, Biomarker, Severity, Prognosis



Insights from the Paralympic Experience on COVID-19 Infection Control Measures for People with Disabilities

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Introduction

At the Tokyo Olympic Games, a measure called "bubble scheme" was taken for infection control, which focused on daily antigen testing, isolation, and avoidance of contact with the general public. At the Olympics, this infection control was considered to be effective, and the Paralympics followed the same approach.

Objective

In this study, we evaluated the effectiveness of the "bubble scheme" in COVID-19 control among the Paralympic Athletes. Based on the result, we discussed the importance of further support for people with disabilities.

Methods

We searched the the website of the Japan Broadcasting Corporation NHK and Tokyo Metropolitan Government and identified the number of infected athletes in Tokyo during the period from August 17 to September 5 and from July 13 to August 8, when the Tokyo 2020 Paralympic and Olympic Games athletes' village was opening. We analyzed the collected data descriptively.

Results

The infection rates in Tokyo during the Paralympic and Olympic Games were 0.54% and 0.48%, respectively, while the infection rates among athletes were 0.30% and 0.25%, respectively. In both cases, the infection rates among athletes were lower than those in Tokyo. The infection rate among athletes was about 1.2 times higher in the Paralympics than in the Olympics.

Conclusion

Our research revealed that the "bubble scheme" was effective to prevent the spread of COVID-19 among the athletes, suggesting that the same method should be adopted in future mass gathering events. However, the measure could not completely prevent infection, and the infection rate was higher among the Paralympic athletes compared to the Olympic athletes, suggesting the need for more bespoke measures toward people with disabilities such as improving ventilation, providing free at-home covid test kits, enhancing remote support from healthcare workers.

Keywords

Paralympic, COVID-19, people with disabilities, bubble scheme, Japan



Diabetes Mellitus Control and Care in the COVID-19 Pandemic Quarantine in Mongolia: Retrospective Study

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Introduction

Reduction in outpatient visits and laboratory testing during the Coronavirus Disease 2019 (COVID-19) pandemic has raised concerns about gaps in diabetes management and glycemic control.

Objective

To investigate the changes in the treatment and control of people with diabetes during the COVID-19 pandemic quarantine.

Methods

106 glycemic control patients from three districts of six general hospitals in Ulaanbaatar were randomly selected applicants, as and consent and questionnaires were obtained through telephone contact. The questionnaire was developed based on the "Diabetes Guidelines" issued by the Ministry of Health of Mongolia. These findings include average blood glucose (BG) of fasting BG, 2-h postprandial BG, and bedtime to assess diabetes control. The main evaluation indicators included drug supply, shortage, and adherence to self-management behaviors.

Results

In total, 72.7% of participants had Type 2 Diabetes Mellitus (T2DM) and 83.3% of them were poorly controlled. 81.5% of the Type 1 Diabetes Mellitus (T1DM) participants had inadequate glycemic control. We retrospectively estimated the glycemic control using their previous HbA1c results. It shows that 70% and 72% of them were adversely controlled before the isolation, although 79.7% of the respondents contacted their healthcare providers during the isolation period. All participants stopped treatment for an average of 50 ± 62.7 (p<0.05) days during the isolation period, 59% of which were due to drug supply and shortages, 41% due to isolation, thus had to postpone. The average BG level before isolation was 8.4±6.9 mmol/l, the highest was 19.6±10.2 mmol/l, and during the isolation period was 8.9±5.3 mmol/l, the highest was 19.6±10.8 mmol/l. The maximum value is 50 mmol/l.

Conclusion

The development of telemedicine as a healthcare service in Mongolia is necessary. We conclude that glycemic control among patients with diabetes mellitus during quarantine is substandard.

Keywords

Diabetes Mellitus, glycemic control, diabetes self management, lockdown effect



Development of immunoinformatics program for amino acid sequence alignment and linear B cell epitope prediction based on spike proteins of SARS-CoV-2

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Introduction & Objective

Corona Virus Disease 2019 (COVID-19) is caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2). With an advance in immunoinformatics, B-cell epitope prediction combining multiple tools has been previously shown to be an effective and accurate method to identify potential B-cell epitopes from the SARS-CoV-2 protein sequence which S could contribute to a better design of COVID-19 vaccine. However, extracting the potential peptides from each prediction tool as well as finalizing the putative B-cell epitopes are still time-consuming and labor-intensive. In this work, we thus aim to develop a program for a rapid and accurate prediction of B-cell epitopes by using SARS-CoV-2 as a test sequence.

