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Research Paper

Aggression and violence during the lockdown caused by the COVID-19 pandemic in Kuwait

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ABSTRACT

Background: The lives of the global population have been drastically altered since the emergence of the 2019 coronavirus disease (COVID-19) pandemic. These changes comprise their daily lifestyle practices and the professional, and educational systems. In addition to these changes, many psychological illnesses issues have been detected globally.

Methods: This study aimed to investigate whether there are significant sociodemographic differences in reported cases of physical and verbal aggression, anger, hostility, and violence among 815 Kuwaiti residents during the lockdown caused by the COVID-19 pandemic. A non-random sample was recruited through the WhatsApp platform. The online survey contained sociodemographic information and 29 self-reported items rated on a Likert scale. In addition to demographic questions, online questionnaires included the Aggression Questionnaire (AQ). Questions regarding violence and COVID-19 infection were included in the online survey.

Results: Men, younger people, those who were single or divorced, students, and those with a lower level of education were more likely to report more instances of physical and verbal aggression, as well as hostility.

Conclusions: To assist psychologically vulnerable individuals in overcoming the negative effects of the COVID-19 pandemic, it is crucial to develop community-based strategies that are tailored to the specific conditions and cultural traditions of each country. Diverse strategies for mental health support programs administered by social workers and mental health professionals are required to reduce aggression and violence levels. Since this study is a cross-sectional survey conducted during the total lockdown, it is difficult to conclude that the lockdown provoked the escalation of the aggression.

- Males were more physically and verbally aggressive than females during the total ban of the COVID-19 pandemic.
- Young participants who were between 18 and 29 years old appeared more aggressive, physically aggressive, and hostile.
- Participants who were single showed more physical and verbal aggression, anger, and hostility than the other marital groups.
- Participants who had received a high school diploma or less showed more anger and hostility than other educational groups.
- Participants who were exposed to violence showed more physical and verbal aggression, anger, and hostility than other groups.
- Participants who were students showed more physical and verbal aggression, anger, and hostility than other employee groups.

The global population's lives have been drastically altered since the emergence of the coronavirus disease 2019 (COVID-19) pandemic. These changes comprise their daily lifestyle practices, as well as the educational, professional, and transportation systems. The World Health

Organization (WHO) has declared several instructions to constrain the spread of the virus due to its life-threatening impacts on patients' health; these instructions aim to impose physical distance and social isolation, such as by general lockdown and quarantine (Galea et al., 2020; Montemurro, 2020; Rubin & Wessely, 2020; Sakib et al., 2020; Shigemura et al., 2020). Along with the significant impact of the pandemic on the population's physical health system, many psychological illnesses and mental health issues have been detected as well worldwide (Di Giuseppe et al., 2020; Kilius et al., 2021; Killgore et al., 2021). Moreover, the impact of the COVID-19 outbreak has extended to affect the dynamic of household activities and household members' interpersonal relation during the lockdown period (Agüero, 2021; Cappa & Jijon, 2021; Florido, 2021; Usher et al., 2021). Several cross-cultural studies have demonstrated that during the COVID-19 pandemic, rates of reported cases of domestic violence between parents and children and intimate partners increased (Cluver et al., 2020; Godin, 2020; Leslie & Wilson,

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2020; Selvaratnam, 2020). Researchers have explained that the elevation of violence during the pandemic was due to many factors, such as loss of control, stress, economic crisis, fear of losing loved ones, incapability of socially contacting others, uncertainty about the future, and difficulty adjusting to the present condition. These concerns led to escalated degrees of stress and stress-related mental health problems among parents and couples, causing them to abuse other members of their family (Barone, 2020; Golfieri and Andrian, 2020; Reger et al., 2020; Women's Aid, 2020). A cross-sectional study conducted among married couples during the lockdown implemented to constrain the outbreak of the COVID-19 pandemic revealed that 45.3% of the married women reported higher total score of stress, anxiety, and abuse by their husbands (Akel et al., 2021). The Italian government started to authorize hotels to offer accommodation for individuals who reported abuse and domestic violence due to the high levels of aggression and distress people were feeling as a consequence of imposing quarantine (Davies & Batha, 2020). Moreover, according to a BBC news report (2020), domestic violence and emotional, physical, and sexual abuse increased between individuals during the lockdown, and 25% of the calls received by the Refuge Charity helplines in the UK were related to domestic abuse (Kelly & Morgan, 2020). The findings of Brooks et al. (2020) and Greenaway et al. (2015) revealed that the main risk factors for developing aggression and anger during the pandemic were social isolation and forced proximity. Moreover, the reported cases of domestic violence, particularly violence against women and girls, have increased since the outbreak of COVID-19 based on the UNDP Brief on Gender Based Violence and COVID-19. In addition, the Nações Unidas Brasil report (2020) and Bassan and Casos de violência (2020) study in Brazil revealed that during the COVID-19 pandemic and after imposing the nationwide social distancing rule, cases of domestic violence against women reported to the hotline provided by the Ministry for Women increased by up to 50%. Campbell (2020) stated that during the COVID-19 pandemic, fatal domestic violence increased in the United States, and there was a strong association between firearm access and incidents, as the high level of stress and other factors related to the COVID-19 pandemic led people to purchase guns and ammunition. Abdullah (2020) brief report illustrated the significant impact of misleading online media during the COVID-19 pandemic on the Indonesian population's psychological health, stating that many of them experienced psychological trauma due to the rapid response task force established by the health authority. Factors such as lockdown strategies, limited mobility, insufficient preparation, and an inadequately supplied health care system contributed to elevated levels of individual violence against partners and children. During the pandemic, Indonesian health authorities enforced certain regulation to constrain the outspread of the virus, such as work-from-home and social distancing policies. These regulations were accompanied by elevated rates of domestic and sexual violence and sexual harassment, such as rape, and sexual assault, specifically among children and women (Puspa, 2020). Risky (2020) stated that there was an association between men's career status and domestic violence in Indonesia during the COVID-19 pandemic. Between March and April 2020, there were 275 and 368 reported cases of domestic violence against women and children, respectively. The main risk factor that led to the increased cases of domestic violence was the high rate of unemployment among men. Worldwide, researchers have detected that during the COVID-19 pandemic, reports of family violence and domestic abuse against children, women, and intimate partners have increased since the imposition of social isolation and quarantine (Campbell, 2020; Gosangi et al., 2021; Duncan, 2020). For example, in Australia, during the COVID-19 pandemic, domestic abuse call-outs had increased by 5% since the health authorities' imposition of the public lockdown that enforced social isolation; demand for domestic violence services also increased during this time, and Google searches relating to support for domestic abuse increased by 75% (Kagi, 2020; Peterman et al., 2020; Poate, 2020). Furthermore, the National Society for the Prevention of Cruelty to Children (NSPCC) released a report illustrating that due to the

complete lockdown and school closures, children who were staying and studying at home were at greater risk of mistreatment and domestic, emotional, physical, and sexual abuse (NSPCC, 2020).

