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KNOWLEDGE, ATTITUDE, AND PRACTICE REGARDING COVID-19 AMONG HIGHER EDUCATIONAL FOREIGN STUDENTS STUDYING AT ZHENGZHOU UNIVERSITY, HENAN, CHINA

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Abstract:

Objective: *This study was conducted to assess the knowledge, attitude, and practice about COVID-19 among higher educational foreign students studying at Zhengzhou University.* ***Methods:*** *This was a questionnaire-based cross-sectional survey where 329 study respondents were targeted using the non-probability convenience sampling method for data collection. SPSS v 22.0 was applied for data analysis and P≤0.05 was considered statically significant. The Mann-Whitney U and Kruskal-Wallis H tests were performed to discover the relationship among variables.* ***Result:*** *Mostly 74.8% of students think, they can prevent COVID-19 by spreading (1) If a non-infected or asymptomatic person washes their hands with soap/hand wash (2). Uses sanitizer and wears a face mask regularly. The majority of international students, 55.0% thought that Covid-19 can be transmitted from person to person, 54.4% believed covid-19 can be transmitted through cough droplets and 52.6% believed that isolation/quarantine of the infected people and symptomatic treatment in a proper place are effective ways to reduce the spread of the virus. A positive attitude 87.2 percent was observed with washing hands, face, and wearing a face mask in a crowded area, the majority 86.9% had continued their studies during the COVID-19 pandemic, and practice standards 81.8 percent was observed, where they frequently used a face mask and washed their hands at home for better hand hygiene.* ***Conclusion:*** *Excellent information and understanding, optimistic attitude, and good practice were observed overall. It is encouraging that they continued their learning throughout the COVID-19 pandemic and are completely satisfied with the e-learning process and satisfied with available learning opportunities.*

Keywords: *Knowledge, attitude, practice, COVID-19, higher education student, Zhengzhou University, China.*

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INTRODUCTION:

COVID-19, notorious as a coronavirus (2019-CoV), has become an emerging threat to the stability, economy, and development of the whole world. It belongs to the beta group of coronaviruses and causes a severe acute respiratory syndrome, hence phylogenetically called SARS-CoV-2 by the International Committee on a taxonomy of viruses (ICTV) or HCoV-19 [1, 2]. In light of this life-threatening circumstance, Coronavirus was announced as a general health crisis of global concern by the World Health Organization (WHO) on January 30 and known as for synergistic events, everything being equal, to anticipate the fast spread of Coronavirus [3, 4]. According to genomic studies, coronavirus is the seventh member of the coronavirus family that is infecting humans. But the sequence-based analysis of the virus has confirmed its novelty despite being a member of the coronavirus family [5]. Corona-virus is a single-stranded RNA virus ranging in diameter from 65 to 125 nanometer. SARS-CoV- 2 possesses a structure similar to its other family members; it has a crown-like appearance, hence named coronavirus [6].

Coronavirus possesses membrane proteins like helicase, papain-like protease, and 3- chymotrypsin-like protease [7]. The origin of coronavirus is believed to be Wuhan late in 2019 [8, 9]. Wuhan is the capital of Hubei province, the major business, and transportation hub of China. It originated from the seafood market of Hunan. The seafood market at Hunan is famous for the trade of live animals like birds, snakes, marmots, rabbits, and frogs. Initially, 50 people got infected with the disease presenting to the hospitals with the main complaint of severe pneumonia. Investigations proved the common exposure of the people to the live seafood market of Wuhan. The virus has greater than 95% similarity with the bat coronavirus and is thought to be transferred from bats to humans [10, 11].

