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RESEARCH ARTICLE

Assessment the Knowledge, Awareness Risk Perceptions and Communication Practices of Pandemic COVID- 19: A Study among Pharmacy Students in Iraq

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ABSTRACT

The outbreak of Coronavirus disease 2019 (COVID-19), has thus far killed over 3,400,000 people and infected over 167,000,000 in the world, resulting in catastrophe for humans. Through the use of an online survey, a cross-sectional, questionnaire-based study 100 pharmacy students participated in the survey. About forty-five items were included in the survey to gauge pharmacy students' understanding, attitudes, and practices about the pandemic as well as its psychological effects in order to offer assistance going forward. This study clearly shows the differences in pharmacy students' COVID-19 knowledge, attitudes, and practices. More health policies and awareness campaigns need to be created right away in order to address COVID-19. This data can be employed to assess student satisfaction on a more extensive level. Due to the limits of our study, more research is required to ascertain the general public's knowledge, perspectives, and COVID-19 practices.

INTRODUCTION

The 2019 new coronavirus known as COVID-19 was discovered by the World Health Organization (WHO) to have caused pneumonia in China. **(1)** The epidemic spread from Wuhan to various countries. **(2)** Pharmacists play a crucial role in healthcare provision, administering vaccines, distributing drugs, and providing patient care. Ensuring knowledge and awareness of pandemics among pharmacists is vital for disease prevention and control. **(3)** The WHO declared COVID-19 a pandemic in March 2020, resulting in significant societal isolation. **(4)** The rapid expansion of the infection, new incidents of confirmed or fatal COVID-19 cases and social isolation, were more likely to be causing fear, anxiety, and distress. **(5)** The aim of the study was to assess and compare media role on shaping Knowledge, risk perception and communication practice for Iraqi pharmacy students toward the pandemic covid-19 and also their compliance related to COVID-19 guidelines advised by the government during the pandemic, as these students are playing an active role in conveying the information to the public. **(6)** Because Iraqi pharmacy students are actively involved in informing the public for the pandemic, the study sought to evaluate and compare the impact of the media on the knowledge, risk perception, and communication practices of these students regarding COVID-19. It also sought to determine how well these students complied with the guidelines provided by the government during the pandemic. **(7, 8)**

PATIENTS AND METHODS

Study design

This is a cross-sectional questionnaire-designed study to estimate the knowledge, risk perception, and communication practices of Iraqi pharmacy students toward COVID-19. This study was carried out among male and female undergraduate pharmacy students in their first to fifth years at public and private colleges located throughout Baghdad City between January and April of 2023. The data was collected from the participants through 45 predesigned online-based questionnaires (a rearranged special formula in English) or directly from the participants.

Sample and setting

The study sample included 100 undergraduate pharmacy students from both genders [18 males and 82 females] and from the 5-year levels (first to fifth year) which their ages range from 18-36years old. The survey questionnaires were sent through electronic formula to pharmacy students, while other pharmacy students were asked personally with giving adequate time to provide thoughtful answers. The intended audience consisted of those who enrolled in clinical courses at pharmacy collages located around Baghdad.

Sample criteria

Inclusive criteria

1. The students included should be neither < than 18 years nor >40 years old.
2. All students included from pharmacy colleges who are still continuing their undergraduate studies.

Exclusive criteria

1. The students excluded who were more than 40 years old.
2. All graduated students from pharmacy colleges were excluded from the study.

Measures of an instrument

We created an online questionnaire to adhere to the precise preventive measures advised during the COVID-19 outbreak, such as touch precautions and prevention in close quarters. Six sections made up the questionnaire: demographics and epidemic formations; general knowledge about COVID-19 and its symptoms; knowledge of transmissions and preventive measures; miss formation related to COVID-19; and knowledge of referring suspected cases. Data was gathered via an online Google form. The link to the questionnaire was distributed to particular Facebook and WhatsApp groups or evaluated personally. To gauge the degree and source of education of students, demographic data and pandemic formations are evaluated.

RESULTS

1. Demographic and epidemic-related information for the total participants.

One hundred students were participated in the questionnaire which their ages range from 19-23 years of age. Demographic and epidemic-related information in table1 represents higher female participation, most of them were nonsmoking.

Table 1: Demographic and epidemic-related information for the total participants.