Kuwait total lockdown

On February 23, 2020, the first confirmed case of COVID-19 was reported in Kuwait. As a result of the public health authority's measures to limit the spread of the virus, people's daily routines and behaviors have been drastically altered. These health procedures included weeks of quarantine; a partial and complete lockdown for three months from March 2020 to May 2020; the closure of worship houses, malls, and parks; the cancellation of all public events (weddings, funerals, and elections); and the closure of schools and workplaces. According to a report issued by the Kuwait Minister of Health (2022), there are 1,243 patients undergoing treatment, four of whom are in critical condition, and no fatalities (<https://corona.e.gov.kw/en>).

Since the emergence of the COVID-19 pandemic in Kuwait, numerous studies have examined the impact of the pandemic and its health-related regulation on the mental health and psychological wellness of individuals. For instance, a study involving 975 participants aimed to measure the differences between sociodemographic variables, stress, anxiety, depression, and exposure to violence during the total lockdown imposed due to the COVID-19 pandemic (Al-Kazi et al., 2022). The study found significant differences in gender, marital status, age, level of education, nationality, occupational status, depression subscale scores, and exposure to violence among participants. Males of Kuwaiti nationality, those aged 50 and older, widowed, with a higher level of education, and those who had recently been exposed to violence were more likely to experience depression, anxiety, and stress than other age groups. Another study (Al-Ma'Seb and Al-Sejari, 2022) was conducted among 430 males in Kuwait to examine the relationships between participants' attitudes about illness related to COVID-19 (thanatophobia, fear of pain and disease, hypochondriacal beliefs, and treatment experience) and precautionary practices (consuming a healthy diet, washing hands, and taking vitamins). The findings of the study revealed that participants' beliefs, attitudes, and behaviors regarding health significantly impacted their mental health condition and COVID-19-related preventive health behaviors. In addition, Alsairafi et al. (2021) examine the effect of the COVID-19 pandemic on the mental health status of undergraduate students in the Health Sciences Center and healthcare professionals among 857 individuals in Kuwait. The results of this study indicate that there are statistically significant differences between the prevalence of severe anxiety and depression among undergraduates in the Health Sciences Center and healthcare professionals. Males over the age of 50 and those who did not have direct contact with COVID-19 patients reported lower levels of depression. Another study by Al-Sejari and Al-Kandari (2022) aimed to determine the impact of the COVID-19 pandemic on the mental health and lifestyle of Kuwaiti men during the complete lockdown. The study's findings indicate that the imposition of the total lockdown had a significant impact on the mental health of men as a result of major changes to their daily schedules and the closure of workplaces, mosques, gyms, and Diwaniyyah.

The significance of the study

To our knowledge, little research has been conducted in Kuwait during the COVID-19 pandemic that aimed to examine the difference based on sociodemographic variables such as gender, marital status, age, employee status, and educational level in the reported levels of physical and verbal aggression, anger, and hostility, during the total ban caused by the COVID-19 pandemic. Our findings have the potential to benefit the fields of social work and psychology and help mental health professionals and social workers to identify individuals who are at high risk of developing physically and verbally aggressive behaviors, anger, and hostility during the COVID-19 pandemic and introduce proper

intervention programs to moderate and mediate their aggressive and destructive behavior and enhance their quality of life. Moreover, the current study's findings could be valuable for public health authorities' strategies and procedures, considering the resemblances between the Arabian Gulf countries in their cultural norms, traditions, and family principles and duties, when they make future plans or enforce regulations and procedures regarding the COVID-19 pandemic.

The purpose of the study

According to ecological systems theory (EST), there are mutual interactions between individuals and their surrounding ecological systems throughout their lives; these interactions between the four main systems (microsystem, mesosystem, exosystem, and macrosystem) and individuals create their daily dynamic setting (Bronfenbrenner, 1979). As the center of the ecological system, individuals are constantly affected by the surrounding system, and the level of the impact depends on the scope and the size of the given active ecological systems; however, it is more powerful than the impact of the individual on the ecological system (Tanhan, 2019; Tanhan & Francisco, 2019; Tanhan & Strack, 2020). From the perspective of EST, the drastic alteration of individuals' ecological systems during the COVID-19 pandemic, due to the health regulations and procedures to constrain the outbreak of the pandemic by imposing social and physical distance, created a surrounding ecological system of discomfort, filled with stress and anxiety, which stimulated diverse forms of abuse, aggression, and violence (Campbell, 2020). The purpose of the current study was to assess whether there were significant differences based on sociodemographic characteristics (gender, marital status, age, employee status, and educational level) in the reported cases of physical and verbal aggression, anger, hostility, and violence among individuals who lived in Kuwait during the total ban caused by the

COVID-19 pandemic. It also aimed to examine the relationship between individuals' exposure to violence and reported incidence of physical and verbal aggression, anger, and hostility.

Research questions

Research Question 1: Is there a statistically significant difference based on sociodemographic variables such as gender, marital status, age, employee status, and educational level in aggression among individuals who lived in Kuwait during the total lockdown caused by the COVID-19 pandemic?

Research Question 2: Is there a statistically significant difference based on exposure to violence in aggression among individuals who lived in Kuwait during the total lockdown caused by the COVID-19 pandemic?

Figure 1

Methods

Study design

This study used a cross-sectional design. An online survey was distributed to participants to measure aggression behavior during the COVID-19 pandemic in Kuwait. The survey started after the total lockdown in Kuwait (May 22, 2020), and it ended on the last day of the total ban: August 30, 2020. In addition to demographic questions such as gender, marital status, age, and level of education, online questionnaires included the Aggression Questionnaire (AQ). Questions regarding violence and COVID-19 infection were included in the online survey.