According to historians, SARS-CoA has affected humans in the past as well in 2003, but the disease was not that contagious as it just affected 26 countries with a mortality rate of about 9%. In contrast, COVID-19 has affected the whole world [12]. In December 2019, China informed the World Health Organization about this outbreak. Hunan seafood market was closed on the 1st of January but the virus was already transferred to individuals who had never visited the Wuhan market. The condition worsened by the mass movement of Chinese people to different provinces and other countries as well on the eve of New Year [13]. On 11th January, the first fatal case was noticed. On 20th January, the transmission of the virus from the infected to healthcare professionals was also found. Recently, China had better recovery rates and is returning to normal life, but the spread in other countries has grown unpredictably high. The mode of transmission of the virus is believed to be close contact with the infected. It spreads through droplets of sneezing and coughing of infected persons and can be transmitted to healthy individual's lungs through the nostrils or mouth thus affecting the respiratory tract [11, 14, 15]. The incubation period for this viral disease ranges from 2 to 14 days. Depending on the immune system of the host, symptoms of COVID-19 attack may range from mild cough, fatigue, and muscle pain to more severe symptoms like syndrome of the respiratory tract, multiple organ dysfunction, and pneumonia. Most care strategies include isolation at the home of suspected cases or patients with asymptomatic mild disease. The persons being affected by the virus remain asymptomatic but can transfer the disease [16]. The mortality rate of the virus is 2 to 3%. As of today, writing date 14 January 2021, coronavirus cases have reached up to 93,103,580 cases with 66,530,478 patients affected by this notorious virus have recovered [17]. To date, the United States is at the top of the table with a total of 23,658,011 cases and 394,906 deaths. India is second with 151,924 deaths. The unavailability of any antiviral drug or vaccine against COVID-19 is worsening the situation. The treatment for COVID-19 is supportive [18].

"KAP" is a significant intellectual tool for public health concerning well-being anticipation and advancement. It includes a scope of convictions about the reasons for the illness and intensifying variables, distinguishing methods of treatments, and accessible strategies for consequences [19]. The present study was conducted directing at measuring the level of knowledge, attitude, and practice of COVID-19 among foreign students.

MATERIAL AND METHODS:

Study Design and Duration

A cross-sectional survey-based study was conducted during October- December 2020, days of strict lockdown to implement social distancing and avoid the spread of the pandemic.

Study Settings

The study was conducted at Zhengzhou University, Zhengzhou, Henan, China.

Survey Instruments

The survey instrument was designed based on substantial literature analysis [20]. It was validated in

two stages after the preliminary draft questionnaire was created. First, the study tool was discussed with relevant education department experts, medical researchers, and health professionals to provide their professional opinion about its simplicity, relativity, and relevance. Second, a pilot study was performed by assigning a small sample (n = 30). The questionnaire was revised based on the proposals made by experts and in uniformity with the available literature. After a detailed discussion, the experts confirmed the questionnaire and it was designed on a google form. The coefficient of reliability was calculated using SPSS v.22 and Cronbach's alpha value was found to be 0.71. The data from the pilot study were not included in the final analysis. The first part of the questionnaire contains queries about demographics information. The demographic characteristics included nationality, gender, age, level of education, subject/major, current resident country, surroundings, and mode of education. The second part of a questionnaire about Knowledge and awareness, comprised of 19 statements. Each question was responded to by a 5-point, Likert Scale (strongly agree, agree, neutral, disagree, and strongly disagree) respectively. The third part about attitude comprised of 10 statements and each question was responded to by using the 5-point Likert Scale. The last part about practice regarding the covid-19 comprised of 12 statements and each statement was responded to by using a 3-point Likert scale (yes, no and I don't know).

Sample size and technique selection criteria

A total number of 329 study respondents of foreign students more than 18 years of age were focused on by the non-probability convenience, systemic sampling technique method. We used the systemic data collection method because it was not possible to carry out a population-based survey during a pandemic.

Data Collection

The questionnaire was designed on google forms and the generated link was shared with the social media applications (WhatsApp, WeChat, Facebook, Twitter, and Instagram). The link was also shared personally with the contact list of investigators. Based on their responses, the data was gathered in a Microsoft excel sheet and transferred in SPSS 22v. The data were coded and analyzed.

