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Public Perception of Access to Health Information During COVID-19 Pandemic in Saudi Arabia As A Predictor of Psychological Distress

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Abstract

Background: People's perception about access to resources is an important determinant of their trust to deal with challenge. There is a lack of research about role of perceived access to information in psychological reactions during pandemics.

Objective: The purpose of the research was to examine the role of perceived access to information in determining quality of life and psychological responses during pandemics.

Method: Data for this study came from an online cross-sectional survey conducted during COVID-19 outbreak. The sample comprised of 754 participants from various regions of Kingdom of Saudi Arabia (KSA). The survey questionnaire obtained data on socio-demographic profile, participants' ratings about positive or negative impacts of COVID-19 pandemic on access to information. The distress is measured through subscales of depression, anxiety and stress on DASS-21. Statistical analysis of data was carried out to determine the nature of association between access to information with distress during pandemic.

Results: About three quarter (74.7%) of the respondents perceived not enough health information toward the COVID-19 pandemic. Participants diagnosed with COVID-19 had significant positive correlation with access to health information, while faith had negative correlation. Access to information had significantly positive correlation with Quality of Life and positive psychological responses.

Conclusions: The impact of pandemic on access to information was largely considered negative and associated with increased risk of depression, anxiety and stress. Findings have significant implications, which demonstrate improving access to information not only crucial for infection control but also mitigate the psychological costs of such pandemics.

Keywords: access to health information, pandemic, distress, protective factor, COVID-19, Saudi Arabia

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1. INTRODUCTION

The health crisis situation which is prevailing in various regions of the world since beginning of 2020 is attributed to new coronavirus disease [1]. This disease was officially named as COVID-19 and the virus was named SARS-CoV-2, by the International Committee on Taxonomy of Virus (ICTV) on the 11th February 2020 [1] It started as few cases of unusual presentation of pneumonia in Wuhan, China in December 2019 and very soon the human-to-human transmission of this virus accelerated resulting in a global pandemic as declared by WHO on March 11, 2020 [2]. The ongoing massive spread of Covid-19 is a major challenge for healthcare systems all over the world. As there is no definite treatment available for this novel virus, countries have to implement strict measures to prevent its spread. In the early period of pandemic, complete and partial lockdowns were implemented to control the spread of virus in Kingdom of Saudi Arabia (KSA). The Saudi government has offered support and created preparedness strategies and plans to manage the COVID-19 pandemic to secure individuals, reduce and cutoff virus transmission, and giving data to diminish the economic and societal impact. Currently, the public health education and awareness campaigns are emphasizing upon adoption of precautionary measures i.e., maintaining social distance, wearing face mask, hand hygiene and disinfecting surfaces.

Administrative decisions were passed to prevent public gatherings including sports, religious ceremonies, family functions, meetings as well as classes in school. In spite of these endeavors, numerous individuals overlook the significance of social distancing [3]

A quick rise in the number of cases of Covid-19, its related mortality and changes in the everyday life of individuals due to social distancing and lockdown created lot of distress in all populaces. Literature reports that previous epidemics of swine flu, SARS and MERS had a strong impact on well-being of the populations [4, 5]. A few segments of the populations are more vulnerable to such impacts because of their specialized medical care needs which can be disturbed during pandemics. Numerous bogus news about the pandemic spread quickly, coinciding with the widespread use of social media. Precise delivery of information about the risk of disease spread and preventive health behaviors may be the only strategy in the early stages of a pandemic. Access to information and knowledge about the magnitude of threat have been proved to be powerful predictors of compliance to preventive measures [6, 7].

Great extent health information is required to impact the level of adherence to the individual defensive measures and at last the clinical results. However, there is a gap in research about how people's perception related to access to information can influence their psychological responses during such pandemics. Psychological well-being plays an important role in adherence to preventive measures and coping with the threat of infection during epidemic or pandemic [8]. To control the psychological effects of such pandemics, it is important to understand the factors which intensify and moderate it. People's perception about access to resources is an important determinant of their confidence and trust to deal with challenging situations, which ultimately influence psychological responses. The current study thus focuses on examining the role of perceived access to information in determining psychological responses during pandemics.

During COVID-19 pandemic, Saudi Arabia was one of the first countries to implement strict lockdown measures to control its spread. After, detection of its first case of Covid-19 on March 2nd, all schools and universities were closed and shifted to online education. On March 12, all workplaces were closed and all social gatherings, sports events and air travels were banned. In late March, when the number of cases reached to 500, a complete lockdown was ordered in Riyadh, Jeddah, Makkah and Medina and travel was banned between all 13 provinces, In April, Saudi Arabia enforced a 24-h curfew in most cities of the country and started extensive testing for covid-19 [9].

