

Knowledge, Attitude, and Practice towards COVID-19 in Residents of Khyber Pakhtunkhwa, Pakistan

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ABSTRACT

Aims At this critical situation of the present pandemic, there is an immense need to know the people's awareness and behavior regarding COVID-19 to ease the outbreak management of COVID-19. This study aimed to assess Khyber Pakhtunkhwa's residents, Pakistan's knowledge, attitudes, and practices regarding recently found COVID-19.

Instrument & Methods This descriptive study was carried out from March 15, 2020, to April 15, 2020, on people who lived in Khyber Pakhtunkhwa, Pakistan. A questionnaire comprised of four sections (Demographics, knowledge, attitude, and practice) was used. Data were analyzed using SPSS 26.0 by Student t-test, one-way ANOVA, and the Chi-square test.

Findings The mean±SD score of Knowledge, Attitude, and Practice of participants was 7.51±1.8, 5.17±0.89, and 7.75±1.47, respectively. The level of KAP was high, positive, and good. There were significant associations between education and study field were with knowledge ($p<0.05$), and gender with attitude and practice ($p<0.05$).

Conclusion The level of knowledge and attitude of the people of Khyber Pakhtunkhwa, Pakistan, towards COVID-19 is satisfactory during the outbreak.

Keywords Attitude; COVID-19; Knowledge; Practice

CITATION LINKS

[1] Coronavirus disease (COVID-19)-events as they happen [2] Naming the coronavirus disease (COVID-19) and the virus that causes it [3] SARS and MERS: Recent insights into emerging coronaviruses [4] En.wikipedia.org; 2020 [5] Study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID-19 pandemic [6] An outbreak of the severe acute respiratory syndrome: Predictors of health behaviors and effect of community prevention measures in Hong Kong, China [7] Monitoring community responses to the SARS epidemic in Hong Kong: from day 10 to day 62 [8] A tale of two cities: Community psych behavioral surveillance and related impact on outbreak control in Hong Kong and Singapore during the severe acute respiratory syndrome epidemic [9] History and Recent Advances in Coronavirus Discovery [10] Coronaviruses disease (COVID-19) [11] WHO COVID-19 Dashboard [12] Pakistan confirms first two cases of Coronavirus, govt says 'no need to panic' [13] Islamabad: Government of Pakistan; 2020 [14] KP has highest Covid-19 fatality rate in country [15] Extension of lockdown [16] The KAP survey model: Knowledge, attitude, and practices [17] A cross-sectional survey of knowledge, attitude and practice (KAP) towards COVID-19 pandemic among the Syrian residents [18] knowledge, attitudes, and practices towards COVID-19 among Chinese residents during the rapid rise period of the COVID-19 outbreak: A quick online cross-sectional survey [19] Meta-analysis of the reasoned action approach (RAA) to understanding health behaviors [20] Knowledge, attitude and practice towards the novel Coronavirus (covid-19) outbreak: A population-based survey in Iran [21] Knowledge, attitude and practice (KAP) study about middle east respiratory syndrome Coronavirus (MERS-CoV) among population in Saudi Arabia [22] Knowledge and attitudes towards Middle East respiratory syndrome-coronavirus (MERS-CoV) among health care workers in south-western Saudi Arabia

Introduction

The Corona Virus Disease of 2019 (COVID-19) is an extremely contagious influenza condition caused by the Corona Virus-2 severe acute respiratory syndrome (SARS-CoV-2). WHO announced the word "COVID-19" for this new disease on February 11, 2020 [1]. The illness was initially discovered in late 2019 in Wuhan, China, and the epidemic was designated a National Medical Emergency of Global Interest on January 30, 2020 [2]. Since that day, the Coronavirus has expanded worldwide, culminating in the current 2019-20 Coronavirus outbreak. Coronavirus has caused three epidemic diseases in the past two decades, namely SARS, MERS, and COVID-19 in 2003, 2012, and 2020 respectively [3]. This viral group is primarily responsible for illnesses in land animals. Coronaviruses attack the respiratory system of humans, causing illnesses ranging from respiratory illness to SARS, Middle East Respiratory Syndrome (MERS), and COVID-19 [4]. The COVID-19, which was invented in China, has quickly spread throughout the world, infecting individuals. This occurrence has sparked widespread public outrage; the media has been reporting nonstop across borders to keep everyone informed about the pandemic scenario. All of these factors are causing individuals to be concerned, resulting in increased worry. Contagions can cause increased stress, and nervousness is normal to any stressful circumstance [5]. Some general populations' awareness, perceptions, and behaviors are critical for effective epidemic and pandemic control and incident avoidance. Personal experience and views play a crucial influence in future behavior modification, according to the research on SARS in 2003. A strong perception of the disease's threat resulted in a higher incidence of positive behavior modification [6-8]. In the 1960s, the first human Coronaviruses (B814 and 229E) were discovered by Tyrell and Bynoe and Hamre, respectively [9]. Tyrell and other virologists in the 1960s named this new group of related viruses Coronavirus based on their crown-like appearance [9]. Fever, cough, and tiredness are the maximum mutual indications of COVID-19 infection, while some of the patients may have body aches, malaise, runny nose, painful throat, or looseness [10]. The majority of the COVID-19 patients don't develop severe illness and improve deprived of necessitating any unusual treatment. However, one out of every six persons infected with COVID-19 develops a serious disease that necessitates hospitalization [10]. Individuals with existing health complications, such as heart disease, hypertension, or increased blood pressure, as well as the elderly, are at a higher risk of developing severe sickness and breathing difficulties [10]. This pandemic has feasted very rapidly, and by now (April 9, 2020), the worm has reached 212 countries altogether, resulting in 1.436.198 confirmed cases and 85.522 deaths [11]. In Pakistan, the first COVID-