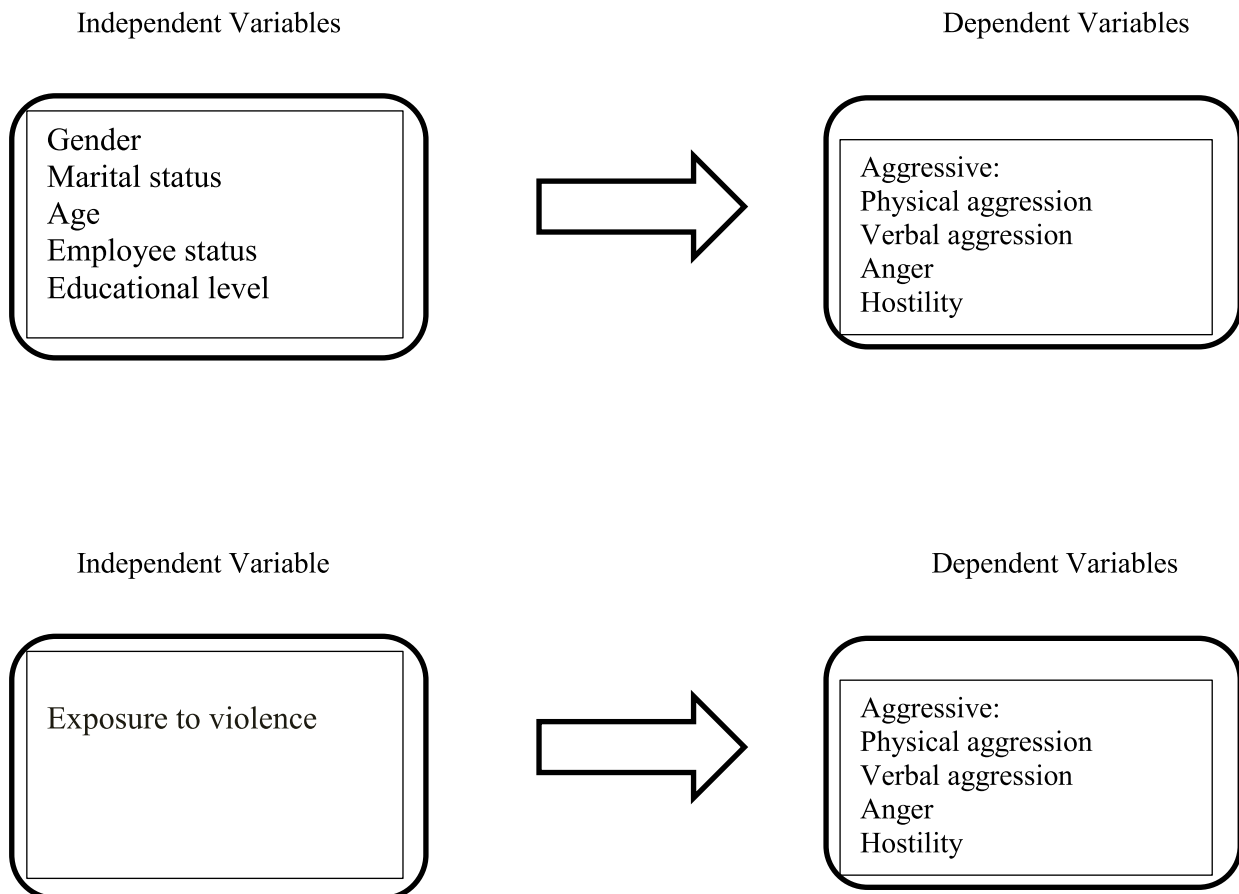


Figure 1. 1. Conceptual Framework

Study sample

A non-random sample was recruited. The authors of the study contacted individuals through the WhatsApp platform to get their agreement to participate in the study and to send the online survey. They were also encouraged to forward the questionnaire to other potential candidates they may know. On the online survey, there was a statement indicating that consent is implied if you choose to participate in the study. The selection of study participants was based on the following criteria: a minimum age of 18 and residence in Kuwait during the COVID-19 pandemic.

The Central Statistical Bureau (2022) estimated Kuwait's population in 2020 to be 446,4521. The sample size was determined based on the following factors: confidence level (95%), the margin of error (5%), population proportion (50%), and population size (4464521). Based on the above formula, the sample size for this study is 385. After the responses were received, incomplete questionnaires were excluded from the analysis. There were a total of 815 individuals who participated in this study. The majority of the study participants were recruiting during the first week, and we reached the rest of them before the end of the total ban because some of the participants were hard to reach, such as older participants. Participants' ages ranged from 18 to 80 (mean = 42.9 years old, SD = 13.5). Table 1 provides the demographic characteristics of the sample (N = 815).

Aggression Questionnaire (AQ)

Aggression was measured using the Aggression Questionnaire (AQ) created by Buss and Perry (1992). The AQ comprises 29 self-report items rated on a 5-point Likert scale with higher scores indicating more aggressive (Buss & Perry, 1992). The AQ measures physical aggression

Table 1
Sample Characteristics (N = 815)

Variables	n	%
Gender		
Female	495	60.7
male	313	38.4
Governorate		
Capital	263	32.3
Hawally	268	32.9
Mubak Alkabeer	85	10.4
Farwaniya	121	14.8
Ahmedi	48	5.9
Jahra	24	2.9
Educational Level		
High School	146	17.9
Bachelor	482	59.1
Master & PhD	186	22.8
Marital Status		
Single	187	22.9
Married	557	68.3
Divorce	48	5.9
Widower	15	1.8
Employee status		
Student	107	13.1
Employee	470	57.7
Retired	152	18.7
Businessman	46	5.6
Unemployed	23	2.8
Other	17	2.8
Do you have chronic diseases?		
Yes	232	28.5
No	583	71.5
Have you been infected with COVID-19?		
Yes	9	1.1
No	806	98.9
Have any of your relatives or friends been infected with the COVID-19?		
Yes	280	34.4
No	533	65.4

(PA), verbal aggression (VA), anger (A), and hostility (H). The AQ has performed well in concurrent validity and has excellent reliability (.89); the alphas for subscales were PA (.85), VA (.72), A (.83), and H (.77) (Corcoran & Fischer, 2007). Hostility has been defined as a negative evaluation and attitude toward others that motivate aggressive behavior (Berkowitz, 1993; Buss, 1961; Spielberger, 1988). As Arabic was the first language of the participants, the AQ was translated into Arabic for the current study. The AQ's back translation was performed by professionals. Four faculty members from Kuwait University evaluated the validity of the AQ scale. A pilot study was conducted to ensure the scale's reliability. In the current sample, Cronbach's alpha for the AQ was .91, and for the subscales as follows: PA (.80), VA (.70), A (.75), and H (.78).

Ethical consideration

The data collection procedures followed the rules and regulations of Kuwait University for research methodology involving human experimentation and the Helsinki Declaration of 1975, as revised in 2013. The online questionnaire covered the following: an invitation to cooperate in the study, a statement outlining the participant's freedom to contribute or not to the study, and a statement outlining the participant's complete free will to draw from the study at any time with no commitment. Moreover, participants were assured that their data would be de-identified and known by numerical series, and only the authors would have access to the information. Moreover, participants were assured that the survey questions did not include any uncomfortable questions or therapeutic intervention or require blood drawing.

Statistical analysis

The Statistical Package for Social Sciences (IBM SPSS 25.0) was used in this study to analyze the data. The descriptive statistics were used to describe the sample characteristics. The Cronbach's alpha was conducted to verify the reliability of the scales. The t-test and analysis of variance (ANOVA) were used to measure differences between variables. The effect size was η^2 for ANOVA and it was categorized as small ($\eta^2 = 0.01$), medium ($\eta^2 = 0.06$), and large ($\eta^2 = 0.14$) (Pieh, Budimir, & Probst, 2020). In addition, Hedges' g was categorized as a small effect (0.2 - 0.5), a medium effect (0.5 - 0.8, and a large effect > 0.8 (Pieh, Budimir, & Probst, 2020).

