COVID-19 PANDEMIC: PSYCHO-SOCIAL CONSEQUENCES DURING THE SOCIAL DISTANCING PERIOD AMONG NAJRAN CITY POPULATION

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SUMMARY

*****Background***: COVID-19 is a global pandemic that endanger the health and enforced social distancing for the whole world. Social distancing may generate stress, anxiety, and depression. Understanding the psychosocial consequences of COVID19 during social distancing may help decision-makers to take suitable decisions that help in increasing awareness.This study aims to evaluate the psychosocial consequences of COVID-19 pandemic during the social distancing period and explore the relationship between social media use and psychological stress during COVID-19 outbreak among Najran city population.*

*****Subjects and methods:*** Descriptive correlational research design was utilized to carry out this study. A snowball sampling technique, was used to recruit participants live in Najran city during the COVID-19 pandemic (1508 participant).*

*****Results:*** A statistically significant differences (P<0.05) are observed between Saudi and non-Saudi participants in all social aspects assessed except for time spent on social media. In addition, a high mean of depression, stress, and anxiety subscale scores are observed in non-Saudi compared to the Saudi participants with statistically significant differences (p=0.000). As well as high DASS-21 total scores in non-Saudi compared to the Saudi participants. Also, there are positive statistically significant correlations (≤0.05) between participants' time spent in social media and their depression, stress, anxiety, and total DASS scores during the COVID-19 outbreak.*

*****Conclusion:*** The findings of the present study indicate that COVID-19 pandemic generates stress, anxiety and depression among Najran population especially, non-Saudi. This poor psychological condition is exaggerated with prolonged social media use. COVID-19 also has negative impact on social wellbeing and use of social media cannot replace direct contact with friends. The current study results may be utilized to formulate interventions that enhance psychosocial health and resilience during the COVID-19 outbreak.*

Key words: *anxiety - COVID-19 - depression - mental health - stress - social distancing*

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INTRODUCTION

At the end of 2019, several consecutive cases of severe pneumonia have been recorded in Wuhan, China. At the beginning of 2020 WHO confirmed the COVID-19 outbreak (Lucey & Sparrow 2020) WHO 110 situation reports on 9 May 2020 showed a sharp elevation in the number of cases internationally to 3 855 812 confirmed cases with death 265 862 with death rate 6.89%. The covid-19 spread all over the world with many cases as in the western Pacific (158 523), Europe (1 682 338), Southeast Asia (90 808), Eastern Mediterranean (224 022), America (1 636 841) and Africa (40 568). The WHO risk assessment is very high. COVID-19 spread very rapidly, which makes the entire world in a panic attack. For Saudi Arabia, the number of confirmed cases jumped to 37 136 cases with 239 deaths. The death rate is 0.64%, which makes the government take numerous protective and preventive actions. The most affected KSA regions are Riyadh, Jeddah, Mecca, Elmadina, Elkobar, Dammam, and Tabuk (WHO 2020a).

Clinical picture found in COVID-19 vary widely. It includes, but not limited to, high fever in most of cases, dry cough, generalized malaise and body ache, short-ness of breath, dyspnoea and respiratory distress in some cases. Another reported symptom includes haemoptysis and gastrointestinal disturbances. Some laboratory finding showed leucopenia and lymphopenia. Researches also shows vital signs stability in most cases. The pathophysiological consequences of COVID-19 is still unclear but septic shock, acute kidney injury, virus-induced cardiac injury, severe pneumonia and severe respiratory distress (Hui et al. 2020, WHO 2020b).

COVID-19 infection is not linked to specific country, ethnicity, or religion; it is a worldwide pandemic that mainly affects low immunity people. COVID-19 patient cannot be palmed for catching the infection. The society should provide support, empathy, and compassion for these people (WHO 2020c).

WHO had issued a management guide to deal with COVID-19 mainly build on preventive measures and strict infection control precautions, including isolation. It incorporates precautions applied at triage, droplet precautions, contact precautions, and airborne precautions when performing aerosol-generating procedures (WHO 2020b). These infection control precautions need knowledge and experiences to be applied. It also requires high self-efficacy and low perceived barriers for care.

KSA government takes a serious actions to decrease COVID-19 infection. It include online learning in schools and universities, decrease crowdedness in public places, strict infection control precautions in hospitals, stop airlines flights, Delaying Hajj and Umrah, curfew and social distancing.

