IOSR Journal of Nursing and Health Science (IOSR-JNHS)
e-ISSN: 2320–1959.p- ISSN: 2320–1940 Volume 12, Issue 2 Ser. V (Mar. – Apr. 2023), PP 17-23
www.iosrjournals.org

Stress Impact on Saudi Society during the COVID-19 pandemic: A cross-sectional study.

Amany Gamal El gharieb El berdan [1],Amany Ibrahim Ezz Eldin [2],Rehab Talal Ali Elfayoumy [3].

[1](*Assistant Professor of Medical Surgical, Alrayan Colleges in Almadina Almenwara, Saudi Arabia)*
[2](*Assistant Professor of Medical Surgical, Inaya Medical Colleges in Riyadh, Saudi Arabia)*
[3](*Assistant Professor of Psychiatric Nursing, Vision Colleges in Riyadh, Saudi Arabia)*

Abstract: *The global public health crisis caused by COVID-19 has lasted longer than many of us would have hoped and expected. With its high uncertainty and limited control, the COVID-19 pandemic has undoubtedly asked a lot from all of us. One important central question is: how resilient have we proved in face of the unprecedented and prolonged coronavirus pandemic? There is a vast and rapidly growing literature that has examined the impact of the pandemic on mental health both on the shorter (2020) and longer (2021) term. This not only concerns pandemic-related effects on resilience in the general population, but also how the pandemic has challenged stress resilience and mental health outcomes across more specific vulnerable population groups. The study aimed to find out what factors influence the level of stress during the COVID-19 pandemic in Saudi Arabia. An observational descriptive study with cross-sectional design, the data collection used Google forms that distributed online, there were 229 respondents participated in this study. The multiple regression model statistically significantly predicted stress, R2 = .326, F (10, 217) = 10.941, p < .000; adjusted R2 = .295. These models showed significant negative associations between age, psychological satisfaction and stress, which indicate increase age and psychological satisfaction predicate decrease stress. All four variables added statistically significantly to the prediction, p < .05. It was concluded that COVID-19 has been a catastrophic experience; in the blink of an eye, this dreadful pandemic abruptly changed the way we live. As reported in the literature, pandemics are expected to have undesirable consequences not only in terms of health but also on economic, political, and educational systems. This study revealed that there is evidence of stress on health quality of life among Saudi people during COVID-19 pandemic. Hence, it is imperative that the world cooperates to fight this pandemic. In that, Saudi community institutions are advised to establish pre-outbreak policies and procedures to deal with epidemics.*

Background*: An excessive amount and an ongoing level of stress related to the COVID-19 pandemic have effects that go beyond health, in that they can trigger various diseases, and it is well established that stress-related physical events can adversely affect a person's quality of life. The COVID-19 pandemic has shown psychological effects as well as supporting some positive effects on mental health awareness and family support among adults in Saudi Arabia. The Saudi government has initiated the implementation of a Large-Scale Social Ban (PSBB) in cities and provinces within the kingdom in order to curb the increase in COVID-19 transmission. The purpose of this study is to find out what factors influence the level of stress during the COVID-19 pandemic in Saudi Arabia.*

Materials and Methods*: This study was an observational descriptive study with cross-sectional design. The data collection used Google forms that distributed online. There were 229 respondents participated in this study.*
Results*: The multiple regression model statistically significantly predicted stress, R2 = .326, F (10, 217) = 10.941, p < .000; adjusted R2 = .295. These models showed significant negative associations between age, psychological satisfaction and stress, which indicate increase age and psychological satisfaction predicate decrease stress. All four variables added statistically significantly to the prediction, p < .05.*
Conclusion: *The COVID-19 pandemic is a major health crisis that has changed the life of millions globally and Saudi people experienced stress during the COVID-19 pandemic Therefore, further actions need to be taken to determine the association the psychological problems of this part of the Saudi community during and after pandemic. Also, Clinical interventions targeted towards vulnerable Saudi groups such as females and younger adults are needed.*
Key Word*: **COVID-19, pandemic, Quality of life, stress, Saudi community***