Results

Results of t-tests are presented in Table 2. Males were more aggressive than females during the total ban of the COVID-19 pandemic. Furthermore, males were more physically and verbally aggressive than females. However, there were no differences between the genders in terms of anger and hostility, with $p < .05$.

Table 2
Aggression Questionnaire by Gender

		Gender		Total	Statistic
		Male	Female		
PA	M	16.7	14.1	15.2	$t(794) = 6.12; p < .001; g = 0.434$
	SD	6.4	5.5	6.1	
VA	M	13.1	12.0	12.4	$t(794) = 3.69; p < .001; g = 0.261$
	SD	3.6	4.0	3.9	
A	M	17.9	17.4	17.6	$t(794) = 1.46; p = .142; g = 0.103$
	SD	4.8	4.8	4.8	
H	M	17.8	17.8	17.8	$t(794) = .084; p = .933; g = 0.005$
	SD	5.7	6.1	5.9	
AQ	M	67.5	63.9	65.4	$t(794) = 2.76; p < .01; g = 0.195$
	SD	17.3	17.8	17.9	

p: p-values (2-tailed); M: mean score; SD: standard deviation; t: t-test; PA: Physical Aggression subscale; VA: Verbal Aggression subscale; A: Anger subscale; H: Hostility subscale; AQ: Aggression Questionnaire

Table 3 shows the differences in aggression by age. Participants who were between 18 and 29 years old appeared more aggressive, physically aggressive, and hostile. Participants who were between 30 and 39 years old appeared more verbally aggressive. However, both categories (18–29 and 30–39) showed the same level of anger, which was higher than the other age categories.

There were significant differences in aggression based on marital status, which are presented in Table 4. Participants who were single showed more physical and verbal aggression, anger, and hostility than the other marital groups. However, participants who were divorced showed more verbal aggression than the other groups.

Results of ANOVA analysis are presented in Table 5. Participants who had received a high school diploma or less showed more anger and hostility than other educational groups. Furthermore, participants who had bachelor's degrees were more aggressive than other educational groups. However, there were no differences between educational levels in physical and verbal aggression, at $p < .05$.

Results of ANOVA analysis are presented in Table 6. There were significant differences in aggression based on exposure to violence. Participants who were exposed to violence showed more physical and verbal aggression, anger, and hostility than other groups.

Results of ANOVA analysis are presented in Table 7. There were significant differences in aggression based on employee status. Participants who were students showed more physical and verbal aggression, anger, and hostility than other employee groups.

Discussion

Since the outbreak of the COVID-19 pandemic worldwide, mental health crisis and psychosocial problems have been detected among individuals living in countries that imposed social isolation, quarantine, and lockdown (Bradbury-Jones & Isham, 2020; Huang & Zhao, 2020; Tian et al., 2020; WHO, 2020). This study highlights the differences based on Kuwaitis' sociodemographic characteristics in reported cases of physical and verbal aggression, anger, hostility, and violence during the total lockdown caused by the COVID-19 pandemic in Kuwait. It reveals that the individuals who were at higher risk of developing aggressive behavior during the total lockdown were men, younger, single or divorced, students, and less educated. The present study shows that men reported more physical and verbal aggression than women which is dissimilar to Conversano et al. (2020) and Zhong et al. (2020) findings that women were more prone to developing distressful psychological symptoms during stressful situations than men. These differences can be due to several factors that impact individuals' mental

Table 3
Aggression Questionnaire by Age

		Age				Total	Statistic
		18-29	30-39	40-49	50+		
PA	M	17.5	16.8	14.9	12.9	15.2	F(3; 769) = 25.7; $p < .001$; $\eta^2 = 0.091$
	SD	7.9	5.8	5.2	4.7	6.1	
VA	M	13.5	13.6	12.5	11.1	12.4	F(3; 772) = 19.4; $p < .001$; $\eta^2 = 0.070$
	SD	4.4	3.7	3.6	3.6	3.9	
A	M	19.1	19.1	17.5	15.8	17.6	F(3; 771) = 23.2; $p < .001$; $\eta^2 = 0.083$
	SD	5.5	4.1	4.7	4.4	4.8	
H	M	19.7	19.3	17.6	15.9	17.8	F(3; 749) = 18.0; $p < .001$; $\eta^2 = 0.067$
	SD	6.2	6.1	5.7	5.3	5.9	
AQ	M	72.7	71.1	65.4	57.3	65.4	F(3; 734) = 33.5; $p < .001$; $\eta^2 = 0.121$
	SD	20.6	16.8	15.2	15.7	17.9	

p: p-values (2-tailed); M: mean score; SD: standard deviation; F: F-test; PA: Physical Aggression subscale; VA: Verbal Aggression subscale; A: Anger subscale; H: Hostility subscale; AQ: Aggression Questionnaire

Table 4
Aggression Questionnaire by Marital Status

		Marital Status				Total	Statistic
		Single	Married	Divorce	Widower		
PA	M	17.1	14.6	15.2	11.7	15.1	F(3; 791) = 10.0; $p < .001$; $\eta^2 = 0.037$
	SD	7.2	5.5	5.1	3.0	6.0	
VA	M	13.6	12.0	13.7	12.0	12.4	F(3; 794) = 7.7; $p < .001$; $\eta^2 = 0.029$
	SD	4.0	3.8	4.1	4.4	3.9	
A	M	19.0	17.1	18.6	15.5	17.6	F(3; 794) = 9.1; $p < .001$; $\eta^2 = 0.033$
	SD	5.0	4.6	5.5	4.6	4.8	
H	M	20.1	16.7	19.9	17.9	17.8	F(3; 769) = 18.1; $p < .001$; $\eta^2 = 0.066$
	SD	6.0	5.5	6.5	5.7	5.9	
AQ	M	72.5	62.7	68.3	59.4	65.3	F(3; 754) = 15.4; $p < .001$; $\eta^2 = 0.058$
	SD	18.6	16.8	17.2	12.9	17.7	

p: p-values (2-tailed); M: mean score; SD: standard deviation; F: F-test; PA: Physical Aggression subscale; VA: Verbal Aggression subscale; A: Anger subscale; H: Hostility subscale; AQ: Aggression Questionnaire