Many studies concluded numerous psychosocial consequences of social distancing applied in different pandemics. These consequences include, but not limited to, anxiety, frustration, feels threatened, confusion, financial harm, and post-traumatic stress. Other studies reported a sense of loneliness, information deficiency, anger, sense of loss, and stigma (Inter-agency standing committee 2020).

During social distancing, social media is a double-edged sword. In one way, it's a good source of information and allows an effective way of communication. Furthermore, it may help to spend time in a funny conversation during quarantine. On the other hand, it may contain wrong information that may exaggerate fear and stress. In addition, it may encourage people to practice harmful behaviours and decreased perceived health status (Ahmad et al. 2020, Anderson et al. 2020).

Several researches are concerned with the psycho-social consequences of the pandemic. They reported that it has numerous consequences in both adults and children. These consequences include infection, fear for self, and loved people. In addition, people with chronic illnesses have special fears, worries, and deteriorating health conditions because they are at higher risk for acquiring infection. Other problems, including lifestyle disturbances, sleeping pattern disturbances, drug addiction, and financial problems (Fisher & Heymann 2020, WHO 2020d) The financial problem may result from limited people ability to work. Some poor people may have severe socio-economic stress, which may be long-lasting. This necessitates community and governmental support for those population (Jeong et al. 2016).

COVID-19 begins only since five months. Therefore, there are extremely few studies investigated its psycho-social consequences. So, the current study aims to evaluate the psycho-social consequences of COVID-19 pandemic during the social distancing period among Najran city population and exploring the relationship between social media use and psychological stress during COVID-19 outbreak.

SUBJECT AND METHODS

This is descriptive correlational study that was conducted at Najran city. A snowball sampling technique, amid to recruit participants live in Najran city during the COVID-19 pandemic, was utilized. Online survey was first disseminated to university students and academic/ administrative staff; later, they disseminated it to their relatives, friends, and others.

*Sample size was s*tatistically calculated using Epi-info program where; sample size for frequency in a population size is 331 683 according to the last population survey of general authority for statistics, KSA. Confidence level 99.99%, expected frequency 50%, design effect 1%. The sample size is 1508. The Inclusion criteria include; social media users, aged more than 19 years old, give consent for participation.

Three tools were used for data collection. *Tool I;* self-administrated questionnaire. It was constructed by the researchers after revising related literature. It involved two main parts; Part one it was designed to collect basic data such as gender, age, educational level, residence, nationality, marital status, occupation, income, parental status. Part two; the social consequences of social distancing during the time of COVID 19 pandemic. It includes social relationship alternatives, the effect of social distancing on family relation, time and types of social media use. Tool II; Depression, Anxiety, and Stress Scale (DASS-21). The psychological consequences during the social distancing period was assessed using the DASS-21. This scale comprises three sub-scales and contains 21 questions. The questions of the scale are equally divided to assess depression, anxiety, and stress. The total of each subscale scoring ranged from 0 to 21 (Lovibond & Lovibond 1995).

The instruments were tested for face, content, and construct validity by a jury of 5 expertise in the nursing and medical field. Instrument reliability was done using Cronbach's Alpha coefficient test. It indicated high reliability (r=0.905).

After approval of the research proposal by the deanship of scientific research at Najran University, informed consent was associated with the online survey The participant anonymity was be applied.

Data collection was done from the beginning of March until the end of April 2020 through online survey. The online survey was disseminated through social media, including WhatsApp, Snapchat, and twitter groups. Joined with the questionnaire link explanation of the study purpose was done. The confidentiality of the data was assured.

Data analysis

After the completion of data collection, SPSS version 23 was used to analyze data. Descriptive statistics as number, percentage, mean ±SD were used to describe the data. Differences between groups and correlations between variables were investigated.

RESULTS

Table 1 illustrates that 70% of the study participants are females, and 83% of them are University educated. Around two- thirds (65.2%) of them are married, and 70.6% of them are Saudi citizens. One-third of the study participants work on governmental organizations, while 26.7% don't work. In addition, 34.3% of the study participants have a monthly income of less than 5 000 SAR. Lastly, 65.1% of them have children.