No.	Characteristics		Total No. (Percentage %)
1.	Age (mean ± SD)	**[18-36years old]**	21.17 ±(2.4306)
2.	Gender:	**Male**	18 (18%)
		Female	82 (82%)
3.	Year of study :	**1st**	25 (25%)
		2nd	16 (16%)
		3th	19 (19%)
		4th	17 (17%)
		5th	23 (23%)

4.	Currently smoking:	**Yes**	9 (9%)
		No	91 (91%)
5.	Had any travel history?	**Yes**	3 (3%)
		No	97 (97%)
6.	Coexisting disease or history of chronic disease?	**Yes**	9 (9%).
		No	86 (86%).
		Unknown	5 (5%)
7.	Knowledge about covid-19?	**Excellent**	14 (14%)
		Good	19 (19%)
		Medium	62 (62%)
		No Knowledge	5 (5%)
8.	Are you infected with covid-19?		
		-Confirmed or suspected case	5 (5%)
		-Not infected	95 (95%)
9.	Had any of your family members Or your friends infected with covid-19?	**Yes**	42 (42%)
		No	58 (58%)
10.	Have you come in close contact With patient infected with covid-19?	**Yes**	45 (45%)
		No	55 (55%)

2. Level of COVID-19 related general knowledge for the total participants.

The following figure (1) showed the results to many questions assessing the general knowledge of pharmacy students regarding COVID-19 treatment, symptoms, incubation period, Smoking effect, Antibiotic effect, virus stigma, the need of hospital referral, etc.

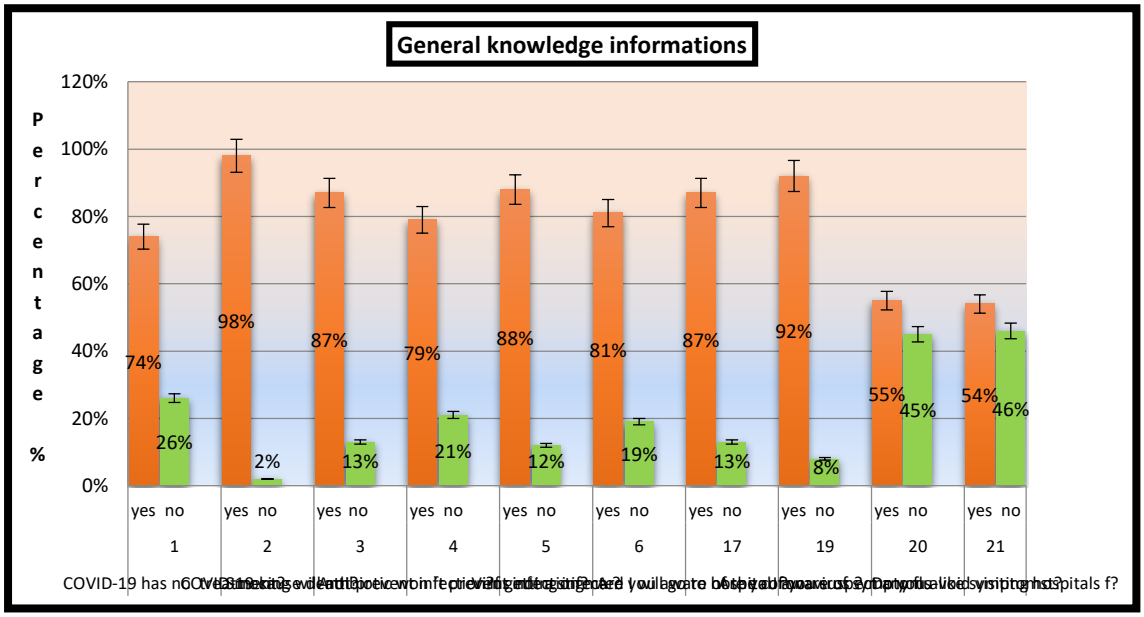

Figure 1: General knowledge information's for the total participants.

3. Level of COVID-19 related knowledge regarding symptoms and made of transmissions information's for the total participants.

Figure (2) proved that the participants were aware of the disease's symptoms, which include fever, coughing, shortness of breath, and general exhaustion. They also knew how the disease spreads and the role pets play in it.