A number of previous studies in Saudi Arabia assessed the response and preparedness of health system to COVID-19 pandemic [9, 10]. Few studies analyzed the use of digital technology in response to current situation [11] and some researchers described the socio-demographic factors effecting psychological impacts of covid-19 on general population [12]. We were not able to retrieve any studies which examined the association of perceived access to information with psychological responses during COVID-19 pandemic. This study thus fills the existing gap in research and provide more comprehensive understanding about factors which can increase or decrease the risk of psychological consequences contingent with normal life disruptions during pandemics.

2. METHODS

2.1. Study design and population

An online cross-sectional study was conducted between 4th to 17th July 2020. To assess the public response on perceived sufficient health information during the earlier lockdown period of the COVID-19 pandemic. An online questionnaire, distributed through various social media, including WhatsApp, Twitter, and Emails. Participants were encouraged to further distribute the survey link to friends and relatives in all Saudi Arabia regions aged ≥18 years. More details about the study population and sampling procedures can find in our previous article. More details about the study population and sampling procedures can find in our previous article.

2.2. Data collection

The questionnaire contained three sections: firstly, demographic characteristics (gender, age, occupation, marital status, educational level, family size, residence, and exposure to COVID-19 infection). Secondly, perceived health information toward COVID-19 pandemic was measured by item worded as *"Keeping in view the impacts of COVID-19 pandemic, how available to you was the information that you needed in your daily life?"* and responses were collected on five Likert rating scale (1= Not at all, 2= slightly, 3= somewhat, 4= to a great extent, 5= to the full extent).

For the analysis purpose, we categories the responses into two categories:

i. Those who respond to the above question as great or full extent were considered receiving enough health information to deal with the COVID-19 pandemic.
ii. Those who respond to the above question as not at all, slightly, and somewhat; considered receiving not enough health information to deal with the COVID-19 pandemic.

Thirdly, assessment of the quality of life (QoL) and Psychological responses. The World Health Organization (WHO) Quality of Life (WHOQoL) scale (citation) was used to assess the QoL dimensions regarding COVID-19 pandemic and lockdown measures. While Depression Anxiety Stress Scales (DASS-21) was used to assess the symptoms and levels of depression, anxiety, and stress [13]. The cut-off scores on each subscale were as follow: depressed > 4, anxious > 3, and stressed > 7.

2.3. Statistical analysis

Histogram and pie chart were used to display the assessment of sufficient information delivered during the COVID-19 pandemic. Chi-square test was computed for the categorical variable; besides, a Mann-Whitney U test was run to determine the median differences in QoL, and psychometric parameters scores between those receiving enough or not enough information toward the COVID-19 pandemic. Distributions of continuous independent variables for both groups (receiving enough or not enough information) were similar, as assessed by the inspection of a boxplot. All the statistical analysis was performed using IBM SPSS version 25 and presented as 2-sided, and $P<0.05$ was considered significant.

2.4. Ethical consideration

Respondents were voluntarily invited to participate in this study. Informed consent was taken at the beginning of the questionnaire describing the study details and purpose. The survey did not ask for any personal information of the participant. Ethical Review Committee of the University Hail

approved the study, and the ethical approval number is 55456/5/41.

3. RESULTS

3.1. Characteristics of respondents

Table 1 shows the descriptive characteristics of socio-demographic variables. A total of 754 participants were included in this study. More than half of the study population (54.1%) consisted of males. The participants mean age was 36±10.9, ranging from 18 to 65 years, and the majority (34.1%) was within the age group of 36-45 years. Almost three-quarters of the participants (74.1%) were Saudi citizens. Only 27.3% of the total participants were either diagnosed (6.9%) or had family members/friends (20.4%) diagnosed positive for COVID-19. More than two-thirds of the participants (71%) perceived positively access to health services during the pandemic when they needed. Finally, 57.4% of the questioned individuals believed in faith as a protector from catching COVID-19 infection.

3.2. Access to health information

In general, almost three quarters of the study population (74.7%) perceived not enough health information toward COVID-19 pandemic, while only 35.3% of them believed that they had received enough health information toward the pandemic (Figure 1. A&B).