Methods

To fill the gaps in B-cell epitope prediction combining multiple prediction tools, a new program can assemble the prediction results obtained from distinct tools and then generate potential B-cell epitopes. To run the program, a full-length sequence of the target protein and the prediction results obtained from B-cell epitope and coil structure prediction using BepiPred tool, and from predictions for accessibility, hydrophilicity, and antigenicity using the methods of Emini, Parker, and Kolaskar & Tongaonkar, respectively. The program runs in 2 phases. In phase I, peptides are extracted from each tool based on the input thresholds. In phase II, the program creates the final putative B-cell epitopes depending on the users' criteria.

Result

The program accuracy was analyzed by comparing the epitope identification outcomes of the wild-type SARS-CoV-2 spike protein which was previously identified. The program accuracy is 64%. The discrepancy may be due to personal experience considered when selecting the B-cell epitopes so as to obtain the most possible epitopes for further applications.

Conclusion

We provide a program with a solution addressing problems associated with B-cell epitope prediction using multiple tools and criteria for epitope identification, thus enabling a more rapid and accurate B-cell epitope prediction.

Keywords

B cell epitope prediction, epitope prediction, spike proteins, SARS-CoV-2, immunoinformatics



Addressing Factors Associated with Public Compliance Towards Quarantine Measurements as A Breakthrough Way Fighting Covid-19 Pandemic: A Meta-analysis

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Introduction

Quarantine strategy is implemented to prevent COVID-19 transmission and other infectious disease pandemic. Multiple concerns, such as economic, psychological, and social impacts have risen due to the policy which may lead to protocol violation, which is shown by low adherence to self-isolation.

Objective

To assess factors related to quarantine compliance in COVID-19 pandemic.

Methods

Systematic search through PubMed, Google Scholar, Cochrane, EBSCO, Medline, and Scopus, were done until November 11th 2021. Critical appraisal of included studies were performed using the JBI I (Joanna Briggs Institute) tools. We analyzed pooled Odds Ratio (OR) and its p-value using fixed effects models.

Results

Nine studies of 13,282 subjects were included in this review. Better compliance significantly was associated with unmodifiable factors, namely female sex (OR=1.26[95%CI:1.15-1.37],p<0.00001), single marital status (OR=0.79[95%CI:0.69-0.90],p=0.0006), elderly (OR=1.01[95%CI:1.01-1.02],p=0.002), and city residents (OR=1.19[95%CI:1.03-1.37],p=0.02), modifiable and factors including existing emergency regulations (OR=1.80[95%CI:1.49-2.17],p<0.00001), perception to families (OR=1.67[95% CI:1.25protect own 2.22,p=0.0004]), higher education degree

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Universitas Indonesia, Depok ayers.gilberth@ui.ac.id (OR=1.29[95%CI:1.10-1.52],p=0.002), trust in government (OR=1.44[95%CI:1.33-1.55],p<0.00001), and worry or distress over COVID-19 (OR=1.44[95%CI:1.34-1.56],p<0.00001). We recommend widening broadcast of quarantine regulations, ensuring consistent and trustworthy government policies with disease containment along with socioeconomic considerations, providing better education in efforts to reduce disease spread. Therefore, decreasing overloaded healthcare burdens and prepare the public not only during COVID-19 but also for future outbreaks.

Conclusion

Compliance toward quarantine orders are influenced by several modifiable and nonmodifiable factors. We hope that strategies to further increase people compliance toward quarantine may be formulated based on this comprehensive assessment.

Keywords

Factors Associated, Public Compliance, Quarantine, COVID-19 pandemic, Metaanalysis



Efficacy and Safety of COVID-19 Vaccines for Patients with Solid Cancer: A Systematic Review and Meta-Analysis

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Introduction

Cancer patients are among the very high-risk groups who are prioritized for COVID-19 vaccination. However, there is limited information about the COVID-19 vaccination in solid cancer patients and their immune responses to COVID-19 vaccines compared to the general population is not yet known. In this study, we compared the efficacy and safety of COVID-19 vaccines between solid cancer patients and general people through a systematic review and meta-analysis.

Methods

We searched five electronic databases on July 18, 2021. The inclusion criteria for a study were: i) solid cancer patients; ii) receiving at least one dose of COVID-19 vaccine; iii) reporting of anti-spike(S) IgG seropositivity rates (primary outcome) and other efficacy and safety outcomes; and iv) comparing the outcomes between solid cancer patients and general people or within solid cancer patients. We assessed the study quality and pooled the outcomes using relative risks (RRs) and 95% confidence intervals (95% CIs). This review included ten studies, seven for meta-analyses. Almost all participants received the BNT162b2 vaccine.