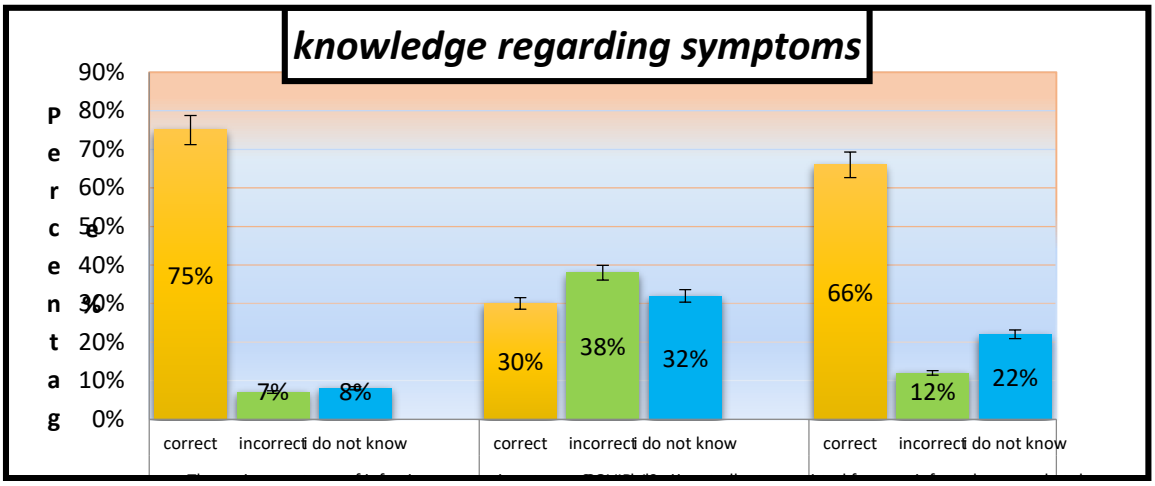

Figure 2: Knowledge regarding symptoms and mode of transmissions information's for the total participants.

4. Level of knowledge regarding protective measures and treatments information's for the total participants.

The knowledge that pharmacy students had about preventive measures and treatment information was the main focus of the current study. Figure (3) showed the opinion of pharmacy students regarding the importance of wearing a mask and the N95 respirator protection level, as well as the role of getting flu vaccine and taking antibiotics.