Table 1. Basic data of the study participants (n=1508)

Basic data	No (1508)	%
Sex		
Male	453	30
Female	1055	70
Education		
Read and write	31	2.1
Secondary school	224	14.9
University	1253	83
Marital status		
Married	983	65.2
Single	473	31.4
Widow	15	1
Divorced	37	2.4
Nationality		
Saudi	1065	70.6
Non-Saudi	443	29.4
Working condition		
Governmental work	551	36.5
Private work	237	15.7
Student	317	21.1
Don't work	403	26.7
Monthly income		
<5000 SAR	518	34.3
5000-10,000SAR	493	32.7
>10,000SAR	497	33
Parenting		
Yes	981	65.1
No	527	34.9
Age (Mean±SD)	34.324±10.423	

Table 2 shows a statistically significant differences (P<0.05) between Saudi and non-Saudi participants in all social aspects assessed except for time spent on social media use. Both groups used social media nearly equally in a mean 4.6089±3.141 hours for Saudi and 4.7381±3.266 for Non-Saudi. Twitter (61.13%) is the most used social media among Saudi participants compared to Facebook (53.5%) among non-Saudi. Furthermore, 51.44% of the Saudi population agree that social distancing does not affect social relations compared to 45.82% of the non-Saudi. Also, 43.57% of Saudi participants reported that social media use does not give the same results as direct contact with friends compared to 58.92% of the non-Saudi. Around two-thirds (65.45% and 64.04%) of Saudi participants see that social distancing gives a chance for comfort/mind pace as well as participation in household activities and cooperation between couples compared to 49.44% 49.66% to the non-Saudi population, respectively. In addition, social distancing gives a chance to consolidate family relations in the opinion of 66.2% of Saudi participants compared to 64.79% among non-Saudi.

Table 3 indicates high mean depression, stress, and anxiety subscale scores are observed in non-Saudi compared to the Saudi participants with statistically significant differences (p=0.000). As well as high DASS-21 total scores are observed in non-Saudi compared to the Saudi participants with the mean score 16.31±13.93 and 23.25±15.76 for Saudi and non-Saudi participants respectively, with statistically significant difference (t=7.251, p=0.000).

Table 2. Social consequences of social distancing during COVID-19 pandemic among Saudi and non-Saudi participants (n=1508)

Social consequences	Saudi No (1065)			Non Saudi No (443)			Significance test	P value
	Yes n (%)	To some extent n (%)	No n (%)	Yes n (%)	To some extent n (%)	No n (%)		
Social distancing negatively affected social relation	170 (15.96)	347 (32.58)	548 (51.46)	128 (28.89)	112 (25.28)	203 (45.82)	FET= 32.328	0.000*
Social media use gives the same results as direct contact with friends	207 (19.44)	394 (37.00)	464 (43.57)	44 (9.93)	138 (31.15)	261 (58.92)	FET= 36.228	0.000*
Social distancing gives chance for comfort and mind pace	697 (65.45)	308 (28.92)	60 (5.63)	219 (49.44)	174 (39.28)	50 (11.29)	FET= 36.651	0.000*
Social distancing gives chance to practice household activities and cooperation between couples	682 (64.04)	296 (27.79)	87 (8.17)	220 (49.66)	147 (33.18)	76 (17.16)	FET= 35.859	0.000*
Social distancing gives chance to consolidate family relations	705 (66.20)	273 (25.63)	87 (8.17)	287 (64.79)	98 (22.12)	58 (13.09)	FET= 9.216	0.010*
The most used social media at COVID-19 social distancing	No (1065)	%		No (443)	%			
Facebook	2	0.19		237	53.50			
Twitter	651	61.13		176	39.73		FET= 724.165	0.000*
Telegram	17	1.60		0	0.00			
WhatsApp	316	29.67		20	4.51			
Instagram	79	7.42		10	2.26			
Time spent on social media use (Mean ±SD)	4.6089±3.141			4.7381±3.266			t=0.719	0.472

FET - Fisher exact test;   t - Independent t-test;   * P significant at ≤0.05

Table 3. Psychological consequences of social distancing during COVID-19 pandemic among Saudi and non-Saudi participants (n=1508)