Date of Submission: 06-04-2023 Date of Acceptance: 18-04-2023

I. Introduction

A newly discovered Coronavirus disease (COVID-19) caused by the SARS-CoV-2 virus was announced by the World Health Organization (WHO) in December 2019. (Cucinotta & Vanelli, 2020) With the outbreak of Coronavirus disease, a great deal of attention has been paid to the daily and cumulative rate of new Coronavirus infections in all countries. In a worldwide perspective, COVID-19 has caused more than 5 million deaths (The Territorial Impact of COVID-19: Managing the Crisis and Recovery across Levels of Government, n.d.) Governments around the world have begun to take measures to prevent the spread of covid 19, including the locking down and requiring residents to wear masks, as well as limiting public gatherings. Moreover, the health guideline stressed the importance of regularly washing hands or rubbing them with alcohol-based products, and to keep their faces away from touching (Advice for the Public, n.d.). In the Kingdom of Saudi (Widyadharma et al., 2020) Arabia (KSA), the Ministry of Health (MOH) announced the first COVID-19 case on March 2, 2020, and by the end of the month, 154 new COVID-19 cases had been reported (Khoshaim et al., 2020). As a result of the anticipated spread of the virus, the government implemented several control measures to prevent its spread. Umrah in Mecca and visits to the Prophet's Mosque in Medina were immediately suspended due to large crowds. All mosques in the country were also temporarily closed (Ministry of Foreign Affairs: Saudi Arabia Temporarily Suspends Entry of GCC Member States' Citizens to Makkah, Madinah The Official Saudi Press Agency, n.d.).It became a common practice to quarantine infected individuals and engage in social isolation. Universities and schools were closed, and virtual classes were offered to maintain continuity of instruction. Despite the government's awareness campaigns and precautionary measures, the number of cases has continued to rise. The number of confirmed cases escalated to 98,869 within 3 months, of which 71,791 recovered and 642 died (Almoraie et al., 2021)

In addition to the dangers of infection and death, pandemics also exert considerable psychological pressure on people(Bai et al., 2004). Many studies have discussed the short- and long-term impacts of epidemics on the socio-psychological well-being of the population(Yang et al., 2020). Those who have been diagnosed with a disease continue to be stigmatized and suffer from seclusion even after their recovery (Siu, 2016)There were several psychological stressors associated with quarantine, including "longer quarantine duration, infection fears, frustration, limited supplies, insufficient communication, financial loss, and stigma"(al Gelban, 2009). In their study(Brooks et al., 2020), Brooks et al. predict that COVID-19 will elicit severe post-traumatic stress symptoms, confusion, and anger.

Historically, quarantine has been used successfully in containing infectious diseases outbreaks throughout the world; however, it is not a favorable experience for the population. Furthermore, there is already a health issue with stress levels in Saudi Arabia. In fact, several previous research have examined Saudi people's anxiety, depression, and stress and have suggested factors that might affect the Saudi community's mental health(Khan et al., 2021) .There are many factors that play a role in aggravating poor mental health, such as long-term quarantine, separation from family or friends, limited freedom, or the uncertainty of the future, down to loneliness, boredom, confinement, inadequate information, and financial loss. The purpose of this study is to assess the impact of stress on health quality of life during the COVID-19 pandemic among the Saudi community 20(Al-Gelban, 2007).

II. Material And Methods.

Study design: observational descriptive study with cross-sectional online survey conducted during the period of April to July 2021upon the period of curfew and lockdown of the kingdom cities as a preventive measure to control COVID-19.

Subjects & Recruitment: community Saudi Arabia were invited via distributing online questionnaire link, through social media (Facebook, what's App groups and text messages) to participate in the study assessing level of stress on health quality of life during the COVID-19 pandemic among Saudi community. The non-probability sampling technique as convenience sampling.

Sample size: the researcher used EPI IFO statistical program (Andrew Dean et al., 1996) to calculate sample size, using total number of Saudi people living in Tabuk, the confidence interval of 95% with marginal error of 5% and the calculated sample size was 229.