Table 5
Aggression Questionnaire by Educational Level

		Educational Level			Total	Statistic
		High School or Less	Bachelor	Master or PhD		
PA	M	15.2	15.3	14.4	15.1	F(2; 799) = 1.69; $p = .18$; $\eta^2 = 0.004$
	SD	6.5	6.2	5.0	6.5	
VA	M	11.9	12.7	12.3	12.4	F(2; 802) = 1.99; $p = .13$; $\eta^2 = 0.005$
	SD	3.7	4.1	3.6	3.9	
A	M	18.1	17.8	16.8	17.6	F(2; 802) = 3.76; $p < .05$; $\eta^2 = 0.009$
	SD	4.7	5.0	4.1	4.8	
H	M	18.3	18.1	16.6	17.8	F(2; 776) = 4.69; $p < .01$; $\eta^2 = 0.012$
	SD	5.8	6.2	5.0	5.9	
AQ	M	65.8	66.3	62.2	65.2	F(2; 763) = 3.58; $p < .05$; $\eta^2 = 0.009$
	SD	17.5	18.7	14.9	17.7	

p: p-values (2-tailed); M: mean score; SD: standard deviation; F: F-test; PA: Physical Aggression subscale; VA: Verbal Aggression subscale; A: Anger subscale; H: Hostility subscale; AQ: Aggression Questionnaire

Table 6
Aggression Questionnaire by Violence

		Violence			Total	Statistic
		Yes	No	Somehow		
PA	M	19.2	14.6	17.7	15.1	F(2; 800) = 18.1; $p < .001$; $\eta^2 = 0.043$
	SD	7.8	5.7	6.1	6.0	
VA	M	14.4	12.2	14.0	12.4	F(2; 803) = 12.0; $p < .001$; $\eta^2 = 0.029$
	SD	5.0	3.8	4.0	3.9	
A	M	20.4	17.2	19.7	17.6	F(2; 803) = 15.4; $p < .001$; $\eta^2 = 0.037$
	SD	5.2	4.7	4.7	4.8	
H	M	21.1	17.3	21.0	17.8	F(2; 777) = 19.3; $p < .001$; $\eta^2 = 0.047$
	SD	5.2	5.7	6.5	5.9	
AQ	M	78.3	63.5	75.3	65.3	F(2; 762) = 24.5; $p < .001$; $\eta^2 = 0.061$
	SD	21.8	16.8	18.0	17.7	

p: p-values (2-tailed); M: mean score; SD: standard deviation; F: F-test; PA: Physical Aggression subscale; VA: Verbal Aggression subscale; A: Anger subscale; H: Hostility subscale; AQ: Aggression Questionnaire

health, such as their knowledge, practices, and attitudes toward COVID-19. In spite of this, the findings of the present study are similar to those of Al-Ma'seb, Al-Sejari, and Al-Qaoud (2013). According to their findings, boys are more likely to engage in physical aggression than girls. Al-Ma'seb et al. (2013) explained their findings using Kuwaiti masculine culture as the basis. They illustrated that boys are allowed to be aggressive towards other people when necessary. They demonstrated

Table 7
Aggression Questionnaire by Employee Status

		Employee Status						Total	Statistic
		Student	Employee	Retired	Businessman	Un-employed	Other		
PA	M	18.5	15.2	13.0	13.9	12.9	15.5	15.1	F(5; 797) = 11.7; p < .001; $\eta^2 = 0.069$
	SD	8.3	5.6	4.1	4.4	4.3	9.5		
VA	M	13.9	12.5	11.2	12.6	12.7	12.2	12.4	F(5; 800) = 6.0; p < .001; $\eta^2 = 0.036$
	SD	4.2	3.8	3.8	3.1	4.2	5.5		
A	M	19.5	17.8	16.1	17.2	16.5	17.5	17.6	F(5; 800) = 6.6; p < .001; $\eta^2 = 0.040$
	SD	5.4	4.7	4.3	4.0	4.7	6.3		
H	M	20.7	18.0	16.0	15.9	16.6	16.3	17.8	F(5; 774) = 9.5; p < .001; $\eta^2 = 0.058$
	SD	5.7	6.0	5.1	4.8	3.5	7.6		
AQ	M	74.9	66.2	57.4	61.4	61.6	62.9	65.3	F(5; 759) = 13.2; p < .001; $\eta^2 = 0.080$
	SD	19.0	17.4	14.1	15.1	12.6	25.8		

p: p-values (2-tailed); M: mean score; SD: standard deviation; F: F-test; PA: Physical Aggression subscale; VA: Verbal Aggression subscale; A: Anger subscale; H: Hostility subscale; AQ: Aggression Questionnaire

that Kuwaiti society expects girls to be polite, well-behaved, and to display proper manners. In Kuwait, families encourage their boys to fight with other boys and raise their girls to obey their families' orders (Al-Ma'seb et al., 2013). Moreover, the current study found differences between age groups in reported cases of physical and verbal aggression, anger, hostility, and violence during the total ban caused by the COVID-19 pandemic. Reported cases of physical aggression and hostility were higher among the younger age group, who were between 18 and 29 years old, whereas reported verbal aggression was higher among older participants, who were between 30 and 39 years old. Similar to the current study's findings, Conversano et al. (2020), Huang and Zhao (2020), and Xiao et al. (2020) detected that during stressful circumstances such as quarantine or a pandemic, individuals who were young and lived alone were at high risk of developing psychological symptoms. These outcomes reflect the significant impact of the Kuwaiti Ministry of Health's imposition of total lockdown and social isolation on individuals' mental health, especially among the younger group. Due to the closure of public places (recreational facilities, fitness centers, shopping malls, parks, and airports) and the closure of schools and other private and public organizations in Kuwait, individuals' lifestyles and schedules have undergone significant changes since March 2020 (e.g., people have started working from home). Along with the previous disruptive changes, many people's coworkers, friends, and family members who were diagnosed with COVID-19 ended up in the ICU or died because of the virus's complications, causing them to experience many dysfunctional psychological reactions to the pandemic, which is supported by the findings of Lee (2020) and Morgan and Boxall (2020). Moreover, due to the lockdown, this younger age group is subjected to numerous radical changes in their daily lifestyle behaviors. These changes include the replacement of the traditional learning system with an online system and the closure of movie theaters, restaurants, and gyms, all of which contributed to the high prevalence of physical aggression and hostility among the younger age group.

In addition, the current study's findings highlight the important issue of the association between types of aggression (verbal and physical) and participants' marital status. The current study detected that single participants reported higher scores of physical aggression, anger, and hostility, whereas divorced participants reported more verbal aggression. These findings stress the significant role of social network and family and friends' support in individuals' mental health during stressful and abnormal conditions (Lee, 2020). Consistent with the current study's results, Tian et al. (2020) and Lee (2020) findings exhibited that participants who were separated or widowed were at higher risk of experiencing more mental health problems, such as depression and anxiety. Moreover, Çiçek et al. (2020) and Tanhan (2019) stated that spiritual and biopsychosocial needs are part of human nature; therefore, during abnormal circumstances such as the COVID-19 pandemic with the enforcement of social isolation and physical distancing, many individuals seek alternative ways of interacting and socializing with

others, such as spending many hours on the internet and social media, causing them to develop many dysfunctional mental symptoms such as psychological inflexibility, depression, and technology and internet addiction.

