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Self-Reported Medical and Dental Care Needs During the COVID-19 Lockdown in Saudi Arabia

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ABSTRACT

Background: During the lockdown of the COVID-19 pandemic, a noteworthy shift in the utilization of medical and dental services was noticed. Hence, this study investigated the Saudi population's self-reported medical and dental care needs during the COVID-19 lockdown.

Study subjects and methods: The study participants comprised citizens and residents of Saudi Arabia who were active on various social media platforms (WhatsApp and Twitter). This cross-sectional study was carried out from June 15 to August 25, 2020, during the lockdown period in Saudi Arabia. An online questionnaire was prepared using the Survey monkey platform, and the link was shared on prominent social media platforms in Saudi Arabia. The questionnaire consisted of demographic variables, sources of COVID-19 information, any medical or dental care needs (rather than COVID-19 symptoms), and the action taken towards this need. Descriptive statistics, multiple response analyses and a Chi-square test were applied to the data.

Results: A total of 2938 subjects with a mean age of 31±10 years participated in this study. Of the 2938 participants, 2807 (95.5%) were citizens, and 131 (4.5%) were Saudi Arabian residents. Twitter (32.90%) was the primary source of information on COVID-19, followed by television (21.00%), government websites (16.7%), WhatsApp (13%), and other sources. Nearly 549 (18.7%) took an Analgesic (Pain Killer), 354 (12.0%) took the risk and went to a hospital emergency room, and 221 (7.5%) consulted a pharmacist. However, 651 (22.2%) took an analgesic for their toothache, and 405 (13.8%) visited an available dental clinic. In addition, 52 (1.8%) took the risk and went to the hospital emergency room, and 55 (1.9%) consulted a pharmacist. Gender (χ^2=9.799, p=0.007), marital status (χ^2=9.434, p=0.009), and work or study status in health care (χ^2 =12.870, p=0.012) demonstrated a statistically significant difference. Similarly, gender (χ^2=9.361, p=0.025) and marital status (χ^2=9.436, p=0.024) significantly affected participants' actions toward dental needs

Conclusion: During the COVID-19 lockdown, participants in this research reported a lack of medical and dental care needs. The use of analgesics was the primary response to medical and dental needs. The medical and dental measures taken during the COVID-19 lockdown differed considerably by gender, marital status, and health care professional position.

Key words: COVID-19, Dental need, Lockdown, Medical need

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INTRODUCTION

Globally, as of June 15, 2022, there have been 534,495,291 confirmed cases of COVID-19, including 6,311,088 deaths, reported to WHO [1]. Worldwide, governments have implemented stringent measures to maintain social distancing and preventative procedures, while effective treatments and vaccinations are being deployed to contain the epidemic and restore normalcy [2]. However, in addition to infecting people and increasing the disease burden, COVID-19 has presented a substantial concern to healthcare personnel. Frontline workers and dentists have a heightened risk of SARS-CoV-2 transmission via sick patients' saliva and COVID-19 transmission through asymptomatic carriers or incubating patients. In addition, studies show dentists become more concerned about contracting COVID-19 during dental treatment.

This resulted in the halting of dental procedures during the COVID-19 pandemic [3,4].

As the COVID-19 pandemic continues, several studies have found significant changes in the use of healthcare services due to measures such as lockdowns and orders to remain at home [5,6]. These changes include big cuts to services, especially in places where the pandemic hit hard, and selective increases, such as for telemedicine [7,8]. As a result, numerous individuals have not received the necessary treatment, such as life-prolonging cancer therapies or vaccinations [9,10].

In Saudi Arabia, dental practices were halted from the middle of March until August 2020, with tight preventative measures in place for only emergency treatments throughout the nation. This has compelled individuals needing normal dental care to seek consultations through social media platforms and use teledentistry [11].

During pandemics, health-seeking behavior reportedly changed [12,13]. An increase in self-medication and underutilization of health services were reported in Sierra Leone during the outbreak of Ebola in 2015 [13]. In addition, the prevalence of seeking assistance outside of health institutions during epidemics was observed by another research, highlighting the need for public health education [12]. During China's most recent COVID-19 epidemic, most individuals with severe respiratory illnesses did not seek medical care [14]. This highlights a need for a more comprehensive understanding of the dental and medical care-seeking behavior during the COVID-19 pandemic.