There was no significant impact on the perception of access to health information toward the COVID-19 pandemic between age, gender, educational level, and marital status (p. value>0.05). In contrast, non-Saudi participants had a higher percentage (80.5%) of not receiving enough health information toward the COVID-19 pandemic (p. value<0.05). In contrast nationality, infected with COVID-19 and faith showed significant impacts. The majority of the diagnosed participants with COVID-19 (82.7%) reported that they perceived enough access to health information. *Vice versa*, the participant not diagnosed had a higher percentage of not receiving enough health information toward COVID-19 pandemic (p. value<0.05). Similarly, participant had family/friend positively diagnosed with COVID-19 had a higher percentage (83.1%) of not receiving enough health information (p. value<0.05). Finally, in both categories, participants who highly-to-extremely believe in faith to protect them from the pandemic had a higher percentage (83.4%) of perceived not enough health information than those who do not or moderately believe (p. value<0.001), as shown in table 1.

3.3. Relationship of perceived access to information with QoL and psychological responses:

The median of QoL score for those receiving enough information toward the COVID-19 pandemic was significantly higher than other group (p. value <0.001). At the same time, the median of psychological status scores (depression, anxiety, and stress) for those receiving enough information toward the COVID-19 pandemic was significantly lower than the other group (p. value <0.01), as shown in table 2.

4. DISCUSSION

In order to control the SARS-COV-2 virus and restrict its spread, a range of measures has been adopted worldwide. The Saudi government has implemented stringent measures ranging from complete lockdown to social distance measures. Therefore, the COVID-19 pandemic has caused disturbance in daily life routine and affected the physical and psychological health as well as QoL of people [14, 15]. However, to our knowledge, the impact of the access to health information on QoL and distress during COVID-19 pandemic has not been evaluated so far. Therefore, we assessed perception of access to health information and subsequently it's impact on QoL and distress among the general population of Saudi Arabia.

In this study, a total of n=754 individuals participated from all over regions in Saudi Arabia. Demographic analysis of the study population revealed that 54.1% of the participants were male. The participants' ages ranged from 18 to 65 years old and the 36-45 years old participants were the most dominant age group representative in the study (34.1%). According to the Saudi Authority of Statistics, male represent 57.7% of the population and the age group 35-44 years old represent 41.6% of the adult population, 19-65 years old [16]. Thus, the gender and age ratios obtained in our study are consistent with the actual ratios of the general population and this strongly validates our study in representing the total population of Saudi Arabia. Notably, the resident participants (25.9%) were underrepresented in this study as their actual ratio is 37% of the Saudi community [17]. This observation implies that language barriers and illiteracy might negatively influence the contribution of non-Arabic and non-English speakers in the contributions in such a survey.

Our results showed that only 25.3% of the participants perceived enough health information. These data are in line with a recent study that assessed the difficulty in finding health information among the Saudi community [18]. These ratios are markedly low compared to similar data obtained in other countries e.g., Norway, Netherlands, Germany and Italy [19, 20]. Thus, there is a need for measures increasing the accessibility to health information concerning COVID-19 and improvements of current strategies should be promoted. Among the variable tested, only nationality, diagnosed with COVID-19 and faith showed significant correlations with access to health information while it was irrespective of sex and age. However, both citizens and residents participants showed negative perception to the access to health information, it is significantly more prominent among residents. This could be due to several factors including language barriers and the wide social relationship of the residents. Indeed, weaknesses of written and spoken language skills, for instance, can be obstacles to achieving health information [21]. Accordingly, the information should therefore be concerned in more interactive formats, less reliant on formal literacy and local language skills [21]. Participants positively diagnosed with COVID-19 perceived enough access to health information while non-diagnosed participants reported not enough access. These data imply that infection with COVID-19 might be the main factor to force people to search for health information regarding COVID-19.

In general, the Saudi society is religious and notably believes in faith, regardless of the concept and meaning of faith they believe. Our study revealed that participants who don't-or-moderately believe in faith alone, while taking in parallel necessary measures, to protect them from the pandemic had shown increased access to health information compared to those who highly-to-extremely believe in faith without taking any action, suggesting that faith-based on taking in necessary measures may promote, albeit to a certain extent, to promote them to search for COVID-19-

related health information. Nevertheless, the importance of religion and faith for COVID-19 health promotion has been recently discussed [22]. Taking into account the most important characteristics of Saudi society as a religious community, the ease of access to a broad spectrum of the population by the faith-based organizations and religious leaders must be invested in strengthening health information and promotion.

The basic aim of this study was to see the predictive role of perceived access to information as a risk factor for distress. However, a Mann-Whitney U test was run to determine the differences in QoL, and psychometric parameters score between those receiving enough or not enough information during the pandemic. Distributions of the dependent variables for both groups were similar, as assessed by the inspection of a boxplot. The median QoL score for those receiving enough information was statistically significantly higher QoL score than other groups.