Ethics

The study was performed following the World Medical Association Declaration of Helsinki [21]. Due to lockdown, universities were closed, the study questionnaire contained a consent portion that stated purpose, nature of the survey, study objectives, volunteer participation, declaration of confidentiality, and anonymity.

Statistical analysis

Data were entered in Microsoft Excel and later imported into SPSS V.22 for statistical analysis. Numerical variables were measured as mean±standard deviations. Categorical variables were expressed as frequencies and percentages. The Mann-Whitney U and Kruskal-Wallis H tests were carried out to discover the relationship between variables. The $P \leq 0.05$ was considered statically significant.

3. RESULT:

Socio-demographic Characteristics

A total of 329 study respondents were answered, out of which most participants were male 248 (75.4%). Most study respondents belong to the age group 18-27 years 186 (56.5%) and were from Pakistan 229 (69.6%). According to the educational level of the study respondents, the majority 148 (45.0%) were from the doctoral degree program and as far as their subject/major is concerned, medicine 62 (18.8%), followed by MBBS 61 (18.5%) and tourism management 24 (7.3%) as presented in figure-1. Most of the scholars were getting online education patterns due to the covid-19 pandemic, i.e., 262 (79.6%). 169 (51.4%) of total foreigners' students were from medical discipline and 178 (54.1%) are systematically getting an online education. The majority of students belong to urban areas 256 (77.8). All of these measurements are presented in table-1 as described below.

Table 1: Socio-demographic Characteristics

Variables (N=329)	Frequency	Percent
Gender		
Male	248	75.4
Female	81	24.6
Age Group (mean age 27.59± 4.031)		
18-27	186	56.5
28-37	131	39.8
38 & above	12	3.6
Nationality		
Egyptian	10	3.0
Ghanaian	4	1.2
Indian	41	12.5
Indonesian	9	2.7
Iranian	18	5.5
Laos	2	.6
Nepalese	11	3.3
Pakistani	229	69.6
Tunisian	5	1.5
Level of Education		
Bachelor	100	30.4
Doctoral	148	45.0
Master	52	15.8
Graduate	29	8.8
Mode of Education (Class)		
Conventional	67	20.4
Online	262	79.6
Subject Discipline		
Social Sciences	75	22.8
Pure Sciences	51	15.5
Engineering and Technology	34	10.3
Medical Sciences	169	51.4
Current Resident Country		
China	68	20.7
India	41	12.5
Indonesia	9	2.7
Iran	18	5.5
Nepal	11	3.3
Pakistan	178	54.1
South Korea	4	1.2
Surroundings		
Dormitory	2	0.6
Hilly	13	4.0
Island	2	0.6
Rural	56	17.0
Urban	256	77.8