Data collection tools: the researcher used perceived stress scale (Cohen, S., Kamarck, T., & Mermelstein, R. (1994). Perceived Stress Scale. Measuring Stress: A Guide for Health and Social Scientists, 10(2), 1-2. - Google Search, n.d.)is measure the degree to which situations in one's life are appraised as stressful. Items were translated to Arabic and designed to tap how unpredictable, uncontrollable, and overloaded respondents find their lives. The scale also includes a number of direct queries about current levels of experienced stress. the health-related quality of life (HRQOL) its determinants have evolved since the 1980s to encompass those

aspects of overall quality of life that can be clearly shown to affect health—either physical or mental (HRQOL Concepts | CDC, n.d.)

Data analysis: The data were analyzed using the Statistical Package for Social Sciences (SPSS), version 22.0. Both descriptive and inferential data were measured, and a preliminary test of normality was conducted. The general characteristics of the participants and the stress scores were analyzed using descriptive statistics. Perceived stress and the health-related quality of life (HRQOL) of the participants were compared on general demographic variables using a t-test and ANOVA. Multiple regression analysis was then conducted to identify determinants of the perceived stress of participants in Tabuk. The Cronbach's alpha for perceived stress scale, and health related quality of life were .73, and .88, respectively. The mean perceived stress score (PSS) and health related quality of life (HRQOL) of the participants were 21.45 ± 4.77 and 21.05± 3.64, respectively. The level of significance was set at p = < 0.05, 95% CI.

III. Result

The general demographic characteristics of the participants are presented in Table 1. Perceived stress and HRQOL were measured using valid and reliable instruments. The Cronbach's alpha for PSS, and HRQOL were .73, and .88, respectively. The mean perceived stress score and HRQOL of the participants were 21.45 ± 4.77 and 21.05± 3.64, respectively.

Comparison of perceived stress, Physical domain, psychological domain, Social Relationship domain, and Environment domain of the HRQOL was made on certain demographic characteristics, namely gender, marital status, occupation, age group and level of study. A series of independent t-test and one-way analysis of variance were used. The independent t-test showed a significant difference in perceived stress and HRQOL were observed between male and female. Similarly, there were significant difference in perceived stress and physical domain between employed and unemployed. In addition, there were significant difference in perceived stress and environment domain between how have child and who didn't have. The one-way ANOVA test showed that there was statically significant difference in stress and psychological between age groups (F=9.241, p=.001, F=2.985, p= .032), respectively. These results indicate that the different age groups have different score on stress and physical domain. Similarly, there were significant differences in stress and physical among education levels. These results indicate that the stress score and physical domain were different significantly according to sociodemographic. Moreover, the results are displayed in Table

A multiple regression was run to predict stress from gender, age, physical, psychological, social and environment. The multiple regression model statistically significantly predicted stress, R2 = .326, F (10, 217) = 10.941, p < .001; adjusted R2 = .295. These models showed significant negative associations between age, psychological satisfaction and stress, which indicate increase age and psychological satisfaction predicate decrease stress. All four variables added statistically significantly to the prediction, p < .05. Regression coefficients and standard errors can be found in Table 3 (below).

Table no 1: General demographic characteristics (N = 229).

		Count (N=229)	Frequency
Age category	20-29	135	59.0%
	30-39	35	15.3%
	40-49	51	22.3%
	> 50	8	3.5%
Gender	Male	48	21.0%
	Female	181	79.0%
Marital status	Single	124	54.1%
	Married	91	39.7%
	Widowed	1	0.4%
	Divorced	13	5.7%
If you married how many children	Yes	90	39.3%
	NO	139	60.7%
Level of education	Elementary	1	0.4%
	Intermediate	3	1.3%

	Secondary	18	7.9%
	University	198	86.5%
Occupation	Employ	103	45.0%
	Unemployed	126	55.0%

Table no2 : Comparison of perceived stress, and HRQOL based on general demographic characteristic.