Results

In comparison to the controls' anti-S IgG seropositivity rates, those of solid cancer patients were significantly lower after the first vaccination (RR = 0.46, 95% CI 0.37 to 0.57) and slightly lower (RR = 0.94, 95% CI 0.91 to 0.96) after the second vaccination.

Conclusion

The BNTI62b2 vaccine is relatively safe for solid cancer patients. These patients may have a lower seropositivity rate after the first vaccination. However, the seropositivity rate increases considerably and is comparable to general people after the second vaccination.

Keywords

COVID-19 vaccine, efficacy, safety, solid cancer, systematic review, meta-analysis



Self-Medication Practices for the Prevention and Treatment of COVID-19 among Undergraduate Medical Students

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Introduction

As the COVID-19 pandemic continues, health care workers are still at an increased risk for infection. Medical students attending classes in person and interacting with probable infective patients may have led to an increase in preventive measures such as selfmedication. This study was conducted to:

- assess knowledge and practices towards selfmedication in regard to the COVID-19 pandemic in undergraduate medical students
- assess protective measures followed for prevention of the spread of COVID-19 in medical students in a tertiary care hospital in South India.

Methods

An online survey-based cross-sectional study was conducted in the undergraduate medical student population of a tertiary care hospital in South India. Data from students from 1st year to Internship of the medical college was collected through Google Forms. Statistical Analysis was done using Google Sheets.

Results

Out of 326 students (209 female, 117 male). 29.8% stated that they had self-medicated for prevention or treatment of COVID-19, the most common drugs being taken were 'over the counter' supplementary medicines such as Vitamin C and Zinc tablets. 21.3% of individuals being treated for COVID-19 admitted to self-medicating, the commonest reason for self-medicating being easy access to medication.

Conclusion

Although medical students have the knowledge and are aware of the risks associated with Self Medication, the practice is prevalent for the prevention and treatment of COVID-19. Based on the results, it can be noted that apart from self-medication, many measures are being implemented to prevent infection.

Keywords

Self-medication, COVID-19, medical students

POSTER COMPETITION



POSTER COMPETITIONS

Respiratory Rate and Systolic Blood Pressure on Hospital Admission as Prognostic Factor in COVID-19: A Systematic Review and Meta-Analysis

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Introduction

From December 2019 to September 10, 2021, More than 223 million people have been infected with COVID-19, resulting in more than 223 million 4.6 million deaths. The mortality rate is high in certain groups and particularly high in the absence of proven effective standard management measures. The use of a simple and accurate predictor for COVID-19 prognosis will be beneficial for the clinical management of patients. Therefore, we perform this systematic review and meta-analysis to reveal the association of specific clinical characteristics, that is respiratory rate (RR) and systolic blood pressure (SBP) on the first admission, with the COVID-19 severity.

Objective

To reveal the association of RR and SBP on first admission, with the COVID-19 severity.

Methods

We performed a systematic search in PubMed, ScienceDirect, and ProQuest for studies reporting clinical characteristics of mild and severe COVID-19 case. Included studies were evaluated for risk of bias based on Newcastle Ottawa Score. A meta-analysis was conducted using the data extracted from each study. Review Manager (RevMan) 5.4 was utilized to compute the summary of mean difference (MD) and 95% confidence intervals (CI) for the outcome.

Results:

We included 6 studies involving 1,265 patients (severe

cases=348 and mild cases=917), conducted in China, with several different outcomes. We found that increased RR (MD: 1.59; 95% CI: 0.31, 2.88; p<0.00001; I2= 86%) and increased SBP (MD: 5.27; 95% CI: 1.14, 9.40; p= 0.23; I2= 28%) and composite of both (MD: 2.09; 95% CI: 0.81, 3.38; p= 0.10; I2= 64.0%) were associated with severe COVID-19.

Conclusion

RR and SBP associated with the severity of COVID-19. Therefore, this clinical findings could be a prognostic factor of severe COVID-19 case among all the clinical manifestation. Longitudinal studies may reveal more long-term impacts of SARS-CoV-2 infection along the association of it's clinical manifestation.

Keywords

COVID-19; Severity; Respiratory rate; Systolic blood pressure



POSTER COMPETITIONS

Possible Correlations between Social Media, Search Engines and the Covid-19 Pandemic

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Introduction

Since December 2019, coronavirus has been raging around the world. It can be assumed that most people rely on internet technologies to get or share information about the Covid-19 pandemic. The information spreading can strongly influence people's behavior and responses to the countermeasures deployed by governments.