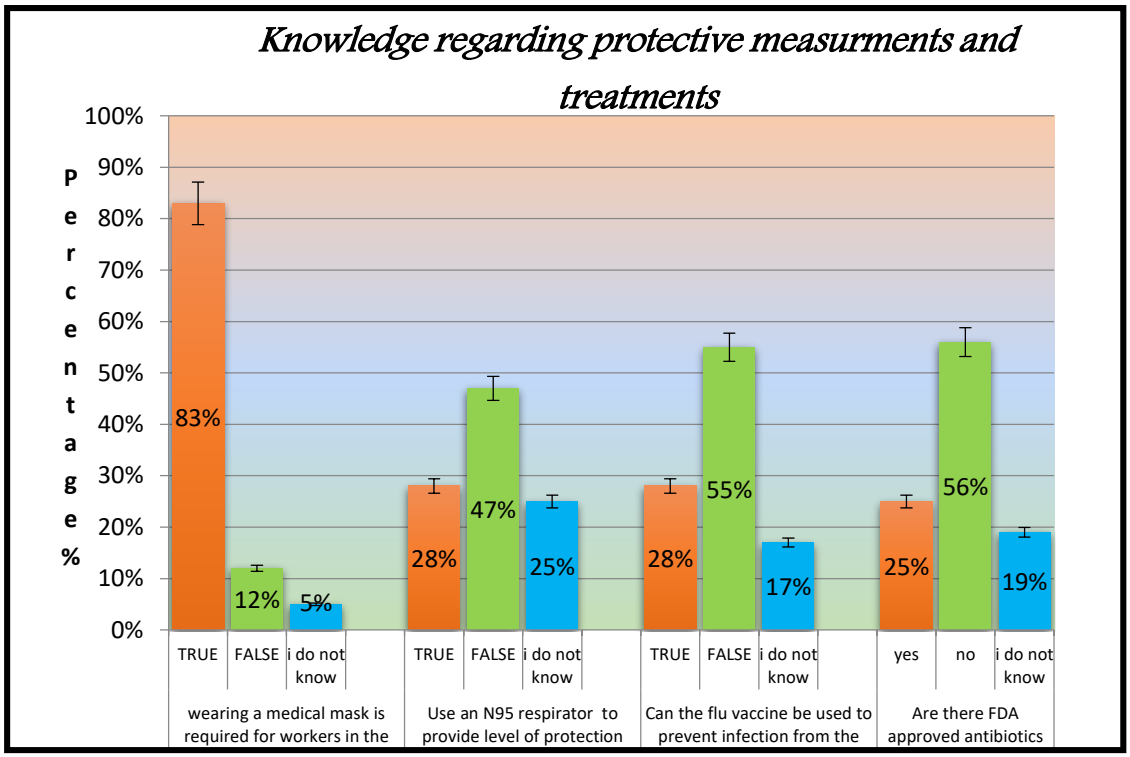

Figure 3: Knowledge regarding protective measures and treatments information's for the total participants.

5. Level of COVID-19 related knowledge of missed formation`s associated with COVID-19 for the total participants.

Table (2) displayed the thoughts of pharmacy students on some of the sayings that spreaded during the virus's development, such as the idea that eating garlic might help ward off coronavirus infection. Other practices include rinsing the nose with salted water or consuming anise tea.

Table 2: knowledge of missed formation`s associated with COVID-19 for the total participants.

No.	Characteristics	Total No. (Percentage %)
1	Drinking anise tea can help in preventing the infection with the coronavirus. **Correct** **Incorrect** **I do not know**	 31(31%) 48(48%) 21(21%).
2	Eating garlic helps in preventing the Infection with the coronavirus. **Correct** **Incorrect** **I do not know**	 42(42%) 43(43%) 15(15%).
3	Rinsing your nose regularly with salty water helps in preventing the infection with the Coronavirus. **Correct** **Incorrect** **I do not know**	 42(42%) 36(36%) 22(22%).

6. Level of knowledge about referral of suspected COVID-19 cases for the total participants.

Table (3), figure 4 showed pharmacy students' opinions regarding referral of suspected COVID-19 cases, such as fever, coughing, and shortness of breath, in addition to a history of close contact or touching a patient whose disease has been confirmed within 14 days of symptoms onset and a history that includes travel from Hube Province in China within 14 days of symptoms onset.

Table (3): Knowledge about Referral of suspected COVID-19 Cases for the total participants.

No.	Characteristics	Total No. (Percentage %)
1	For each of the following cases indicate if the patient should be referred to a suitable health care facility for further tests. **Fever, coughing, and shortness of breath, in addition to a * history of close contact or touching a patient whose disease has been confirmed within 14 days of symptoms onset** **-Fever, coughing, and shortness of breath, as well as a *history that includes travel from Hube Province in China within 14 days of symptoms onset** **-Fever or shortness of breath without history of travel or * interaction with CoVIDI9 cases**	 35(35%). 21(21%). 44(44%).

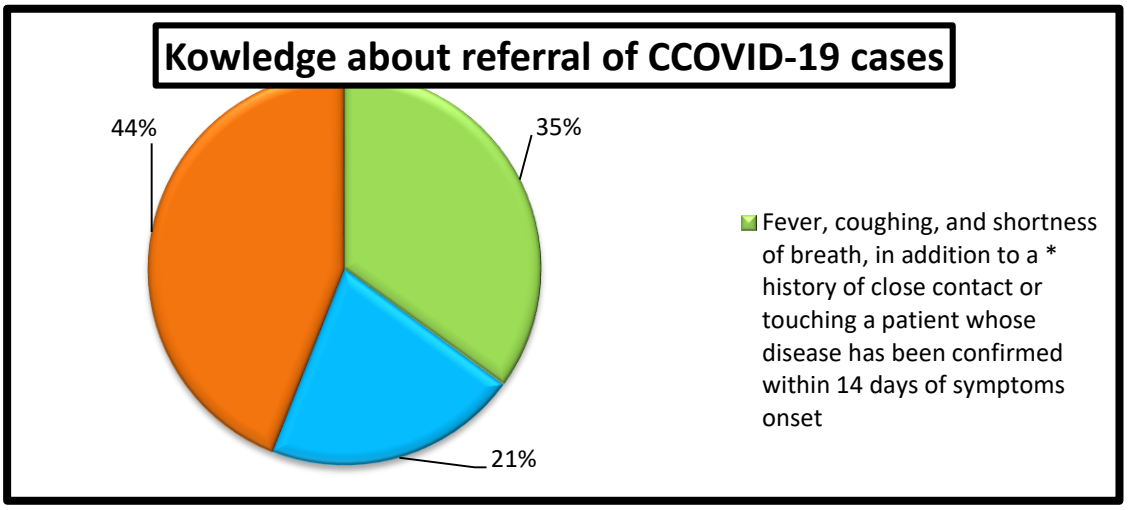

Figure 4: Knowledge about Referral of suspected COVID-19 Cases for the total participants.