Most published research focuses on hospitalized COVID-19 patients and the risks of severe sickness or death, but little is known about the medical and dental needs during the COVID-19 lockdown in Saudi Arabia. Therefore, it is crucial to comprehend the use patterns during medical and dental treatment to identify the burden of medical and dental needs and plan for the continuing requirements of populations. Hence the purpose of this research was to investigate the expressed medical and dental care needs among the Saudi population during the COVID-19 lockdown. Secondly, assess the socioeconomic factors associated with medical and dental care needs in Saudi Arabia during the COVID-19 pandemic.

STUDY SUBJECTS AND METHOD

Ethical clearance

This study was registered (SRS/2020/30/207) in the research and innovation center of Riyadh Elm University, Saudi Arabia. The institutional review board assessed the study proposal and approved it. All online participants provided informed permission and guaranteed their privacy and confidentiality. The research participant's data was gathered anonymously. This study was conducted according to the declaration of Helsinki.

Study design

This was a cross-sectional study conducted among a sample of residents and citizens of Saudi Arabia from June 15 to August 25, 2020.

Sample size calculation

A minimum recommended sample of 385 subjects was calculated based on the acceptable margin of error of less than 5%, the confidence level of 95%, and the response distribution of 50%. This calculation was performed by using the RaoSoft online sample size calculator. However, to increase the power of the study, the sample size is further increased to (n=2938).

Study questionnaire

A structured, close-ended, self-administered questionnaire was utilized to assess the citizens' and residents' expressed medical and dental needs through social media platforms (WhatsApp and Twitter). A questionnaire consists of three parts; the first part included demographic information, the second part on source of information on COVID-19, and the third part included two items to assess the medical and dental needs. The expert dental public health practitioner reviewed all the questionnaire items to establish face validity. The forward and reverse translation approach was employed to convert the questionnaire into local Arabic. The questionnaire was pilot tested on 20 people to establish the Cronbach's alpha coefficient, which was reported to be 0.92, implying that the items had high internal consistency. A "Survey Monkey" application (California, USA) tool was used to prepare the electronic version of the questionnaire.

The demographic section of the questionnaire included eight factors, such as resident type, resident area, gender, level of education, occupation, marital status, work, or study in health care. The source of information on COVID-19 was elicited by asking the participants about newspapers, radio, television, a government website, Twitter, WhatsApp, YouTube, Facebook, and others. Participants were allowed to choose more than one response while identifying the source of information on COVID-19. The expressed medical and dental care needs were recorded by asking the participants whether they or their any family members fell sick (rather than COVID-19 symptoms) and needed medical care? What was their action towards medical needs?). Similarly, dental care need was noted among the study participants.

Questionnaire administration and response collection

An online survey monkey platform was used for digitizing the questionnaire. The functionality and response recording were tested by distributing the questionnaire link to 20 Saudi residents over WhatsApp. A final version of the questionnaire was developed after making suggested corrections and shared on social media platforms (WhatsApp and Twitter). There was no effort to obtain clinical data or identify individuals. The survey monkey program provided the excel spreadsheet

with the participants' responses. Data were coded and transferred into statistical software after removing inadequate and duplicate responses. This survey followed the Checklist for Reporting Internet E-Survey Results (CHERRIES).

Statistical analysis

Normality tests indicated the non-normal distribution of the data. Descriptive frequency distribution and percentages statistics were calculated for the demographic variables and self-reported medical and dental health care needs. Multiple response analysis was performed for the source of information on COVID-19. A Chi-square test was applied to assess the relationship between demographic variables and self-reported use of medical and dental health care needs during COVID-19 lockdown. All the analysis was performed using statistical software (SPSS version 25.0, IBM Corp., Armonk, NY, USA). A value of $p<0.05$ was considered significant for all statistical tests.