DASS-21	Saudi Mean ± SD	Non-Saudi Mean ± SD	t test	P value
Depression score	4.77±5.20	7.81±5.47	6.809	0.000*
Anxiety score	5.95±5.46	7.23±5.49	4.724	0.000*
Stress score	5.59±5.29	8.21±5.82	8.498	0.000*
Total DASS score	16.31±13.93	23.25±15.76	7.251	0.000*

t - Independent t-test;   * P significant at ≤0.05

Table 4. Correlation coefficient between participant' time spend in social media and their psychological consequences during COVID-19 pandemic (n=1508)

DASS-21	Time spend in social media	
	r	P value
Depression score	0.335	0.000*
Anxiety score	0.258	0.000*
Stress score	0.248	0.000*
Total DASS score	0.301	0.000*

r - Pearson correlation coefficient;   *P significant at ≤0.05

Table 4 demonstrates that there are positive statistically significant correlations (≤0.05) between participants' time spent in social media and their depression, stress, anxiety, and total DASS scores during the COVID-19 pandemic.

DISCUSSION

While all the world was waiting for 2020 to celebrate a new and unique year, the corona virus's family has a different opinion. They developed a new fetal infection that told all the world that it would not be the year of celebration; it will be the year of fear, stress, depression, loss of loved people, and social distancing. COVID-19, name linked to numerous psychosocial consequences that affected all peoples at all levels, ethnicity, and countries. While people plan to take numerous technological advances in 2020, COVID-19 comes to teach them how to wash their hands, keep cleanliness and social distances.

The current study results show statistically significant differences (P<0.05) between Saudi and non-Saudi participants in all social aspects assessed except for time spent on social media use. Both groups used social media nearly equally in a mean of 4.6089±3.141 hours for Saudi and 4.7381±3.266 for Non-Saudi. It is expected that non-Saudi participants will be more affected by social distancing because they are away from their homes, families, and countries. Therefore, they will be more distressed when imposed to stay at home. Furthermore, most of them may be economically affected, which imposed more stress on them. Being socially away from families is stress on itself and exaggerated by being trapped in another country - also, the condition of uncertainty surrounding the pandemic as what will happen and when it will end.

No available studies reached on a database that compares the psychosocial consequences between expatriate and non-expatriate populations at the time of COVID-19 pandemic. In line with the present study is the report provided by Haleem et al. 2020. They reported that COVID-19 negatively affects all aspects of daily life activities. They illustrated that as the severity of pandemic increased all the countries enforced strict social distancing percusions over their population. They added that social distancing induced undue stress among the community due to restrictions on everything they usually do. Such as closer of prayer places and restricting celebrations, stopping air lines, and Isolation during religious events.

Furthermore, Debanjan and Rai 2020 investigated COVID-19 social distancing and its impact on a sense of loneliness. They reported that the people replaced the direct social contact with the online communication. They further added that online communication could not prevent the sense of social loneliness as the modern man in the time of technology, social media, airlines, and other methods of communication did not learn to spend time with himself. In addition, he will be punished if he breaks social distance. People are forced to meet loved ones only through the virtual world. They also emphasized that people need even minor interaction with neighbors or even stranger to share their fear. It is the time for humanity to share unity and face the threat together from the concept " we are all in this together". The current study illustrated that Twitter is the most used social media among Saudi participants compared to Facebook among non-Saudi. Ahmad et al. 2020 investigated the relation between social media use and COVID-19 panic among Iraqi population and reported that 82.6% among his participants in Iraqi used Facebook as social media at time of COVID-19 pandemic. The young male used Facebook more than females. The type of social media used is unique to each nationality and differ also according to age.

In the current study, around half of the Saudi population agree that social distancing does not affect social relations compared to 45.82% of the non-Saudi. This result may be attributed that most of Saudi families are extended one that mostly lives in the same large house or more than a home but the same cluster near to each other. So, they can meet each other's even

at the time of social distancing. On the other hand, the non-Saudi population lives away from each other and meets at the weekend in a public garden to communicate with friends, who mostly substitute their families. Therefore, 43.57% of Saudi participants reported that social media use does not give the same results as direct contact with friends compared to 58.92% of the non-Saudi. In addition, around two-thirds of Saudi participants see that social distancing gives a chance for comfort/mind pace as well as participation in household activities and cooperation between couples compared to one half of the non-Saudi population. Besides, social distancing gives a chance to consolidate family relations in the opinion of both Saudi and non-Saudi participants. Again, no available evidence found on the international database that discussed the social consequences of COVID-19 from this point of view. Therefore, this is the first study that compared the psychosocial consequences between expatriate and non- expatriate populations at the time of the COVID-19 pandemic.