Our study analysis also revealed higher levels of depression, anxiety and stress among people who perceived negative or no impact on access to information in comparison to people who reported positive impact. Dissemination of reliable information plays a very important role in behavioral change of people and develops trust on health officials during an infectious disease outbreak [23]. Proper communication of the risk and prevention strategies is a part of immediate response to a pandemic. Lack of proper information or getting misinformation can create sense of anxiety and distress among common people [24]. Although Saudi Arabia was one of the countries with very active response to Covid-19 pandemic and all social media resources were used to spread the awareness among public, a significant percentage of people (74.7%) in our study sample reported negative impact on access to information. One of the previous studies suggest that when stress level is high among people, they do not trust the validity and authentication of information provided to them [24].

Addressing the specific communication needs of all population groups should be considered while planning the pandemic response. More vulnerable groups with specific health conditions, cultural, social and educational background should be specifically approached to disseminate the proper information about the cause and treatment of the disease and whom to contact in need.

Our study has few limitations. We cannot infer from current data that what are the factors which led people to perceived to access to information as negative impact. Further studies are suggested in future about the actual measurement of access to information and factors affecting them. In spite of these limitations, this study identified very important predictors of psychological distress in contrast to previous studies which mostly focused on the effect of socio-demographic factors on stress and depression.

5. CONCLUSION

Conclusion: Access to health information of the Saudi community is not being met efficiently. Increase access to health information significantly improves QoL as well as the psychological responses of the community. We propose promoting urgent and incremental improvements in existing information delivery systems for short- and long-term, respectively, strengthening of QoL and wellbeing.

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“Adaptations made into (Arabic language) from (Arabic-WHOQOL-BREF), Geneva, World Health Organization (WHO), (3 May 2020), (https://www.who.int/toolkits/whoqol/whoqol-bref/docs/default-source/publishing-policies/whoqol-bref/arabic-whoqol-bref, accessed (2nd June, 2020). WHO is not responsible for the content or accuracy of this translation/adaptation. In the event of any inconsistency between the English and the insert language translation, the original English version shall be the binding and authentic version.”

7. CONFLICTS OF INTEREST

The authors declare that they have no conflict of interest.

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TABLES

Table 1. Demographic characteristics and availability to access to health information during the pandemic in KSA

Variables	Total n (%)	Access to health information		
		Enough	Not enough	*P. value*
Total	754(100)	191(25.3)	563(74.7)	
Gender				
Female	346(45.9)	91(26.3)	255(73.7)	0.573
Male	408(54.1)	100(24.5)	308(75.5)	
Age in years				
18-25	146(19.4)	35(24.0)	111(76)	0.841
26-35	222(29.4)	54(24.3)	168(75.7)	
36-45	257(34.1)	65(25.3)	192(74.7)	
46-55	102(13.5)	28(27.5)	74(72.5)	
56-65	27(3.6)	9(33.3)	18(66.7)	
Education				
Middle School	10(1.3)	1(10)	9(90)	0.211
High School	89(11.8)	29(32.6)	60(67.4)	
College/University	402(53.3)	103(25.6)	299(74.4)	
Post-graduate	253(33.6)	58(22.9)	195(77.1)	
Marital Status				
Currently Not Married	246(32.6)	55(22.4)	191(77.6)	0.191
Currently Married	508(67.4)	136(26.8)	372(73.2)	
Nationality				
Saudi	559(74.1)	153(27.4)	406(72.6)	0.029
Non-Saudi	195(25.9)	38(19.5)	157(80.5)	
Chronic medical conditions				
Yes	195(25.9)	40(20.5)	155(79.5)	0.072
No	559(74.1)	151(27.0)	408(73.0)	
Diagnosed with COVID-19				
No	548(72.7)	156(28.5)	392(71.5)	0.005
Yes	52(6.9)	43(82.7)	9(17.3)	
Family/friends	154(20.4)	26(16.9)	128(83.1)	
Faith				
Not at all-moderate	321(42.6)	119(37.1)	202(62.9)	<0.001
Very much- an extreme amount	433(57.4)	72(16.6)	361(83.4)	

Table 2. Compare the median of quality of life and psychometric parameters score with access to information during the pandemic in KSA