DISCUSSION

Over 180 countries have been affected by the COVID-19 pandemic, including China. Overall, it was discovered that the pupils' clear understanding of COVID-19 shows their concern over the pandemic's severity. Medical students in particular are at risk because of the virus's rapid dissemination among health professionals. As a result, it's critical to evaluate their awareness of the virus's characteristics, protective measures, and risk assessment. **(9)**

1-Demographic and epidemic-related information for the total participants.

The study's gender distribution revealed that 82% of respondents were female and 18% were male. This could suggest that women were more cognizant of the significance of COVID-19 and highlight the disparities in how men and women view the epidemic. Of the 100 pharmacy students who took part in the study: those who enrolled in the first, second, third, fourth, and final year of study were 25, (25%), 16, (16%), 19 (19%), 17 (17%), and 23 (23%) correspondingly. These findings align with those of a study by **Kim SY, Jung JY**, ***et al***. that produced similar findings. **(10)** This study found that only 5% of participants were confirmed or suspected cases of COVID-19, 9% have coexisting disease, 45% were in close contact with patients with COVID-19, and 42% had at least 1 family member or friend who was infected with COVID-19. This agreed with **Shi L, Lu ZA *etal*** on the same results. **(11)**

2- General knowledge information's for the total participants.

The study examined students' understanding, commitment, and perspective towards the COVID-19 epidemic. The majority of students believed there was no special therapy for COVID-19, and very few were aware of the vaccine or treatment. Many drugs, including Favipirair, Remdesivir, Arbidol, and Chloroquine, are undergoing clinical testing. **(9)** Pharmacy students indicated a high level of general understanding on mortality, with 98% of them believing that it causes death. Older people have a higher likelihood of dying because of their higher severity and lengthier recovery times compared to healthy people. Apart from this, men are more likely than women to die from the COVID-19 virus. Since 21% of respondents believed that antibiotics would prevent COVID-19, more information is needed on supportive treatment and antibiotic resistance. **(12)** The majority of students did not see their infection as a shame and instead opted to visit the hospital. (46) Furthermore, the majority of respondents (88%) said that it was crucial to mandate that those in good health remain at home and those in COVID-19 disease remain in hospitals. **(13)** Additionally, the majority of participants (83%) demonstrated a strong commitment to adhering to the safety precautions to reduce the transmission of the virus, such as donning personal protective equipment (PPE).During the outbreak, more emergency medical workers were equipped with personal protective equipment (PPE) such as gowns, glasses for eye protection, and N95 masks, which increased safety. Meanwhile, other departments and wards received standard PPE such medical masks. It's likely that health care professionals' stress and anxiety can be effectively reduced by wearing appropriate protection gear appropriate for the epidemic conditions. This demonstrated exact knowledge and corresponds exactly with the correct response to the online questionnaire. Most students used social media to learn about COVID-19. **(13)**

3- Knowledge regarding symptoms and made of transmission information's for the total participants.

The next set of questions tested the students' understanding of the signs and modes of transmission of the COVID-19 pandemic. In line with studies by **Ensaf Y. Almomani *et al***., 75% of students believe that fever, cough, shortness of breath, and tiredness are the most typical COVID-19 symptoms. Furthermore, according to the search conducted by **Ensaf Y. Almomani *et al***., the majority of students think that the propagation of viruses through faeces is larger than that of droplets or air. COVID-19 is a highly contagious respiratory illness. It spreads by aerosol which could stick and contaminate any surface and remain viable for several days. This showed an enormous knowledge and goes exact with the online questionnaire `s right answer. **(14, 15)**

4- Level of knowledge regarding protective measures and treatments information's for the total participants.