Moreover, the current finding reveals that participants with a lower educational level (who had received a high school diploma or less) reported higher scores of hostility and anger than other educational groups in the study. This finding can be related to participants' information-seeking behaviors and level of acknowledgment of health-related information about COVID-19 conditions, risks, and treatments, which are associated with shaping their attitudes toward COVID-19 and causing the escalation of aggressive behavior (Huang & Zhao, 2020; Roya et al., 2020). Ho et al. (2020) and Lima et al. (2020) demonstrated that using social media platforms as sources of health-related information about COVID-19 and rumors had significant impacts on users' psychosocial well-being and mental health during the pandemic, causing the development of maladaptive behaviors. Also, this study detected a high reported rate of anger, hostility, and physical and verbal aggression among participants who were students compared to other employee groups. This finding is similar to those of Odriozola-González et al. (2020) and Zandifar and Badrfam (2020), who revealed a significant negative impact of quarantine due to the COVID-19 pandemic on students' mental well-being, causing them to experience many mental dysfunctions such as depression, post-traumatic symptoms, anxiety, and sleep disorders. The previous psychological distress among students during the pandemic can be attributed to the unpredicted school schedule interruption, transformation of the teaching system without former training, home quarantine, and worrying about their family's financial future and well-being. From the beginning of March 2020, Kuwait closed schools for 7 months in accordance with the government's health regulation; 107 countries worldwide closed their schools according to a report of the UN Educational, Scientific, and Cultural Organization (UNESCO). This abrupt closure of all education institutions during the pandemic hindered students' plans to resume their education by causing them to live in a chaotic and unpredictable environment.

Finally, the current study detected that participants who were exposed to violence showed more physical and verbal aggression, anger, and hostility than other groups. This finding is supported by the reformulated frustration-aggression hypothesis, which explains individuals' aggressive behaviors as an outcome of an undesirable affective condition that caused them to feel dissatisfied with not achieving their goals (Berkowitz, 1989). During the total lockdown in Kuwait, drastic changes occur in Kuwaitis' lives. The imposition of social and physical isolation and quarantine restrictions caused them to develop unpleasant and disruptive behaviors by leading them to feel loneliness and boredom, which are strongly associated with anger and violence, as also detected by Duan and Zhu (2020) and Torales et al. (2020).

Conclusion

In conclusion, the current study identified the sociodemographic characteristics of male, younger age, being single or divorced, being a student, and holding a lower educational level as putting individuals at high risk of developing psychological illness during the total lockdown. Therefore, there is an essential need to create community-based strategies that are planned based on each country's conditions and cultural traditions to help psychologically vulnerable individuals to overcome the negative impacts of the COVID-19 pandemic. Moreover, to facilitate lifestyle alterations due to the pandemic and re-adjustment to modified activities among high-risk individuals, varied strategies for mental health support programs operated by social workers and mental health professionals are needed to alleviate levels of aggression and violence. Also, we must increase societal awareness and encourage individuals to use the available sources of communication such as telephone helplines with psychiatric and social workers to help medical staff detect individuals who need to receive special care before their psychological dysfunctional symptoms deteriorate, causing behavior that is hazardous to the patient and their surroundings. Moreover, individuals who are in quarantine settings or infected in hospitals need to be encouraged to join active social networks and use various social media tools in order to reduce their feelings of loneliness, boredom, and social isolation.

The current study has several limitations that must be addressed. First, the results should be interpreted with caution due to the study's non-random sample selection. Due to the current state of total lockdown, the only method used to collect data for this study was an online tool, which restricted the sample to WhatsApp users. Since the current study was a cross-sectional survey, it was conducted at a single point in time during the COVID-19 lockdown, which means that aggression, violence, and anger levels were only measured at the present time. Further longitudinal studies are encouraged to investigate the prolonged impact of social and physical isolation on individuals' mental well-being, and additional studies are needed using different means of data collection.

Author statement

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Roles: writing literature review, objective, significant, Discussion , collecting data.

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Declaration of Competing Interest

The author declare no conflicts of interest.