RESULTS

A total of 2938 subjects with a mean age of 31±10 years participated in this study. Of the 2938 participants, 2807 (95.5%) were citizens, and 131 (4.5%) were Saudi Arabian residents. Most of the respondents were Urbanites 2397 (81.6%), females 1725 (58.7%), and had university qualifications 2350 (80.0%). Nearly half, 1436 (48.9%), did not work/unemployed, and more than half, 1529 (52.0%), were single. A large percentage of participants were 2501 (85.1%) neither working nor studying in health care. The demographic variables of the study participants are shown in (Table 1).

Multiple response analysis indicated that Twitter (32.90%) was the primary source of information on COVID-19, followed by television (21.00%), government websites (16.7%), WhatsApp (13%) and other sources, as shown in Figure 1.

When enquired about the action toward medical needs during lockdown period of COVID-19, majority of the subjects responded 1814 (61.7%) saying they did not have any pain or medical problems. Nearly 549 (18.7%) took an Analgesic (Pain Killer), 354 (12.0%) took the risk and went to a hospital emergency room and 221 (7.5%) consulted a pharmacist (Table 2).

Similarly, when asked about the dental need most of the subjects expressed that they did not have any toothache or pain during lockdown period. However, 651 (22.2%) took an analgesic for their toothache, 405 (13.8%) visited available dental clinic. In addition, 52 (1.8%) took risk and went to the hospital emergency room and 55 (1.9%) consulted a pharmacist. The action taken for the dental needs by the study participants is shown in (Table 3).

A Chi-square test was performed to examine the relationship between socio-demographic variables and the action toward medical needs during the COVID-19 pandemic. It was found that gender (χ^2=9.799, p=0.007), marital status (χ^2=9.434, p=0.009), and work or study status in health care (χ^2 =12.870, p=0.012) demonstrated a statistically significant difference. More females than males took an Analgesic, consulted a pharmacist, and went to a hospital emergency room during the pandemic lockdown in Saudi Arabia. Similarly, many married

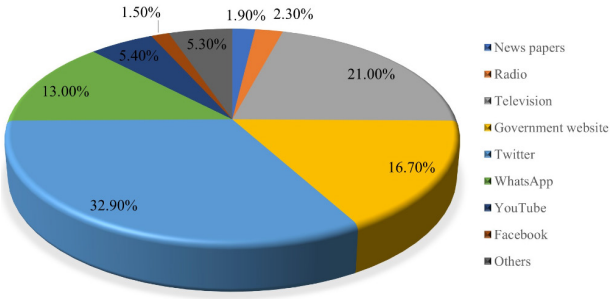

Figure 1: Multiple response analysis.

Table 1: Socio-demographic variables of the respondents (n=2938).

Variables		n	%
Resident type	Citizen	2807	95.5
	Resident	131	4.5
Resident area	Urban	2397	81.6
	Rural	541	18.4
Gender	Male	1213	41.3
	Female	1725	58.7
Education	Intermediate	30	1
	Secondary	558	19
	University	2350	80
Occupation	Government Employee	881	30
	Private/self-employed business	621	21.1
	Don't work/ Unemployed	1436	48.9
Marital status	Married	1409	48
	Single	1529	52
Do you work/study in health care	No	2501	85.1
	Health care student	189	6.4
	Healthcare employee	248	8.4

Table 2: During your lockdown period, have you or any member of your family fell sick (rather than COVID-19 symptoms) and needed medical care? What was your action towards this medical need?

Responses	n	%
Did not had any pain or medical problem	1814	61.7
Took an Analgesic (Pain Killer)	549	18.7
Consulted a pharmacist	221	7.5
Took the risk and went to a hospital emergency room	354	12
Total	2938	100

Table 3: During your lockdown period, have you or any member of your family had a toothache or pain and needed dental care? What was your action towards this Dental need?

Responses	n	%
Did not had toothache	1775	60.4
Took an Analgesic (Pain Killer)	651	22.2
Consulted a pharmacist	55	1.9
Took the risk and went to a hospital emergency room	52	1.8
Visited available dental clinic	405	13.8
Total	2938	100

participants consulted pharmacists, took the risk, and went to a hospital emergency room. Contrarily, a high number of single subjects took analgesics than married individuals. Moreover, many study participants who were not studying or working in health care took an analgesic, consulted a pharmacist, took the risk, and went to a hospital emergency room. However, resident type (χ^2 =0.305, p=0.858), resident area (χ^2 =0.304, p=0.859), education (χ^2 =6.198, p=0.185) and occupation (χ^2 =7.783, p=0.100) did not reveal any significant association with participants action towards medical need (Table 4).