Based on the study results, 84% of individuals regularly wash their hands with soap and water, avoid touching their mouth, nose, or eyes, and maintain a half-meter distance from other sick people. They prefer not to use hand sensitizers on a daily basis and instead prioritise hand hygiene. The younger generation has an optimistic outlook on COVID-19. They believe that proper hand washing, abstaining from drinking, avoiding hand shaking, donning face masks, and correctly coughing or sneezing can prevent not only this illness but also other contagious diseases. **(16)** All these results showed an enormous knowledge and go exact with the online questionnaire `s right answer. Regarding vaccine, 28% think that vaccinations against the flu can prevent infection. While 55% of students thought the reverse. Although vaccinations cannot prevent COVID-19, they can lessen the strain on the healthcare system and preserve medical resources. **(17)**

5- Knowledge of missed formations Associated with COVID-19 for the total participants.

According to a survey, 31% of students think anise tea can help shield against coronavirus infections, whereas 48% disagree. Zhejiang Provincial Center for Disease Control and Prevention researchers discovered that tea, which is high in polyphenols, can inhibit the virus's intracellular growth and destroy it extracellularly. On the other hand, in vitro test data are insufficient to draw the conclusion that tea consumption can shield against new coronavirus infections. **(18)** In addition, 42% of students believe that eating garlic can help prevent COVID-19, while 43% disagree. Although the World Health Organisation has previously explained that these remedies can have a positive impact on health because they contain a lot of vitamins and antioxidants that may boost the immune system, they are not medically proven to be effective against COVID-19. These equal percentage and disagreed results of Rooheen Sohaira indicate that students denied eating garlic. Finally, 42% of respondents agree with saline nasal irrigations as a non-pharmacological preventative measure and think that routinely washing one's nose with salty water helps avoid coronavirus infection. **(19)**

By the strategy of cleaning the nasal cavities which removes antigens, inflammatory mediators, and microorganisms such as bacteria and viruses; in particular, SNIs can reduce the viral load in the nasal cavities.

6. Level of knowledge about referral of suspected COVID-19 cases for the total participants.

The results reflects that pharmacy students' opinions regarding referral of suspected COVID-19 cases, such as fever, coughing, and shortness of breath, in addition to a history of close contact or touching a patient whose disease has been confirmed within 14 days of symptoms onset and a history that includes travel from Hube Province in China within 14 days of symptoms onset represent 35%, which agreed with **Taghrir MH, Borazjani R *etal*.,** This shown that the lowest scores were noteworthy. Referring suspicious cases should be considered crucial if symptoms emerge within 14 days of direct contact with a suspected case, as indicated by 73.8% of respondents. Therefore, more courses about case referrals and self-defense should be added to the training programs of medical students who are anticipated to become general practitioners in the near future. **(20)**

The study has several limitations such as: First, this was an online survey, and we used a convenience sampling method. The number of male participants was lower than that of females second. The participants' number was affected by the students' free time during the online learning and the internet and electronics availability. The number of participants was somewhat small due to the time limit for receiving responses. Third, number of research for the same that matched with this study was limited. **(20, 21)**

CONCLUSION

In summary, this study unequivocally demonstrates how pharmacy students differ in their understanding, perspectives, and approaches to COVID-19. To combat COVID-19, it is imperative to create additional health measures and awareness efforts. This information can be utilised to evaluate students' satisfaction on a broader scale. Owing to the limitations of our research, additional investigations are needed to determine the general public's awareness, attitudes, and practices with COVID-19.

REFERENCES

Surveillances V. The epidemiological characteristics of an outbreak of 2019 novel coronavirus diseases (COVID-19) China, 2020. ***China CDC weekly***. 2020; 2(8):113-22.

World Health Organization. Novel Coronavirus (2019-nCoV). Situation Report–22, Data as reported by 11 February 2020. .[intranet]. Available from: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200211-sitrep-22-ncov.pdf?sfvrsn=fb6d49b1_2.

Karasneh R, Al-Azzam S, Muflih S, Soudah O, Hawamdeh S, Khader Y. Media's effect on shaping knowledge, awareness risk perceptions and communication practices of pandemic COVID-19 among pharmacists. ***Research in Social and Administrative Pharmacy.*** 2021 Jan 1; 17(1):1897-902..

Wang C, Pan R, Wan X, Tan Y, Xu L, Ho CS, Ho RC. Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. ***International journal of environmental research and public health***. 2020 Jan; 17(5):1729.