		TPSS				Physical				Psychological				Social Relationship				Environment			
		M	SD	t/F	P	M	SD	t/F	P	M	SD	t/F	P	M	SD	t/F	P	M	SD	t/F	P
Age category	20-29	22.49	4.16	**9.241**	**.001**	26.23	4.95	2.162	.093	21.19	4.68	**2.985**	.032	7.21	2.34	2.532	.058	28.93	5.54	2.120	.098
	30-39	21.97	5.53			26.11	5.19			20.37	5.41			7.03	1.84			26.80	5.34		
	40-49	18.75	4.43			28.12	4.06			23.10	3.65			8.06	2.02			29.63	4.56		
	> 50	19.13	6.33			25.88	4.09			21.13	4.73			6.50	2.78			28.38	4.98		
Gender	Male	19.98	4.27	**3.349**	.001	28.65	4.07	**2.603**	.010	23.02	4.41	**2.987**	.041	7.94	2.05	**2.987**	.003	30.75	4.55	**-2.432**	.016
	Female	21.84	4.83			26.08	4.87			21.08	4.65			7.19	2.27			28.21	5.40		
Marital status	Single	22.36	4.66	**5.993**	.001	26.44	4.93	.503	.681	21.06	4.84	**2.872**	.037	7.19	2.40	1.314	.270	29.23	5.53	2.368	.072
	Married	20.06	4.30			27.01	4.54			22.37	3.79			7.54	1.99			28.53	4.47		
	Widowed	13.00	.			28.00	.			25.00	.			4.00	.			32.00	.		
	Divorced	23.08	6.24			25.54	5.85			19.08	6.97			7.77	2.31			25.31	7.74		
If yoy married how many children	Yes	20.20	4.42	1.441	.151	27.19	4.37	**2.328**	.021	22.37	3.83	1.363	.174	7.60	2.07	-.426	.670	28.56	4.44	**-3.228**	.001
	NO	22.25	4.83			26.25	5.07			20.91	5.05			7.19	2.35			28.86	5.84		
Level of education	Elementar	30.00	.	**2.781**	.028	.19.00	.	**1.511**	.200	12.00	.	1.311	.267	2.00	.	1.671	.158	19.00	.	1.009	.404
	Intermedi	19.33	2.08			29.67	2.08			23.33	2.08			8.33	.58			30.00	1.00		
	Secondar	18.72	3.59			28.00	3.29			21.94	4.01			7.28	2.14			28.33	5.64		
	University	21.74	4.85			26.43	4.93			21.42	4.77			7.35	2.29			28.76	5.39		
Occupation	Employ	20.30	5.01	**-3.151**	**.002**	27.49	4.52	**2.261**	.025	21.86	4.85	1.013	.321	7.33	2.22	-.477	.634	28.79	4.52	-.321	.784

Unemployed	22.40	4.36		25.91	4.95		21.17	4.49		7.37	2.28		28.71	5.93

Table no 3 : Summary of linear regression analysis for variables predicting Stress.

Model	B	95.0% Confidence Interval for B		Std. Error	β	t	Sig.	R2	Adjusted R2
		Lower Bound	Upper Bound						
(Constant)	26.561	17.656	35.465	4.518		5.879	.000	**.326**	**.295****
Age category	**-1.530**	-2.398	-.663	.440	-.299	-3.477	.001		
Gender	1.388	-.032	2.809	.721	.119	1.926	.055		
Level of education	.611	-.607	1.829	.618	.058	.988	.324		
Occupation	.421	-.935	1.778	.688	.044	.612	.541		
Marital status	.282	-.612	1.176	.454	.046	.622	.535		
Do you have children	-.365	-1.899	1.169	.778	-.037	-.469	.640		
Psychological	**-.525**	-.712	-.337	.095	-.513	-5.517	.000		
Social Relationship	.135	-.173	.443	.156	.064	.865	.388		
Environment	.064	-.084	.212	.075	.071	.849	.397		
Physical	-.002	-.171	.168	.086	-.002	-.019	.985		

IV. Discussion

COVID-19 has had long and short-term psychological impacts on all countries, including Saudi Arabia, during pandemics. The survey was conducted after Saudi Arabia implemented months of lockdown measures. Furthermore, the pandemic is still far from over, and it is rapidly spreading across a number of nations in the Middle East(Mazza et al., 2020)

It has been found that the participants were between the ages of 20 and 29 experience stress higher than other age groups, our results support the findings of (Sinta et al., 2020) who, in a sample of people in quarantine across 41 countries, found age to be significantly related to stress levels. Our evidence warns that we cannot neglect the mental health condition of the younger generations as they seem to be the most stressed during the COVID-19 outbreak.