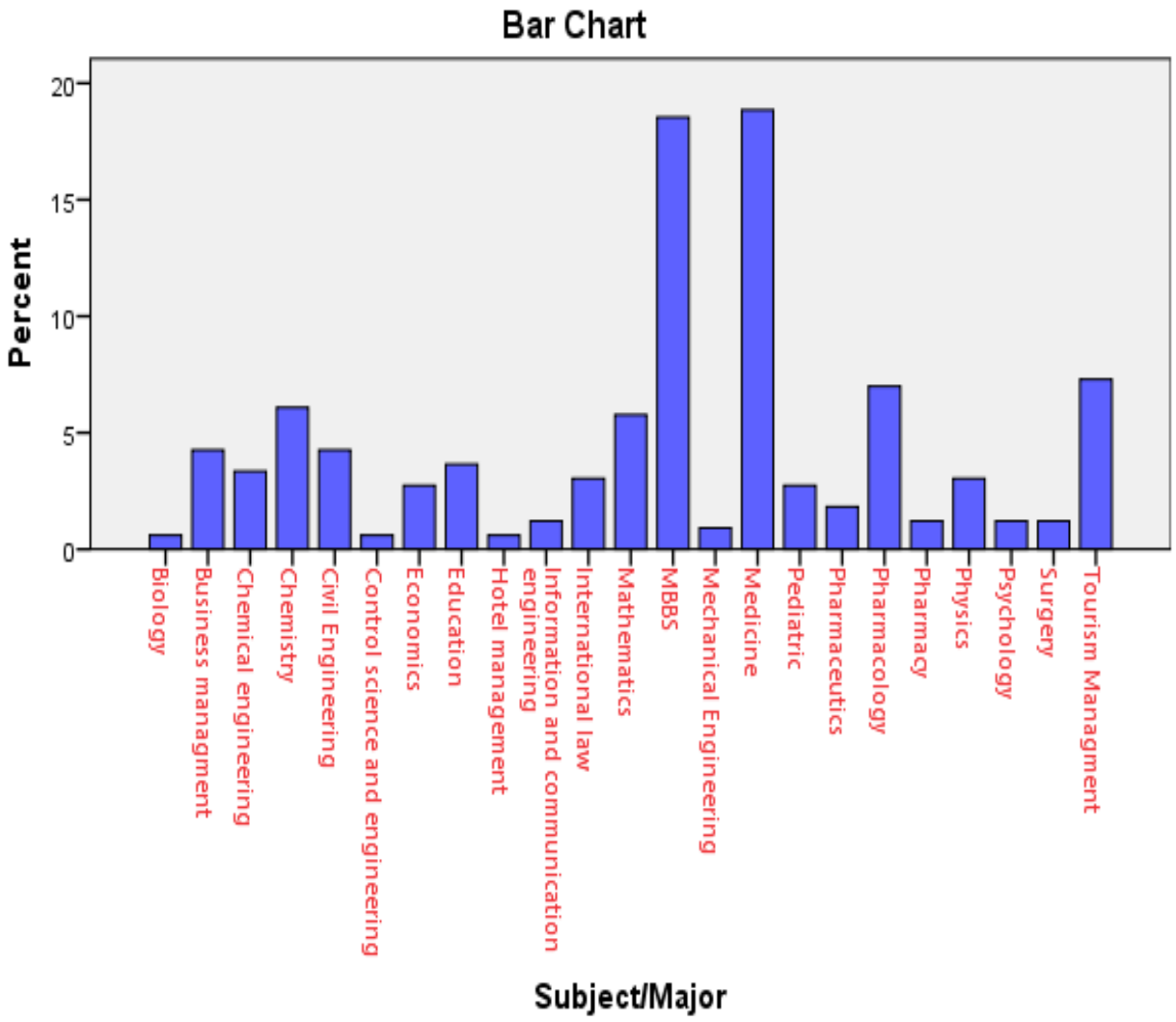

Figure-1: Bar chart comparison between different subject/majors; most of the students from the medicine 62 (18.8%), followed by MBBS 61 (18.5%) and tourism management 24 (7.3%) as described above in the figure.

Knowledge and awareness about Covid-19

Several questions were asked about knowledge and awareness on Covid-19 as described in table-2. Most study respondents 246 (74.8%) strongly agree that if a non-infected or asymptomatic person washes their hands with soap/hand wash, uses sanitizer, and wears a face mask regularly, a covid-19 infection can be prevented in the community. When asked about the statement "Covid-19 can be transmitted from person to person" 181 (55.0%) study respondents strongly agreed. Most foreign students 179 (54.4%) better knowledge about the statement "covid-19 can be transmitted through cough droplets". They are fully aware of how to cough droplets can infect with COVID-19. A total of 173 (52.6%) study respondents strongly agreed that isolation/quarantine of the infected people and symptomatic treatment in a proper place are effective ways to reduce the spread of the virus. 163 (49.5%) of study respondents strongly agreed that "To prevent community transmission, individuals should avoid going out and should remain in their houses''. Most study respondents 146 (44.4%) had good knowledge and they disagreed that Covid-19 can lead directly to death and, similarly, most students 122 (37.1%) disagreed that Covid-19 can be transmitted by talking with others. Most study respondents 111 (33.7%) had poor knowledge about the statements "Covid-19 can be transmitted from animal to person" and "COVID - 19 can only infect the elderly and children" and they remained neutral.