19 case was confirmed in February 2020 who had a travel history to Iran [12]. By April 9, 2020, in Pakistan, 4489 verified cases have been reported, including 63 fatalities [13]. Khyber Pakhtunkhwa, one of the four administrative provinces of Pakistan, is our study area and has recorded the highest (over 3%) COVID-19 fatality rate in the country [14]. Keeping in view the ongoing 2019-20 Coronavirus pandemic, the government has taken some unrivaled steps in Khyber Pakhtunkhwa and other provinces of Pakistan, including the imposition of lockdowns in multiple regions across the country [15]. Infected and suspected cases are isolated and are taken care of. In all four provinces of Pakistan, including Khyber Pakhtunkhwa, the government and health care workers act vigilantly to counter this pandemic, but to win this war and control the transmission, citizens must follow the instructions issued by the government. Citizens' capacity to follow these rules is determined by their information, intention, and practice about COVID-19, according to the knowledge, attitude, and practice (KAP) hypothesis [16].

At this critical situation of the present pandemic, there is an immense need to know the people's awareness and behavior regarding COVID-19 to ease the outbreak management of COVID-19 in Pakistan. Therefore, this study aimed to assess Khyber Pakhtunkhwa's residents, Pakistan's knowledge, attitudes, and practices regarding recently found COVID-19.

Instrument and Methods

This descriptive study was carried out from March 15, 2020, to April 15, 2020, on people who lived in Khyber Pakhtunkhwa, Pakistan. 384 people were chosen by non-probability convenient sampling and based on applying the equation $(n=Z^2 \times P \times (1-P)/E^2)$. $Z=1.96$ with a 95% standard error, $p=0.50$ (population proportion), and confidence interval of 0.05. The questionnaire was posted on social media platforms. Privacy of the original post was set as public to enable more people to participate in the questionnaire. Therefore, those who were 15 years or above old and had access to social media (Facebook, WhatsApp, Messenger, Twitter, etc.) and willing to take part and could comprehend English because the questionnaire was supplied in that language were included in this study, and those who filled out incomplete questionnaires were eliminated from the study.

A self-administered, pre-validated structured (Cronbach's $\alpha=0.899$ [17]) questionnaire comprised of four sections (Demographics, knowledge, attitude, and practice) was used. The total of questions was 29; 6 questions were designed to determine the socio-demographic information of the participants. Six questions were asked to assess their knowledge regarding COVID-19 (e.g., the COVID-19 is a viral infection). Six questions were

included to know about the attitude of the respondents towards COVID-19 (e.g., If COVID-19 vaccines were available, would you have it?). 8 questions were asked regarding respondents' practice towards COVID-19 prevention (e.g., Do you use sanitizer to clean your hands?). Lastly, one question was asked about the source of COVID-19 [17].

To distinguish the respondent's equal knowledge, each correct response of the knowledge section was given a score of 1, while a score of 0 was given to each uncertain (do not know) and incorrect response. Similarly, in the attitude section of the questionnaire, on choosing each answer reflecting positive attitude, a score of 1 was awarded, while on each response reflecting negative attitude, a score of 0 was given. A maximum score of 6 was designated. In the Practice section of the questionnaire, on each response reflecting good exercise to the prevention of COVID-19, a score of either 1, 2, or 3 was given, while on each reply shiny poor exercise, a notch of 0 was given. A total notch of 10 was designated to assess the practice of participants. KAP scores were classified into three levels according to Blooms' cut-off point 60-80%. These are as follows: Participant's Knowledge level (High level (80-100%): 7-9; Moderate level (60-79%):5-6; Low level (below 60%):0-4), Participant's Attitude level (Positive (80-100%):5-6; Neutral (60-79%):3-4; Negative (below 60%):0-2), and Participant's Practice level (Good (80-100%):0-5; Fair (60=79%):6-7; Poor (below 60%): 8-10).