Reference

- Abdullah, I., 2020. COVID-19: Threat and fear in Indonesia. *Psychol. Trauma: Theory Res. Practice Policy* 12 (5), 488–490. <https://doi.org/10.1037/tra0000878>.
- Agüero, J.M., 2021. COVID-19 and the rise of intimate partner violence. *World Dev.* 137, 105217.
- Akel, M., Berro, J., Rahme, C., Haddad, C., Obeid, S., Hallit, S., 2021. Violence against women during CoViD-19 pandemic. *J. Interpers. Violence*, 0886260521997953.
- Al-Kazi, L., Al-Ma'Seb, H., Al-Sejari, M., 2022. The Psychological effects of the Complete Closure in the State of Kuwait during the Corona Pandemic: A study in light of Demographic variables. *J. Gulf Arabian Peninsula Stud.*
- Al-Ma'seb, H., Alsejari, M., Al-Qaoud, E., 2013. The Effect of Gender on Aggressive Behaviors among Kuwaiti Children. *J. Social Sci.* 41 (3), 9–29.
- Al-Ma'Seb, H., Al-Sejari, M., 2022. Illness-Related Attitudes Toward COVID-19 and Precautionary Practices Among Kuwaiti Males. *J. Arts Social Sci. Sultan Qaboos University.*
- Alsairafi, Z., Naser, A.Y., Alsaleh, F.M., Awad, A., Jalal, Z., 2021. Mental health status of healthcare professionals and students of health sciences faculties in Kuwait during the COVID-19 pandemic. *Int. J. Environ. Res. Public Health* 18 (4), 2203.
- Al-Sejari, M.M., Al-Kandari, Y.Y., 2022. A Changing in Social Lifestyle for Men During the COVID-19 Lockdown and Its Relationship to Mental Health: Kuwaiti Diwaniiyah as an Example. *Am. J. Men's Health* 16 (2), 15579883221089486.
- Barone, I., 2020. Coronavírus: denúncias de violência doméstica aumentam e expõem impacto social da quarentena. *Gazeta do Povo*, 28 mar. <https://www.gazetadopovo.com.br/vida-e-cidadania/coronavirus-denuncias-de-violenciadomestica-aumentam-e-expoem-impacto-social-da-quarentena/>.
- Bassan, P., Casos de violência, R.J., & durante confinamento, G.1.(2020). 23 mar. <https://g1.globo.com/rj/rio-de-janeiro/noticia/2020/03/23/casos-de-violenciado-mestica-no-rj-crescem-50percent-durante-confinamento.ghtml>.
- Berkowitz, L., 1989. Frustration-aggression hypothesis: examination and reformulation. *Psychol. Bull* 106 (1), 59–73.
- Berkowitz, L., 1993. *Aggression: Its causes, consequences, and control*. McGraw-Hill Book Company.
- Bradbury-Jones, C., Isham, L., 2020. The pandemic paradox: the consequences of COVID-19 on domestic violence. *J. Clin. Nurs.* <https://doi.org/10.1111/jocn.15296>.
- Bronfenbrenner, U., 1979. *The ecology of human development*. Harvard university press.
- Brooks, S.K., Webster, R.K., Smith, L.E., Woodland, L., Wessely, S., Greenberg, N., et al., 2020. The psychological impact of quarantine and how to reduce it: a rapid review of the evidence. *Lancet (London, England)*. In press.
- Buss, A.H., 1961. *The psychology of aggression*. Wiley.
- Buss, A.H., Perry, M., 1992. The Aggression Questionnaire. *J. Pers. Soc. Psychol.* 63, 452–459.
- Campbell, A.M., 2020. An increasing risk of family violence during the Covid-19 pandemic: Strengthening community collaborations to save lives. *Forensic Sci. Int.: Reports*, 100089.
- Cappa, C., Jijon, I., 2021. COVID-19 and violence against children: a review of early studies. *Child Abuse Negl.*, 105053
- Corcoran, K., Fischer, J., 2007. *Measures for clinical practice and research, Volume 2: Adults, 4th Eds*. Oxford University Press.
- Central Statistical Bureau - csb.gov.kw. (n.d.). Retrieved July 7, 2022, from https://www.csb.gov.kw/Pages/Statistics_en?ID=67&ParentCatID=%201.
- Çiçek, I., Tanhan, A., Bulus, M., & Arslan, G. (2020). Psychological inflexibility predicts depression and anxiety during COVID-19: Acceptance and commitment therapy perspective. Manuscript submitted for publication.
- Cluver, L., Lachman, J.M., Sherr, L., Wessels, I., Krug, E., Rakotomalala, S., et al., 2020. Parenting in a time of COVID-19. *Lancet* 395, e64.
- Conversano, C., Di Giuseppe, M., Miccoli, M., Giacchini, R., Gemignani, A., Orrù, G., 2020. Mindfulness, age, and gender as protective factors against psychological distress during the Covid-19 pandemic. *Front. Psychol.* 11.
- Davies, S., Batha, E., 2020. Europe braces for domestic abuse 'perfect storm' amid coronavirus lockdown. Thomas Reuters Foundation News. Retrieved on 17th April 2020 from. <https://news.trust.org/item/20200326160316-710uf>.
- Duan, L., Zhu, G., 2020. Psychological interventions for people affected by the COVID-19 epidemic. *Lancet Psychiatry* 7, 300–302.
- Duncan, E., 2020. NSW domestic violence support groups warn coronavirus isolation is prompting a surge in demand for services. ABC News Australia. Retrieved on 15 April. <https://www.abc.net.au/news/2020-03-27/coronavirus-domestic-family-violence-covid-19-surge/12096988>.
- Florida, A., 2021. Puerto Rico's Governor declares a state of emergency over gender violence. January 26. National Public Radio. <https://www.npr.org/2021/01/26/960855914/Puerto-Ricogovernor-declares-state-of-emergency-over-gender-violence>.
- Galea, S., Merchant, R.M., Lurie, N., 2020. The mental health consequences of COVID-19 and physical distancing: the need for prevention and early intervention. *JAMA Intern Med* 180 (6), 817–818. <https://doi.org/10.1001/jamainternmed.2020.1562>.
- Godin, M. (2020). As cities around the world go on lockdown, victims of domestic violence look for a way out. Time; 18 Mar. <https://time.com/5803887/coronavirus-domestic-violencevictims/>.
- Golfieri, M., Andrian, A., O aumento, da violên - cia doméstica em tempos de Covid-19. *Estadão* (2020). 1 abr. <https://politica.estadao.com.br/blogs/fausto-macedo/o-aumento-da-violenciadomestica-em-tempos-de-covid-19/>.
- Gosangi, B., Park, H., Thomas, R., Gujrathi, R., Bay, C.P., Raja, A.S., Seltzer, S.E., et al., 2021. Exacerbation of physical intimate partner violence during COVID-19 pandemic. *Radiology* 298 (1), E38–E45.
- Greenaway, K.H., Jetten, J., Ellemers, N., van Bunderen, L., 2015. The dark side of inclusion: undesired acceptance increases aggression. *Group Process. Intergroup Relat.* 18, 173–189.
- Ho, C.S., Chee, C.Y., Ho, R.C., 2020. Mental Health Strategies to Combat the Psychological Impact of COVID-19 Beyond Paranoia and Panic. *Ann. Acad. Med. Singapore* 49, 1–3.
- Huang, Y., Zhao, N., 2020. Generalized anxiety disorder, depressive symptoms and sleep quality during COVID-19 outbreak in China: a web-based cross-sectional survey. *Psychiatry Res.*, 112954
- Kagi, J., 2020. Crime rate in WA plunges amid coronavirus social distancing lockdown measures. ABC News Australia. Retrieved on 10th April 2020 from. <https://www.abc.net.au/news/2020-04-08/coronavirus-shutdown-sees-crime-rate-drop-in-wa/12132410>.
- Kelly, J., Morgan, T., 2020. Coronavirus: Domestic abuse calls up 25% since lockdown, charity says. BBC News. Retrieved on 12th April 2020 from: <https://www.bbc.com/news/UK-52157620>.
- Kilius, E., Abbas, N.H., McKinnon, L., Samson, D.R., 2021. Pandemic nightmares: COVID-19 lockdown associated with increased aggression in female university students' dreams. *Front. Psychol.* 12, 562.
- Killgore, W.D., Cloonan, S.A., Taylor, E.C., Dailey, N.S., 2021. Mental health during the first weeks of the COVID-19 pandemic in the United States. *Front. Psychiatry* 12, 535.