Tab-2: Knowledge and Awareness Regarding Covid-19

Statements	SA		A		N		DA		SDA	
	N	P	N	P	N	P	N	P	N	P
Everyone fully aware of the present situation on the COVID-19 pandemic outbreak	146	44.4	125	38.0	57	17.0	2	0.6	--	--
Covid-19 is a viral infection	163	49.5	131	39.8	35	10.6	--	--	--	--
Covid-19 can be transmitted through cough droplets	179	54.4	119	36.2	31	9.4	--	--	--	--
Covid-19 can be transmitted from person to person	181	55.0	121	36.8	27	8.2	--	--	--	--
Covid-19 can be transmitted through talk with others	55	16.5	93	28.3	32	9.7	122	37.1	27	8.2
Covid-19 can be transmitted through a handshake with others	152	46.2	124	37.7	51	15.5	2	0.6	--	--
Covid-19 can be transmitted from animal to person	74	22.5	85	25.8	111	33.7	59	17.9	5	1.5
Bats transmit the virus	53	16.1	141	42.9	105	31.9	30	9.1	21	6.4
Covid-19 can cause multiple infections	112	34.0	162	49.2	34	10.3	21	6.4	--	--
COVID -19 can only infect the elderly and children	55	16.7	14	4.3	111	33.7	95	28.9	54	16.4
A person having Obese, diabetes, COPD, asthma, or any kind of other disease can be infected rapidly	151	45.9	102	31.0	74	22.5	2	0.6	--	--
Covid-19 can lead directly to death	49	14.9	47	14.3	63	19.1	146	44.4	24	7.3
A Covid-19 patient can be cured	105	31.9	145	44.1	61	18.5	--	--	18	5.5
Fever, cough, and difficulty in breathing are the main symptoms of COVID-19	156	47.4	141	42.9	30	9.1	2	0.6	--	--
Loss of smell, diarrhea then the loss of taste are also symptoms of COVID-19	74	22.5	118	35.9	109	33.1	28	8.5	--	--
There is no effective cure for COVID-19 currently, but early symptomatic and supportive treatment can help most patients recover from the infection	120	36.5	149	45.3	58	17.6	2	0.6	--	--
To prevent community transmission, individuals should avoid going out and should remain in their houses	163	49.5	104	31.6	36	10.9	26	7.9	--	--
Non-infected and asymptomatic normal people should wash their hands regularly with soap/hand wash and sanitize their hands and wear a facemask to prevent COVID-19 infection	246	74.8	79	24.0	4	1.2	--	--	--	--
Isolation/quarantine of the infected people and symptomatic treatment in a proper place are effective ways to reduce the spread of the virus	173	52.6	153	46.5	3	0.9	--	--	--	--
SA=Strongly agree, A=Agree, N=Neutral=DA= Disagree, SDA=Strongly Disagree, N=Number of Cases, P= Percent										

Attitude regarding Covid-19

Multiple Attitude questions were asked about Covid-19 as described in table-3. Most study respondents 287 (87.2%) showed a positive attitude and strongly agreed that it is very essential to wash hands and face and use a face mask in a crowded place. When asked about the statement "we can prevent Covid-19 from spreading by safe distance" most study respondents 248 (75.4%) strongly agreed. 243 (73.9%) study respondents had a positive attitude regarding the statement "health education can play an important role in COVID-19 prevention". Most of the study respondents 66 (20.1%) had a negative attitude regarding the possibility of covid-19 infected person or disease getting treated at home. In contrast, 51 (15.5%) of study respondents remained neutral. Another neutral response was recorded where 31 (9.4%) of study respondents responded against the statements; (1). China already won the battle against the COVID-19 pandemic (2). COVID-19 pandemic is a preventable disease. Another negative attitude, 28 (8.0%) was observed about the statement "your home country will win the battle against the COVID-19 pandemic".