In the present study, high mean depression, stress, and anxiety subscale scores are observed in non-Saudi compared to the Saudi participants with statistically significant differences, whereas the average scores are mild in Saudis and moderate in non-Saudis participants in the three subscales and total DAAS. These results appear to be reasonable, while the reason for the increase in depression, stress and anxiety, and the total DASS scores for non-Saudis may be attributed to increased anxiety and stress towards the family in the motherland and the severe fear of the unknown fate in a country other than his own due to the sharp increase in cases of COVID-19 in both countries. In addition to the WHO reports on the extent, severity, and potential deaths of the disease in most parts of the world.

There are many recent Chinese studies on COVID-19 were indicated similar results. The first Wang et al. (2020a) who had evaluated the stress, anxiety, and depression of the Chinese population during the COVID-19 pandemic. They found moderate stress, anxiety, and depression, while the mean scores were 7.76, 6.16, and 6.25, respectively. The second, Wang et al. (2020b) who had studied psychological impact and associated factors during the COVID-19 pandemic among Chinese population. They reported that more than half of their study participants ranked their psychological consequences as moderate to severe. The third, Li et al. (2020) who had explored the impact of COVID-19 on population psychological health. Their results showed the appearance of negative feelings (anxiety and depression) was observed among Active Weibo users after the announcement of the COVID-19 outbreak.

Moreover, in this regard, a recent study in Iran conducted by Zandifar and Badrfam (2020) to evaluate the impact of the COVID-19 outbreak on mental health. The authors emphasized the role of unpredictability, the significance of the infection, misinformation, and

social distancing in contributing to anxiety, stress, and depression. They also stressed the need for both psychological health services, mainly for vulnerable people, and the establishment of social capital to decrease the adversarial psychological consequences of COVID-19. In addition, another study conducted in Japan by Shigemura et al. 2020 emphasized the economic effect of COVID-19 and its impacts on mental well-being. They stated that the increased levels of fears and anxiety due to resources hoarding and storage among the Japanese population. The study also recognized people at risk of adverse psychological health consequences, including patients and their families with COVID-19, persons with chronic or mental illness, and health team.

Furthermore, the results of the current study are consistent to previous studies, which showed that public health emergencies (such as SARS) triggered a series of emotional stress response containing a higher level of anxiety, stress and less positive emotions (Maunder et al. 2003, Tam et al. 2004). COVID-19 affected various frontiers of life and initiated many individual and group psychosocial problems such as panic, anxiety, depression, post-traumatic stress disorders, suspicion, discomfort, and racism, etc. (Jakovljevic et al. 2020).

The current study also indicated a positive significant correlation between participants' time spent in social media and their depression, stress, anxiety, and total DASS scores during the COVID-19 pandemic. Many studies indicated that increased time spent on social media and increased frequency significantly associated with stress, anxiety, and depression (Shensa et al. 2018, Vannucci et al. 2017, Becker et al. 2013). In addition, it may lead to negative online experiences, less personal social interactions, and a lower ability to maintain attention (Baek et al. 2013) Moreover, Ahmad et al. 2020 had concluded that social media use is sharply increased during COVID-19 pandemic. He further added that the increased frequency of social media use is related to increased panic and stress among their participants.

CONCLUSION AND IMPLICATION

The findings of our study indicate high mean depression, stress, and anxiety scores in non-Saudi compared to the Saudi participants. Also, a significant differences are observed between Saudi and non-Saudi participants in all social aspects assessed except for time spent on social media use. Increased time spent on social media significantly associated with more significant psychological consequences as increased level of stress, anxiety and depression. The current study results can be utilized to formulate interventions that enhance psychosocial health and resilience during the COVID-19 pandemic.

Contribution of individual authors:

Awad Mohammed Al-Qahtani: idea, concept and design of the article, first manuscript draft, manuscript revisions, approval of the final version.

Wafaa Taha Elgzar: concept and design of the article, data collection, literature review, interpretation of data, first manuscript draft, approval of the final version.

Heba Abdel-Fatah Ibrahim: data collection, literature review, statistical analysis, manuscript revisions, approval of the final version.

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