After obtaining ethical approval from the Institutional Ethical Review Board (IERB) of Nowshera Medical College, MTI Nowshera, the study was conducted throughout the lockdown in the province; therefore, an online designed survey was conducted done. Posts containing brief introduction, objectives, voluntary nature of the indolent, declaration of confidentiality were shared on Facebook, WhatsApp, Twitter, and Messenger.

The data were coded, entered, and analyzed using SPSS 26.0. Spellbinding insights like recurrence, rate, mean and standard deviation were used to depict the information. Student t-test was utilized to look at implies between two autonomous factors, while one-way ANOVA was utilized to examine means between multiple free factors. The Chi-square test was utilized to analyze unmitigated factors. The degree of significance was set at $p < 0.05$.

Findings

The demographic characteristics for 384 participants were summarized in Table 1. Males made up 72.7% of the respondents.

The mean±SD score of Knowledge, Attitude, and Practice of participants was 7.51 ± 1.8 , 5.17 ± 0.89 , and 7.75 ± 1.47 , respectively.

It was found that most of all the participants

(94.5%) knew that the disease is prevented through hand washing, use of face masks, avoiding crowded places, and public transport. 94.8% of participants were of the view that the ongoing pandemic hurts Pakistan's economy, and 94.3% of respondents agreed with the statement, "It is important to account a supposed circumstance of COVID-19 infection to health authorities". 99% of respondents were avoiding crowds since the COVID-19 pandemic. About 90.6% of the respondents used vitamin c and vegetables to build immunity. Therefore, the level of KAP was high, positive, and good (Table 2).

Table 1 Results of demographic characteristics (n=384)

Characteristics	Number	Percent
Age		
15-25	279	72.7
26-35	75	19.5
36-45	21	5.5
46 and above	9	2.3
Gender		
Male	279	72.7
Female	105	27.3
Marital Status		
Single	300	78.1
Married	84	21.9
Education		
Undergraduate	245	63.8
Graduate	61	15.9
Master	60	15.6
Higher than master	18	4.7
Occupation		
Medical field	200	52.1
Non-Medical	184	47.9

Table 2 Levels results of KAP towards COVID-19 in participants (n=384)

Level	Number	Percentage
Knowledge		
High	337	87.8
Moderate	25	6.5
Low	22	5.7
Attitude		
Positive	322	83.8
Neutral	54	14
Negative	8	2.1
Practice		
Good	231	60.1
Fair	124	32.3
Poor	29	7.5

ANOVA and an independent samples t-test were used to make distinctions in demographic position with KAP to examine the effect of demographic variables on KAP scores (Table 3). Among demographic variables, education and study field were statistically significantly associated with knowledge ($p < 0.05$), while gender was significantly associated with attitude and practice ($p < 0.05$).

A strong correlation was found among knowledge with Awareness ($X^2=140.510$, $p=0.000$), Knowledge with Practice ($X^2=18.567$, $p=0.001$), and Attitude with practice ($X^2=17.119$, $p=0.002$) based on the results of the variants affiliation among understanding, mindset, and discipline towards COVID-19.

Table 3) Association of demographic characteristics and the mean±SD KAP scores

Characteristics	Knowledge			Attitude			Practice		
	Mean±SD	P-Value	F-Value	Mean±SD	P-Value	F-Value	Mean±SD	P-Value	F-Value
Age									
15-25	7.36±1.9	0.110	2.022	5.16±0.88	0.607	0.612	7.66±1.5	0.074	2.331
26-35	7.85±1.8			5.22±0.9			7.86±1.4		
36-45	7.95±0.8			4.95±0.8			8.28±0.9		
Above 45	8.00±0.7			5.33±0.8			8.55±1.0		
Gender									
Male	7.50±1.7	0.98	0.736	5.09±0.87	0.007	0.365	7.87±1.4	0.009	0.205
Female	7.51±2.0			5.37±0.9			7.43±1.4		
Education									
Undergraduate	7.38±1.9	0.005	-	5.15±0.9	0.620	0.593	7.67±1.4	0.121	1.949
Graduate	7.83±1.1			5.09±0.8			8.04±1.3		
Master	7.50±2.0			5.30±0.9			7.63±1.5		
Higher than master	8.1±0.7			5.22±0.7			8.27±1.0		
Study Field									
Medical field	7.80±1.01	0.002	35.7	5.24±.7	0.124	4.065	7.74±1.3	0.805	3.251
Non-medical	7.19±2.4			5.09±1.0			7.77±1.5		
Marital status									
Married	7.15±2.4	0.11	9.041	5.21±.8	0.115	2.317	7.73±1.4	0.538	0.061
Single	7.61±1.6			5.03±1.10			7.84±1.4		