Objective

The study investigates the implications of trends in the keyword search and possible factors of internet users' preferences regarding pandemic-related information sources.

Method

First, Google Trends was used to analyze the trends in searching Covid-19-related topics. The results from Taiwan, the USA, and worldwide were compared. Current events, updates on confirmed cases, and daily vaccinations were mapped onto the data of search trends. Second, an online questionnaire was distributed to explore internet users' behavior of using search engines and social media to receive Covidrelated information. Based on the valid responses, factors that arguably contribute to people's choices of information sources were discussed.

Result

Social media and search engines are people's main sources of information but are used in different conditions. Whether the sources are reliable is a concern. Therefore, people prefer official websites or

accounts.

Search trends on Google indicate that the outbreak of Covid-19 raised people's awareness and that people were in need of masks to protect themselves. The data of daily confirmed cases and daily vaccinations are mostly consistent with the search trends of their related topic. Most major related events and countermeasures by governments reflect on the search trends in each topic. In the large-scale areas are too many variables influencing the search trends.

Conclusion

Search engines and social media are both used in getting Covid-related information but in different conditions based on their distinct properties. In addition, search trends of pandemic-related topics can in a way reflect people's responses to the pandemic, current events, and government policies.

Keywords

Internet technology, Social media, Search engine, Pandemic, COVID-19, Coronavirus, Possible correlation, Taiwan



POSTER COMPETITIONS

Traditional Mongolian Mana-4, Norov-7 Medicine Used in the Treatment of COVID-19 Infection: A Comparative Study

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Introduction

Due to the global outbreak of the Coronavirus Disease 2019 (COVID-19) pandemic, many countries took explicit measures. As for Mongolia, we implemented policies such as strictening quarantine, disseminating the infection prevention and control guidelines by social media, and using traditional herbal medicine for treatment. However, studies considering the benefits of this treatment were insufficient and misuse was common amongst citizens. Therefore, studying accurate results regarding these issues is necessary.

Objective

We aimed to study the effects of using traditional Mongolian medicine, such as Mana-4 and Norov-7, by themself or in combination with conventional medicine in the treatment of Covid-19 pandemics.

Method

185 recovered COVID-19 patients from six districts of general hospitals in Ulaanbaatar were randomly selected as participants. The permission and questionnaires were obtained through Google form and the questionnaire was developed based on the "Traditional Mongolian medicine Guidelines" and "COVID-19 Clinical Guidelines" issued by the Ministry of Health of Mongolia.

Result

69.7% of the participants used traditional Mongolian herbal medicine. The group that had both traditional medicine and European treatment recovered the quickest and 41.9% of them improved in a week (p <0.001). 89.7% of the total participants had frequent symptoms such as sore throat, nasal congestion, and dry cough. 57.1% of those who used the traditional treatment, the symptoms decreased 1.7 times than the other groups (p <0.05). Furthermore, the ones that took the traditional medicine inappropriately recovered 3.5 times slower than the group that used it appropriately (p<0.05).

Conclusion

In this study, it could be concluded that the recovery rate is faster when using traditional Mongolian medicine Mana-4, Norov-7, and non-traditional medicine together. Therefore, traditional medicine ought to be used in a broad spectrum with appropriate, convenient, and cost-effective methods.

Keywords

Mongolian Traditional Medicine, Herbal Medicine, COVID-19 treatment



POSTER COMPETITIONS

Effectiveness of Digital Handwashing Intervention as a Breakthrough to Control COVID-19 and Transmissible Disease Outbreaks: A Meta-Analysis of Clinical Trials

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Introduction

The unprepared global health community is severely impacted by the COVID-19 pandemic, which increases the urgency of reducing disease transmission. Handwashing is a protective behavior, but its practice is insufficient with current methods. Digital intervention is potentially efficient in promoting better handwashing not only in COVID-19 but also in other diseases.

Objective

This review is aimed to explore the effectiveness of digital handwashing interventions for transmissible diseases.

Method

Following PRISMA, we searched PubMed, Scopus, MEDLINE, Cochrane, EBSCOHost, Scopus, and Google Scholar, for clinical trials assessing handwashing behavior change utilizing digital intervention from inception up to November 2021. Critical appraisal was performed using Cochrane Risk of Bias Tool 2.0 and converted to AHRQ standards. We utilized inverse variance, random effects model for quantitative synthesis.