A Chi-square test was performed to determine the relationship between socio-demographic variables and the action toward dental needs during the COVID-19 pandemic. A significantly higher percentage of females than males took an analgesic, consulted a pharmacist, went to a hospital emergency room, and visited available dental clinics during the pandemic lockdown in Saudi

Table 4: Association between socio-demographic variables and action toward the medical need.

Variable		Took an Analgesic (Pain Killer)		Consulted a pharmacist		Took the risk and went to a Hospital Emergency room		Ξ2	p
		n	%	n	%	n	%		
Resident type	Citizen	522	95.1	208	94.1	336	94.9	0.305	0.858
	Resident	27	4.9	13	5.9	18	5.1		
Resident Area	Urban	446	81.2	182	82.4	285	80.5	0.304	0.859
	Rural	103	18.8	39	17.6	69	19.5		
Gender	Male	208	37.9	80	36.2	167	47.2	9.799	0.007
	Female	341	62.1	141	63.8	187	52.8		
Education	Intermediate	5	0.9	5	2.3	2	0.6	6.198	0.185
	Secondary	100	18.2	34	15.4	73	20.6		
	University	444	80.9	182	82.4	279	78.8		
Occupation	Government Employee	172	31.3	68	30.8	121	34.2	7.783	0.1
	Private/self-employed business	107	19.5	41	18.6	87	24.6		
	Dont work/ Unemployed	270	49.2	112	50.7	146	41.2		
Marital status	Married	272	49.5	136	61.5	194	54.8	9.434	0.009
	Single	277	50.5	85	38.5	160	45.2		
Work/study in health care	No	483	88	196	88.7	284	80.2	12.87	0.012*
	Studying health sciences	28	5.1	12	5.4	29	8.2		
	healthcare employee	38	6.9	13	5.9	41	11.6		

Table 5: Association between socio-demographic variables and action toward the dental need.

Variables		Action towards this Dental need?								Ξ2	p
		Took an Analgesic (Pain Killer)		Consulted a pharmacist		Took the risk and went to a Hospital Emergency room		Visited a Dental Clinic that was Available			
		n	%	n	%	n	%	n	%		
Resident type	Citizen	623	95.7	54	98.2	50	96.2	387	95.6	0.865	0.834
	Resident	28	4.3	1	1.8	2	3.8	18	4.4		
Resident Area	Urban	537	82.5	45	81.8	43	82.7	325	80.2	0.877	0.831
	Rural	114	17.5	10	18.2	9	17.3	80	19.8		
Gender	Male	209	32.1	21	38.2	20	38.5	167	41.2	9.361	0.025*
	Female	442	67.9	34	61.8	32	61.5	238	58.8		

Education	Intermediate	4	0.6	2	3.6	0	0	5	1.2	12.564	0.051
	Secondary	138	21.2	9	16.4	13	25	62	15.3		
	University	509	78.2	44	80	39	75	338	83.5		
Occupation	Government Employee	176	27	19	34.5	15	28.8	126	31.1	4.435	0.618
	Private/self-employed business	118	18.1	10	18.2	8	15.4	79	19.5		
	Don't work/ Unemployed	357	54.8	26	47.3	29	55.8	200	49.4		
Marital status	Married	310	47.6	35	63.6	20	38.5	177	43.7	9.436	0.024*
	Single	341	52.4	20	36.4	32	61.5	228	56.3		
Work/study in health care	No	573	88	48	87.3	47	90.4	336	83	6.655	0.354
	studying health sciences	37	5.7	4	7.3	3	5.8	33	8.1		
	Healthcare employee	41	6.3	3	5.5	2	3.8	36	8.9		

Arabia (X2=9.361, p=0.025). Similarly, many married participants consulted pharmacists, while many single subjects took the risk and went to a hospital emergency room and visited an available dental clinic. However, marital status significantly affected participants' actions toward dental needs (X2=9.436, p=0.024) (Table 5).