Discussion

COVID-19 has become the center of global attention since its outbreak in December 2019. By spreading appropriate knowledge, encouraging a positive attitude, and motivating people towards aligned and desired practices, public health affects people's Knowledge, Attitude, and Practice, which are crucial to ensure effective prevention and control of the health emergency. This cross-sectional study (to the best of our knowledge, the first of its kind among residents of Khyber Pakhtunkhwa, Pakistan) assesses their KAP towards COVID-19. The analysis of this study, i.e., analysis of participants' knowledge, point of view, and behavior regarding COVID-19, would provide a testimonial for controlling the transmission of the ongoing COVID-19 pandemic. In this study, 87.8% of individuals had high knowledge of COVID-19. Only 9.1% of respondents were ignorant of COVID-19's primary clinical signs, and 8.6% of the participants thought the virus did not transmit by respiratory secretions. Our results were comparable to a recent study in China on KAP towards COVID-19 that found that 90% of the respondents had a high level of understanding [18]. Information is essential for creating favorable feelings and developing preventative beliefs [19]. In this study, we discovered that information directly influenced individuals' attitudes and practices regarding COVID-19 treatment, i. e.

In our research, greater cognitive scores on COVID-19 were significantly related to a favorable attitude ($p=0.000$) and excellent practice ($p=0.001$) toward COVID-19. These results are consistent with research, KAP regarding COVID-19 between many Iranians [20]. According to the findings of this research, 94.5% of those surveyed realized the causative organism of COVID-19 infectious disease, which is significant because understanding the etiology of an illness is the first step in health engagement. Then once individuals realize the etiology, they can better understand how illness is

transferred and what precautionary steps can be taken to restrict its propagation. Moreover, half of the people (235 out of 384) used social media as their main source of data about the COVID-19, and the number of social media viewers had a great deal of knowledge about the COVID-19. This matches the results of a prior Coronavirus outbreak studied by KAP (MERS-CoV) [21]. In this respect, caution should be exercised when utilizing social media as a main source of data because determining the veracity of informative sources is challenging, leading to misinformation. As a result, COVID-19-related instructional materials should be carefully evaluated by the general audience. In this research, 77.9% of the respondents properly understood the incubation time, indicating an acceptable degree of awareness of COVID-19 among KPK, Pakistani inhabitants compared to fully representative on some other coronavirus variants [22]. In this research, a significant majority of respondents (32.3 percent) did not think in the state's ability to tackle the current COVID-19 disease outbreak with existing funds, which contrasts with the research results of a KAP study conducted in China, which found that 97.1% of those surveyed had belief in their state's efforts to fight COVID-19 [18]. This could be due to fraudulent and incorrect information through social media, which is the respondents' key data source. As a result, it places a significant burden on healthcare authorities to guarantee that the public has access to needed genuine information via multiple methods of communication. The majority of those polled expressed support for vaccination (88 percent). Considering the participants' excellent information and positive attitude regarding COVID-19, the total practice rating in this research was 77.5%. As a result, more execution and provision of necessary organizations is needed to ensure that these well-adjusted mindsets are put into appropriate practice. As we have collected the data through an online designed questionnaire, as a consequence, various

biases, such as a lack of internet connection or illiterate, may have influenced the results. Because this research was confined to one region of Pakistan (Khyber Pakhtunkhwa), generalizing the findings to the entire nation may not be acceptable.

Conclusion

Most people have an acceptable degree of awareness (level of understanding) and viewpoint (attitude) regarding COVID-19. Furthermore, our research found a strong link between information, mindset, and practice. There is a dire need to create widespread awareness about COVID-19 among individuals who do not have access to social media through posters, television programs, etc., by the health care professionals to encourage a positive attitude and maintain the safe practice.

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Ethical Permissions: This study was approved by the Institutional Ethical Review Board (IERB) of Nowshera Medical College (No: 21-25/NMC/IERB/Sec).

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Authors' Contribution:

Akbar F. (First Author), Introduction Writer/Main Researcher (40%); Haris M. (Second Author), Methodologist/Main Researcher (20%); Haris S. (Third Author), Assistant Researcher/Discussion Writer (20%); Deeba F. (Fourth Author), Statistical Analyst (5%); Jehangir Khan M. (Fifth Author), Discussion Writer (5%); Hassaan Shah M. (Sixth Author), Assistant Researcher (5%); Qayyum M. (Seventh Author), Assistant Researcher (5%).

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