Table-3: Attitude regarding Covid-19

Statements	SA		A		N		DA		SDA	
	N	P	N	P	N	P	N	P	N	P
COVID-19 will be controlled finally in the world	105	31.9	159	48.3	39	11.9	11	3.3	15	4.6
Your home country will win the battle against the COVID-19 pandemic	185	56.2	101	30.7	15	4.6	28	8.5	--	--
China already wins the battle against the COVID-19 pandemic	185	56.2	98	29.8	31	9.4	15	4.6	--	--
It is crucial to report a suspected case to health authorities	167	50.8	122	37.1	19	5.8	21	6.4	--	--
It is important to use a face mask in a crowded place	287	87.2	42	12.8	--	--	--	--	--	--
It is important to wash hands and face after coming outsides	287	87.2	38	11.6	4	1.2	--	--	--	--
We can prevent Covid-19 from spreading by a safe distance	248	75.4	70	21.3	11	3.3	--	--	--	--
COVID-19 is a preventable disease	162	49.2	126	38.3	31	9.4	4	1.2	6	1.8
It can be treated at home	76	23.1	127	38.6	51	15.5	66	20.1	9	2.7
Health education can play an important role in COVID-19 prevention	243	73.9	77	23.4	9	2.7	--	--	--	--

Practice about Covid-19

Table-4 summarizes the practices of foreign students regarding the COVID-19 Pandemic. All the participants responded to all 12 items regarding COVID-19. The majority of respondents had good practice regarding each item with the highest practice, 314 (95.4%) showed that they wash hands frequently using water and soap. The majority 286 (86.9%) had continued their study during COVID-19, which is a good practice and 276 (83.9%) of participants discovered that they used tissues or handkerchief during coughing/sneezing, which is bad practice. But the good practice was also observed among the study respondents i.e.; 269 (81.8%), where they regularly used a face mask and washed their hands at home for effective hand hygiene.

Table-4: Practice regarding Covid-19

Statements	Yes		No		Sometimes	
	N	P	N	P	N	P
Stopped visiting your friends, relatives, and family members	205	62.3	18	5.5	106	32.2
Allowed your friends/relatives to visit at your home	32	9.7	197	59.9	100	30.4
Regularly using a face mask and washing your hands at home for effective hand hygiene	269	81.8	7	2.1	53	16.1
Used tissues or handkerchief during coughing/sneezing	276	83.9	15	4.6	38	11.6
Washed hands frequently using water and soaps	314	95.4	--	--	15	4.6
Do you avoid touching the face and eyes?	228	69.3	9	2.7	92	28.0
Maintained social distance (or home quarantine)	266	80.9	19	5.8	44	13.4
Ate healthy food focusing on the outbreak?	171	52.0	88	26.7	70	21.3
Maintain a healthy lifestyle focusing on the outbreak	277	84.2	13	4.0	39	11.9
Continued your study during COVID-19	286	86.9	10	3.0	33	10.0
Available resources for learning are perfect or reliable	140	42.6	82	24.4	107	32.5
E-learning encourages the learning process during COVID-19	199	60.5	42	12.8	88	26.7

Association among variables and demographics

The Association among variables and demographics described in table-5. We applied Kruskal-Wallis H and Mann-Whitney U tests and check the p-value association between variables and demographics. Where “a” represents the Kruskal Wallis test and “b” represents the Mann Whitney U test. “*” representing the $p<0.05$.