DISCUSSION

In this study, we investigated the self-reported medical, and dental care needs in a sample of the Saudi population during the COVID-19 lockdown period. This study's results revealed that nearly forty percent of the participants had expressed their medical and dental health care needs during the pandemic lockdown. In line with our study [15], reported a very high magnitude of medical needs since over ninety-six percent of participants had at least one visit during the pandemic. This finding indicates less expressed medical and dental health care needs in Saudi Arabia during the pandemic.

Given the demand for resources caused by the COVID-19 pandemic, approximately 13.5 to 47% of people suffer from chronic pain. Almost all adults have gone through at least one episode of pain brought on by an accident or overuse, and chronic pain is common in society [16]. The management of patients, particularly those with chronic pain, is greatly impacted by COVID-19 [17]. The frequency of chronic pain in primary care is unquestionably significant; thus, it merits consideration from both a clinical and organizational perspective [18]. The requirement to administer analgesics is one of the most exciting parts of pain management for the healthcare system under such challenging circumstances. However, this has drawn much criticism and controversy since it is challenging from an organizational standpoint [19]. Despite this, in our study low percentage of participants took analgesics to overcome their pain during the lockdown period. This could be because all outpatient and elective interventional treatments have been scaled down or stopped during the COVID-19 pandemic to lessen the danger of viral spread, as most chronic pain services were determined to be non-urgent. Furthermore, lockdown and stay-at-home orders affected chronic pain management [17]. Analgesic drug shortage during the pandemic might have also contributed to the reduced percentage of analgesic use among the study participants.

Effective use of pharmacists' services is crucial to reducing the pandemic's triple burden since hospitals, community pharmacies, pharmaceutical companies, and drug regulatory bodies are excluded from the present lockdown being followed by most nations, including Saudi Arabia. In addition, a pharmacist may be used to reduce the confusion caused by the pandemic since they are one of the most dependable and approachable healthcare professionals [20]. However, this suggests that despite the pharmacist's consultation availability, only a small percentage of study participants consulted pharmacists for their medical needs.

Previous studies have reported a significant decrease in hospitalization rates for non-COVID-19 individuals for medical and surgical illnesses and those needing critical care support [5,21]. However, in line with this, only 12% of the study participants took the risk and went to a hospital emergency room. Moreover, the study participant's gender, marital status, and work/study status were significantly associated with their medical need. This could be attributed to the fear of the virus, the harsher lockdown measures, the postponing elective procedure, or the participant's feeling of civic duty [22].

Various personal and environmental causes generate the unpleasant feeling of fear. The current pandemic has disrupted people's everyday lives and psychological stability globally. Healthcare, including dental care, is a heavily hit field during the current pandemic. Seeking healthcare is vital for maintaining good health [23].

The current study exploring d the action taken by the people for their dental needs during the lockdown period. This study finding revealed that a low percentage of participants took an analgesic, visited the available dental clinic, and consulted a pharmacist. Furthermore, less than two percent of study participants took the risk and went to a hospital emergency room. This finding corroborates with the study reported by Guo et al. (2020),

in which 38% fewer patients visited dental urgency care, and non-urgency cases were reduced to three-tenths of pre-COVID-19.In addition, females were significantly more likely than men to take an analgesic, contact a pharmacist, take a chance, attend the emergency room of a hospital, and visit an accessible dental clinic. This could be due to the higher number of females seeking access to dental care than males during the pandemic since females are more sensitive to health care and its products [24].

STUDY LIMITATIONS

This study has some limitations. First, the data was based entirely on the study participants' self-reports during the lockdown period. There is a possibility of over or under-reporting the response due to social desirability. Moreover, lower participation of the residents and rural subjects limits the generalizability of the study findings. The data was gathered online; thus, the most disadvantaged people who had difficulties or did not use any social media site were not included in the research. In addition, answers were received solely from those with internet access and social media participation. Consequently, the findings only apply to these men and women.

CONCLUSION

During the COVID-19 lockdown, participants in this research reported a lack of medical and dental care needs. The use of analgesics was the primary response to medical and dental needs. Some study participants took the risk and attended an emergency department and available dental clinic, whereas pharmacist consultation was the least prevalent. The medical and dental measures taken during the COVID-19 lockdown differed considerably by gender, marital status, and health care professional position.

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