Lee M, You M. Psychological and behavioral responses in South Korea during the early stages of coronavirus disease 2019 (COVID-19). ***International journal of environmental research and public health.*** 2020 Jan; 17(9):2977.

Cao W, Fang Z, Hou G, Han M, Xu X, Dong J, Zheng J. The psychological impact of the COVID-19 epidemic on college students in China. ***Psychiatry research***. 2020 May 1; 287:112934.

Saeed SA, Hebishi K. The psychiatric consequences of COVID-19: 8 Studies: Initial research explores the toll on health care workers, patients, and the general public. ***Current Psychiatry***. 2020 Nov 1; 19(11):22-32.

Ruan S. Likelihood of survival of coronavirus disease 2019. The Lancet Infectious Diseases. 2020 Jun 1;20(6):630-1

Dong L, Hu S, Gao J. Discovering drugs to treat coronavirus disease 2019 (COVID-19). Drug discoveries & therapeutics. 2020 Feb 29;14(1):58-60

Kim SY, Jung JY, Park MS, Kang YA, Kim EY, Kim SK, Chang J, Kim YS. Increased prevalence of self-reported asthma among Korean adults: an analysis of KNHANES I and IV data. Lung. 2013 Jun 1;191(3):281-8

Shi L, Lu ZA, Que JY, Huang XL, Liu L, Ran MS, Gong YM, Yuan K, Yan W, Sun YK, Shi J. Prevalence of and risk factors associated with mental health symptoms among the general population in China during the coronavirus disease 2019 pandemic. JAMA network open. 2020 Jul 1;3(7):e2014053-.

Abdulamir AS, Hafidh RR. The Possible Immunological Pathways for the Variable Immunopathogenesis of COVID—19 Infections among Healthy Adults, Elderly and Children. Electron J Gen Med. 2020; 17 (4): em202

Morris JK, Alberman E. Trends in Down's syndrome live births and antenatal diagnoses in England and Wales from 1989 to 2008: analysis of data from the National Down Syndrome Cytogenetic Register. Bmj. 2009 Oct 27;339

Almomani EY, Qablan AM, Atrooz FY, Almomany AM, Hajjo RM, Almomani HY. The influence of coronavirus diseases 2019 (COVID-19) pandemic and the quarantine practices on university students' beliefs about the online learning experience in Jordan. Frontiers in Public Health. 2021 Jan 13;8:595874.

Islam MS, Sarkar T, Khan SH, Kamal AH, Hasan SM, Kabir A, Yeasmin D, Islam MA, Chowdhury KI, Anwar KS, Chughtai AA. COVID-19–related infodemic and its impact on public health: A global social media analysis. The American Journal of Tropical Medicine and Hygiene. 2020 Oct;103(4):1621

Bai Y, Yao L, Wei T, Tian F, Jin DY, Chen L, Wang M. Presumed asymptomatic carrier transmission of COVID-19. Jama. 2020 Apr 14;323(14):1406-7

Beyer WE, McElhaney J, Smith DJ, Monto AS, Nguyen-Van-Tam JS, Osterhaus AD. Cochrane re-arranged: support for policies to vaccinate elderly people against influenza. Vaccine. 2013 Dec 5;31(50):6030-3.

Chen H, Yao L, Zhang L, Zhang X, Lu Q, Yu K, Ruan W. Malaria in Zhejiang Province, China, from 2005 to 2014. The American journal of tropical medicine and hygiene. 2015 Aug 5;93(2):305-9.

Rasheed N. Ginger and its active constituents as therapeutic agents: Recent perspectives with molecular evidences. International Journal of Health Sciences. 2020 Nov 1;14(6):1-3-1-

Taghrir MH, Borazjani R, Shiraly R. COVID-19 and Iranian medical students; a survey on their related-knowledge, preventive behaviors and risk perception. Archives of Iranian medicine. 2020 Apr 1;23(4):249-54.

Remuzzi A, Remuzzi G. COVID-19 and Italy: what next?. The lancet. 2020 Apr 11;395(10231):1225-8.

Pray IW. Performance of an antigen-based test for asymptomatic and symptomatic SARS-CoV-2 testing at two university campuses—Wisconsin, September–October 2020. MMWR. Morbidity and mortality weekly report. 2021;69