Tab-5: Association between variables and demographics

	P-Value (Cl=99%), DF (1)				
Statements	**Age Group[1,2]**	**Gender[1,2]**	**Education Level[1,2]**	**Education Mode[1,2]**	**Surroundings[1, 2]**
Knowledge and Awareness					
Everyone fully aware of the present situation on the COVID-19 pandemic outbreak	.79	.87	.81	.49	.93
Covid-19 is a viral infection	.23	.50	.92	.79	.85
Covid-19 can be transmitted through cough droplets	.54	.19	.64	.96	1.00
Covid-19 can be transmitted from person to person	.32	.095	.63	.73	.79
Covid-19 can be transmitted through talk with others	.26	.31	.95	.79	.31
Covid-19 can be transmitted through a handshake with others	.63	.33	.75	.42	.16
Covid-19 can be transmitted from animal to person	.64	.04*	.62	.65	.01*
Bats transmit the virus	.78	.92	.89	.311	.13
Covid-19 can cause multiple infections	.59	.56	.92	.93	.38
COVID -19 can only infect the elderly and children	.35	.67	.88	.41	.67
A person having Obese, diabetes, COPD, asthma, or any kind of other diseases can be infected rapidly	.36	.58	.72	.78	.66
Covid-19 can lead directly to death	.96	.37	.95	.88	.16
A Covid-19 patient can be cured	.07	.27	.23	.46	.14
Fever, cough, and difficulty in breathing are the main symptoms of COVID-19	.31	.34	.68	.82	.85
Loss of smell, diarrhea then the loss of taste are also symptoms of COVID-19	.25	.78	.28	.55	.50
There is no effective cure for COVID-19 currently, but early symptomatic and supportive treatment can help most patients recover from the infection	.26	.04*	.72	.60	.07
To prevent community transmission, individuals should avoid going out and should remain in their houses	.91	.04*	.79	.63	.59
Non-infected and asymptomatic normal people should wash their hands regularly with soap/hand wash and sanitize their hands and wear a facemask to prevent COVID-19 infection	.96	.08	.20	.49	.09
Isolation/quarantine of the infected people and symptomatic treatment in a proper place are effective ways to reduce the spread of the virus	.65	.34	.48	.98	.70
Attitude					
COVID-19 will be controlled finally in the world	.00*	.00*	.36	.93	.74
Your home country will win the battle against the COVID-19 pandemic	.00*	.02*	.00*	.26	.86

China already wins the battle against the COVID-19 pandemic	.00*	.00*	.06	.13	.12
It is crucial to report a suspected case to health authorities	.00*	.28	.00*	.00*	.73
It is important to use a face mask in a crowded place	.005*	.10	.26	.56	.25
It is important to wash hands and face after coming outsides	.00*	.00*	.10	.01*	.25
We can prevent Covid-19 from spreading by safe distance	.00*	.03*	.10	.00*	.26
COVID-19 is a preventable disease	.00*	.00*	.00*	.07	.27
It can be treated at home	.00*	.09	.06	.00*	.59
Health education can play an important role in COVID-19 prevention	.00*	.01*	.97	.06	.59
Practice					
Stopped visiting your friends, relatives, and family members	.03*	.01*	.00*	.37	.21
Allowed your friends/relatives to visit at your home	.96	.56	.66	.00*	.32
Regularly using a face mask and washing your hands at home for effective hand hygiene	.11	.56	.00*	.00*	.19
Used tissues or handkerchief during coughing/sneezing?	.52	.00*	.66	.07	.32
Washed hands frequently using water and soaps	.00*	.21	.00*	.04*	.39
Do you avoid touching the face and eyes?	.61	.02*	.00*	.07	.02*
Maintained social distance (or home quarantine)	.01*	.00*	.00*	.00*	.70
Ate healthy food focusing on the outbreak	.52	.00*	.72	.00*	.16
Maintain a healthy lifestyle focusing on the outbreak	.61	.00*	.00*	.04*	.10
Continued your study during COVID-19	.00*	.03*	.00*	.10	1.00
Available resources for learning are perfect or reliable	.00*	.63	.48	.00*	.58
E-learning encourages the learning process during COVID-19	.68	.00*	.00*	.59	.73
1=Kruskal-Wallis H test 2. =Mann-Whitney U test, * = P≤0.05 (Statistically Significant)					

DISCUSSION:

This research was conducted to evaluate the level of awareness, attitude, and practice of the COVID-19 pandemic among foreign students studying at Zhengzhou University, China. A clear picture of the state of knowledge of international students and the attitude of their practices in the sense of precautionary measures must be presented. Findings revealed that 74.8 percent of the study population had good knowledge and awareness about the COVID-19 pandemic. Most of the students continue their learning during the lockdown, a good sign of success, and most study participants strongly appreciated the available resources for learning were perfect or reliable.