Results

Four studies were included in this study. A significant handwashing frequency pooled mean difference (MD) of 0.71 [95%CI: 0.41-1.01, P<0.00001] towards the intervention group was obtained from this metaanalysis. The subgroup analysis done reported the highest influence of digital intervention in the frequency of handwashing before eating snacks (MD 1.04 [95%CI: 1.01-1.07]), after sneezing or coughing (MD 0.97 [95%CI: 0.85-1.08]), and after being close to ill person (MD 0.90 [95%CI: 0.97-0.93]). All of the results were found significant (P<0.0001) and homogenous (I2 <40%), except for handwashing after coming into the house subgroup. Another parameter, the theory of planned behavior (TPB), which may influence behavioral changes also gave a significant mean difference of 0.90 [95%CI: 0.54-1.27, P<0.0001]. In addition, notable MDs were obtained in attitude changes of participants (MD 2.01 [95%CI: 0.86-3.15, P=0.0006] and subjective norms (MD 0.57 [95%CI: 0.35-0.79, P<0.00001]) components.

Conclusion

The digital intervention significantly improves handwashing in terms of both frequencies and planned behavior, which leads to better transmission control. We recommend the possible widespread application of this intervention in facing the current pandemic and future outbreaks.

Keywords

COVID-19, Control, Digital, Outbreaks, Handwashing



POSTER COMPETITIONS

Effect of the COVID-19 Pandemic on Mental Health of Indian Medical Professionals & the Relevant Role of Health Communication

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Introduction

The COVID-19 pandemic has affected the mental health of many more than it has infected; Medical healthcare professionals are especially vulnerable. This study targeted medical professionals divided into 3 categories: Senior/ experienced doctors, Junior Residents/ Interns, and Paramedical staff, and subjects in each category were asked the same questions relevant to the pandemic and its effect on their lives.

Objectives:

- 1.To identify the population among medical professionals most stressed due to the COVID-19 pandemic, the reasons for stress.
- 2.To analyze the different effects of stress (both personally and professionally), recommend solutions to reduce the stress levels.
- 3.To identify the role of health communication in decreasing stress levels.

Method

A sample size of 200 medical professionals across India was chosen in which about one-third of the sample size represented each category. A survey was conducted over 3 months using a standardized questionnaire. The results were systematically analyzed.

Results

About one-third (34.2 %) of the medical professionals perceived increased stress due to various reasons during the COVID-19 pandemic, the majority of which were medical Interns. The health of family (60%) and Effect of the COVID-19 Pandemic on Mental Health of Indian Medical Professionals & the Relevant Role of Health Communication

viral exposure (39%) were perceived as the most common causes of increased stress. Anxiety (55%) and sleep disturbances (43%) were the most common effects on personal health. The professional lives of 33.5% were negatively affected whereas 13.5% of people were dutifully motivated towards their profession. Adequate PPE supplies were considered the most significant intervention to reduce stress levels by most (81%).

Conclusion

The following measures can help reduce stress levels significantly among medical professionals. An adequate supply of PPEs, work division at hospital duties, decreasing non-emergency patient load, increasing salaries, and a good health communication system.

Keywords

COVID-19, Mental Health, Healthcare professionals, Health Communication, India



POSTER COMPETITIONS

Contact Tracing System in Taiwan During COVID-19

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Introduction

As Covid-19 swept across the globe in early 2020, Taiwan was one of the first few countries that have deployed a contact tracing system to help stem the spread of the novel coronavirus. Despite being excluded from the World Health Organization, resulting in a blockade of crucial and timely information, the government still flourished in tackling the outbreak clusters.

Objective

This study aims to determine how such a system can address the pandemic problem effectively. Undoubtedly, availing of the aforementioned technology at such a large scale without trial and error resulted in room for improvements. Therefore, this study examines the crucial concerns and impacts of this system.

Method

By snowball sampling, an investigation through an online Google Forms questionnaire was distributed to Taiwanese and foreigners who have been in Taiwan for over the past twelve months. Semi-structured interviews were conducted with 10 participants from various stakeholders to probe and further explore topics regarding the issue. Via cross-sectional data analysis, the results showed that the dominant concern from all age groups is related to the invasion of data security and privacy.

Result

Our analysis has shown that the relatively high government satisfaction and societal trust of the public have pushed the positive social outcomes, like the willingness and self-discipline of people. Such cooperation has contributed to the crackdown of Covid-19.

Conclusion

Epidemic prevention in the use of data and technology for the public's good versus privacy protection is never a closed-ended question. Law enforcement and enhancement should be taken into account when designing and wielding any systems in contact tracing. Government should also be more transparent on any future usage or process of the data collected. Regardless, the results of the contact tracing system in Taiwan could be proudly declared as successful, and stand out as exemplars for the test-trace-isolate structure in pandemic response.



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