- Kuwait Minster of Health. (2022). <https://corona.e.gov.kw/en>.
- Lee, S.A., 2020. Coronavirus Anxiety Scale: A brief mental health screener for COVID-19-related anxiety. *Death Stud.* 44 (7), 393–401.
- Leslie, E., Wilson, R., 2020. Sheltering in place and domestic violence: Evidence from calls for service during COVID-19. *J. Public Econ.* 189, 104241.
- Lima, C.K.T., de Medeiros Carvalho, P.M., Lima, I.D.A.A.S., de Oliveira Nunes, J.V.A., Saraiva, J.S., de Souza, R.L., Neto, M.L.R., 2020. The emotional impact of Coronavirus 2019-nCoV (new Coronavirus disease). *Psychiatry Res.* 287, 112915.
- Montemurro, N., 2020. The emotional impact of COVID-19: From medical staff to common people. *Brai, Behav. Immunity.* <https://doi.org/10.1016/j.bbi.2020.03.032>.
- Morgan, A., Boxall, H., 2020. Social isolation, time spent at home, financial stress, and domestic violence during the COVID-19 pandemic. *Australian Inst. Criminol.* No. 609 (October 2020) https://www.aic.gov.au/sites/default/files/2020-10/ti609_social_isolation_DV_during_covid-19_pandemic.pdf (accessed February 7, 2021).
- Nações Unidas Brasil. Relatora da ONU: Es - tados devem combater violência doméstica na quarentena por COVID-19. <https://nacoesuni.das.org/relatora-da-onu-estados-devem-combater-violencia-domestica-na-quarentena-porcovid-19/> (accessed on 27/Mar/2020). 2020.
- National Society for the Prevention of Cruelty to Children (NSPCC). (2020). Coronavirus (COVID-19) and keeping children safe from abuse. National Society for the prevention of Cruelty to Children (NSPCC). Retrieved on 20th April 2020 from: <http://www.nspcc.org.uk/keeping-children-safe/reporting-abuse/coronavirus-abuse-neglect-vulnerable-children/>.
- Odrizola-González, P., Planchuelo-Gómez, Á., Iruñia, M.J., de Luis-García, R., 2020. Psychological effects of the COVID-19 outbreak and lockdown among students and workers of a Spanish university. *Psychiatry Res.* 290, 113108 <https://doi.org/10.1016/j.psychres.2020.113108>.
- Peterman, A., Potts, A., O'Donnell, M., 2020. Pandemics and Violence Against Women and Children. Center for Global Development Working Paper 528. © 2020 Australian College of Mental Health Nurses Inc.
- Piehl, C., Budimir, S., Probst, T., 2020. The effect of age, gender, income, work, and physical activity on mental health during coronavirus disease (COVID-19) lockdown in Austria. *J. Psychosom. Res.* 136, 110186.
- Poate, S., 2020. 75% increase in domestic violence searches since Coronavirus. NBN News. Retrieved on 7th April 2020 from: <https://www.nbnnews.com.au/2020/03/31/dvsearches-coronavirus/>.
- Puspa, A., 2020. Masalah ekonomi, penyebab meningkatnya KDRT di masa pandemic. *Media Indonesia.* Retrieved from: <https://mediaindonesia.com/read/detail/3133357-masalah-ekonomi-penyebab-meningkatnya-kdrt-di-masa-pandemi>.
- Rizky, F., 2020. Kekerasan terhadap perempuan & anak meningkat selama wabah corona. *Okenews.*
- Reger, M.A., Stanley, I.H., Joiner, T.E., 2020. Suicide mortality and coronavirus disease 2019 – a perfect storm? *JAMA Psychiatry.* <https://doi.org/10.1001/jamapsychiatry.2020.1060>.
- Roya, D., Sarvodaya, T., Kara, S.K., Sharma, N., Vermaa, S.K., Kausha, V., 2020. Study of knowledge, attitude, anxiety & perceived mental healthcare need in Indian population during COVID-19 pandemic. *Asian J. Psychiatry* 51, 102038. <https://doi.org/10.1016/j.ajp.2020.102038>.
- Rubin, G.J., Wessely, S., 2020. Coronavirus: the psychological effects of quarantining a city. *BMJ Opinion* 368, m313.
- Sakib, N., Mamun, M.A., Bhuiyan, A.I., Hossain, S., Al Mamun, F., Hosen, I., et al., 2020. Psychometric Validation of the Bangla Fear of COVID-19 Scale: Confirmatory factor analysis and Rasch analysis. *Int. J. Ment. Health Ad.* <https://doi.org/10.1007/s11469-020-00289-x>.
- Selvaratnam, T., 2020. Where can domestic violence victims turn during Covid-19? *The New York Times*, 23 Mar. <https://www.nytimes.com/2020/03/23/opinion/covid-domesticviolence.html>.
- Shigemura, J., Ursano, R.J., Morganstein, J.C., Kurosawa, M., Benedek, D.M., 2020. Public responses to the novel 2019 coronavirus (2019-nCoV) in Japan: Mental health consequences and target populations. *Psychiatry Clin. Neurosci.* 74 (4), 281.
- Spilberger, C.D., 1988. State-trait anger expression inventory professional manual. Odessa (FL). *Psychol. Assess. Resour.*
- Tanhan, A., 2019. Acceptance and commitment therapy with ecological systems theory: addressing Muslim mental health issues and wellbeing. *J. Positive Psychol. Wellbeing* 3 (2), 197–219. Available at: <http://journalppw.com/index.php/JPPW/article/view/172>.
- Tanhan, A., Francisco, V.T., 2019. Muslims and mental health concerns: a social ecological model perspective. *J. Community Psychol.* 47 (4), 964–978. <https://doi.org/10.1002/jcop.22166>. PMID:30730559.
- Tanhan, A., Strack, R.W., 2020. Online photovoice to explore and advocate for Muslim biopsychosocial spiritual wellbeing and issues: ecological systems theory and ally development. *Curr. Psychol.* <https://doi.org/10.1007/s12144-020-00692-6>. Published online March 30, 2020.
- Tian, F., Li, H., Tian, S., Yang, J., Shao, J., Tian, C., 2020. Psychological symptoms of ordinary Chinese citizens based on SCL-90 during the level I emergency response to COVID-19. *Psychiatry Res.* 288, 112992.
- Torales, J., O'Higgins, M., Castaldelli-Maia, J.M., Ventriglio, A., 2020. The outbreak of COVID-19 coronavirus and its impact on global mental health. *Int. J. Soc. Psychiatry* 66, 317–320.
- Usher, K., Bradbury Jones, C., Bhullar, N., Durkin, D.J., Gyamfi, N., Fatema, S.R., Jackson, D., 2021. COVID-19 and family violence: Is this a perfect storm? *Int. J. Ment. Health Nurs.*
- World Health Organization. (2020, April 29). Coronavirus disease (COVID-19) advice for the public. <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public>.
- Women's Aid. The impact of COVID-19 on women and children experiencing domestic abuse, and the life-saving services that support them. <https://www.womensaid.org.uk/the-impact-of-covid-19-on-women-and-children-experiencing-domestic-abuse-and-the-life-saving-services-that-support-them/> (accessed on 17/Mar/2020).
- Zandifar, A., Badrfam, R., 2020. Iranian mental health during the COVID-19 epidemic. *Asian J. Psychiatry* 51, 101990. <https://doi.org/10.1016/j.ajp.2020.101990>. PMID: 32163908.
- Zhong, B., Luo, W., Li, H., Zhang, Q., Liu, X., Li, W., Li, T., 2020. Research Paper 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. *Int. J. Biol. Sci.* 16 (10), 1745–1752. <https://doi.org/10.7150/ijbs.45221>.