Variables	Access to health information		
	Enough Median (IQR)	Not enough Median (IQR)	*P. value*
QoL score	46(41-52)	37(32-41)	<0.001
Psychometrics			
Depression	2(0-6)	4(1-9)	<0.001
Anxiety	1(0-4)	2(0-6)	<0.001
Stress	4(1-8)	6(2-10)	0.01

FIGURES

A

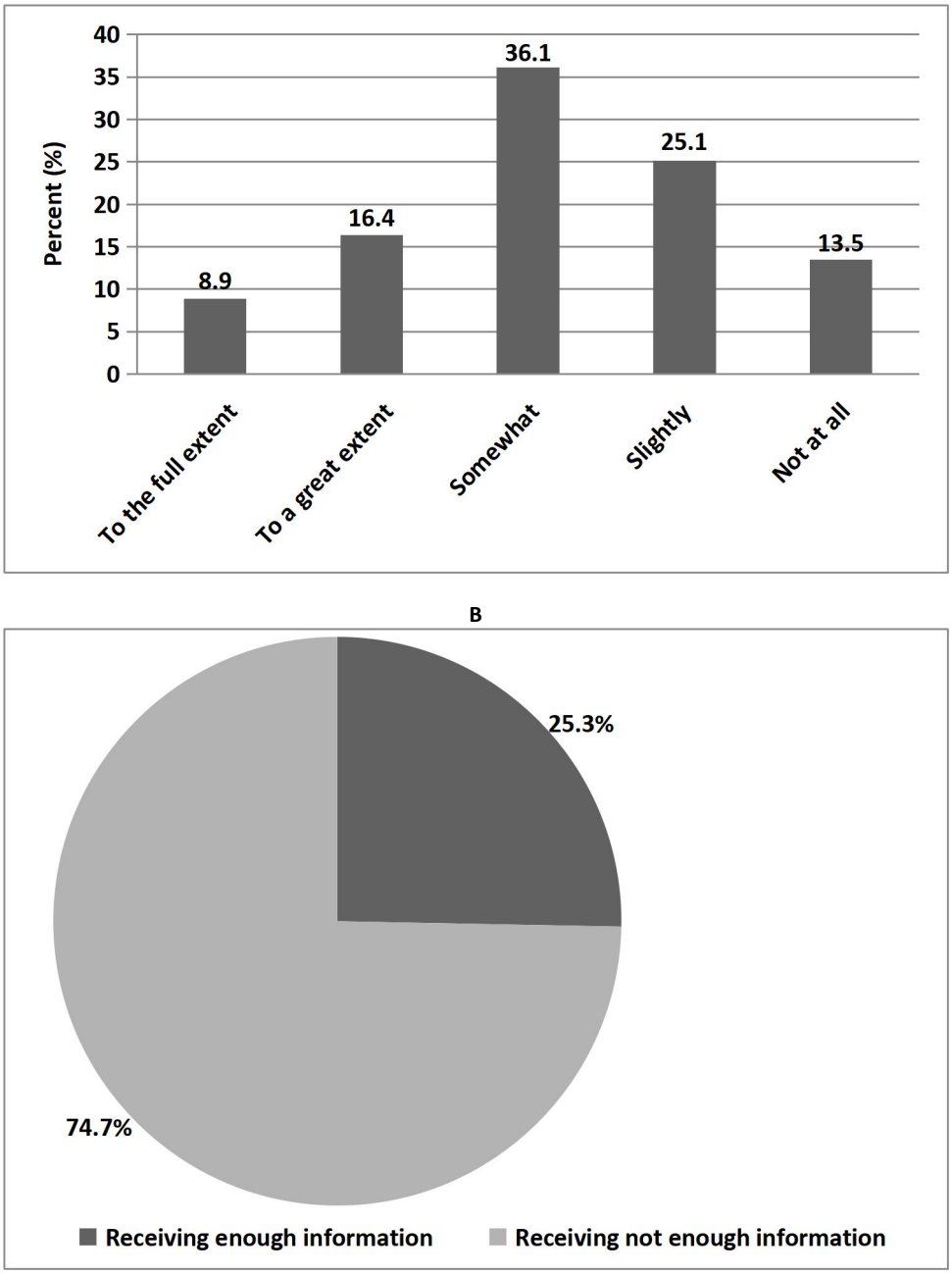

Figure 1. (A) illustrates the availability of relevant health information on a five Likert rating scale during the COVID-19 pandemic in KSA, 2020. "Not at all, slightly, and somewhat" and "to a great extent and to the full extent" were combined as "Not enough information" and "Eenough information", respectively. (B) shows availability of relevant health information during the COVID-19 pandemic into two categories in KSA, 2020