A vast majority of study participants identified some of the most common symptoms linked to the COVID-19 pandemic [22], Similar to other research elsewhere, only a very small number of participants were unaware of any of the symptoms, [23, 24]. But the majority of international students were conscious of the covid-19 disease in the present study. In another study, Saqlain et, al., an analysis was conducted by [20], where 677 (98.3 percent) of study respondents had accurate knowledge of transmission of the virus from person to person in response to questions about the transmission of the disease. 93.3 percent (n=643) of respondents correctly described that the virus can spread droplets via cough. 97.2 percent (n=670) participants were well aware that shaking hands can transmit infection. 53.3 percent and 47.8 percent of people, however, did not realize that viruses can be transmitted to humans by bats or other species. More than 80 percent of respondents understand that the symptoms of COVID-19 are fever, cough, and shortness of breath, while more than half (51.4 percent, n=354) of respondents have inappropriate awareness that diarrhea is a COVID-19 symptom. In the current study, 181 respondents (55.0 percent) strongly accepted that "COVID-19 can be spread from person to person," 179 (54.4 percent) participants in the study were fully aware that COVID-19 can be spread by droplets of cough. 152 (46.2 percent) were fully aware that COVID-19 could be transmitted to others through a handshake. Fifty-three (16.1%) of respondents were sure that the virus was transmitted by humans and 30 (9.1%) respondents disagreed. Most participants 47.4 percent were completely aware of the signs and symptoms of COVID-19 and strongly accepted that the key symptoms of COVID-19 were fever, cough, and troubled breathing, but 33.1 percent of participants were unaware of the loss of smell, diarrhea, and loss of taste, and remained neutral.

Similarly, it was generally positive to have an overall attitude towards acts such as washing hands and face after returning from outside and 'health education can play an important role in COVID-19 prevention.' 70.1-88.9 percent of Chinese people thought that SARS could be effectively controlled or stopped during the SARS epidemic. [25, 26]. Zhong et al. found that 90.8 percent of the respondents agreed to control steps such as traffic limits across China and the closure of Hubei Province towns and counties. [25]. The topic of preventive practices deserves some comment since the findings were strikingly close to the results for some interventions such as hand washing. [27-29]. However, there is the exception of the Srichan et al. report, of which 54.8 percent did not regularly use soap during handwashing [27]. In the present study, 95.41 percent of participants reacted to most of the study questions with good practice and were well conscious of the prevention controls often using water and soaps while washing hands. The results showed virtually universal agreement among the participants on reporting cases of COVID-19 to health authorities, on the topic of wearing a face mask before heading to a crowded venue, and on following other recommendations. During the rapid increase of the COVID-19 outbreak, these results were close to a very recent study conducted in China. [25].

CONCLUSION:

Our results show that internet users at the university showed substantial differences in awareness, attitude, and practice regarding the pandemic situation after the immediate lockdown and during the increasingly growing duration of the COVID-19 outbreak. In this regard, excellent information and understanding, an optimistic attitude, and good practice were observed overall. It is encouraging that they continued their teaching throughout the covid-19 and are completely satisfied with the e-learning process and optimize the available learning resource. The study also shows that both corrective and therapeutic steps of the COVID-19 pandemic are sponsored by the Ministry of Health, consisting of a better-organized approach to all strata of society.

Conflict of Interest

The authors have no conflict of interest to declare.

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