In the current study, the score of stress among women was significantly higher than that of men. These findings support the existing literature on the relationship between gender and stress levels. (Kowal et al., 2020)Consequently, implementing community-based strategies to support individuals who might be psychologically vulnerable during the COVID-19 pandemic is essential(Serafini et al., 2020).

Also, it would be beneficial to raise awareness about self-relaxation and self-care measures for participants and their families to reduce social isolation. On the basis of the results, and based on questionnaires, unemployed people scored higher on a stress scale during pandemic than employed people, possibly owing to financial concerns. This is consistent with a study conducted among Egyptian adults (El-Zoghby et al., 2020)

A multiple regression model significantly predicted stress; this model indicated significant negative associations between age, psychological satisfaction, and stress, demonstrating that increasing age and psychological satisfaction are associated with a reduction in stress. As a result, most participants indicated that they received more support from family members and were more concerned about their families' well-being during the pandemic. As a consequence, people may have been better able to cope with the additional poor quality-of-life effects that occurred during the COVID-19 epidemic.(Ma et al., 2020).

In this study, the findings are in line with prior research from Egypt and China, which identified the importance of family and friends during times of crisis. During quarantine, family members were able to spend more time together and were more concerned about their family's health (Li et al., 2020).

In consequence, there is an obvious need for large samples and diversified approaches, such as longitudinal and intervention studies, in order to provide solutions to alleviate the negative effects of high stress levels throughout life and the resulting decline in quality of life. As with quality of life, stress can also be measured using various psychometric instruments and compared within and across studies. The purpose of this study was to assess health quality of life during the COVID-19 pandemic in Saudi Arabia, but due to time constraints, it was restricted to Tabuk city. Although this is a small sample study, the results can be informative, particularly since such an epidemic is a novel experience for the Saudi population, so any data will be

appreciated. This study has potential limitations including the use of self-reported questionnaires which may cause some respondent bias or misreporting of data, and a cross-sectional design which provides only a snapshot of psychological stress responses at a particular point in time. Furthermore, future research may use a mixed methodology approach or large-scale comparative studies in collaboration with other countries to identify coping strategies that have proven to be effective in previous pandemics or currently occurring pandemics. It may guide policy makers in developing risk management protocols as part of their policy for future pandemics. In addition, we should note that almost as much as we are convinced that COVID-19 is the current enemy of mankind, we must be aware of the associated impact and be able to react appropriately.

V. Conclusion

COVID-19 has been a catastrophic experience; in the blink of an eye, this dreadful pandemic abruptly changed the way we live. As reported in the literature, pandemics are expected to have undesirable consequences not only in terms of health but also on economic, political, and educational systems. This study revealed that there is evidence of stress on health quality of life among Saudi people during COVID-19 pandemic. Hence, it is imperative that the world cooperates to fight this pandemic. In that, Saudi community institutions are advised to establish pre-outbreak policies and procedures to deal with epidemics.

References

[1]. Advice for the public. (n.d.). Retrieved December 20, 2021, from https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public.

[2]. Al Gelban, K. S. (2009). Prevalence of psychological symptoms in Saudi Secondary School girls in Abha, Saudi Arabia. Annals of Saudi Medicine, 29(4), 275–279. https://doi.org/10.4103/0256-4947.55308.

[3]. Al-Gelban, K. S. (2007). Depression, anxiety and stress among Saudi adolescent school boys. The Journal of the Royal Society for the Promotion of Health, 127(1), 33–37. https://doi.org/10.1177/1466424007070492.

[4]. Almoraie, N. M., Hanbazaza, M. A., Aljefree, N. M., & Shatwan, I. M. (2021). Nutrition-related Knowledge and Behaviour and Financial Difficulties during the COVID-19 Quarantine in Saudi Arabia. The Open Public Health Journal, 14(1), 24–31. https://doi.org/10.2174/1874944502114010024.

[5]. Andrew Dean, by G., Dean, J. A., Coulombier, D., Burton, A. H., Brendel, K. A., Smith, D. C., Dicker, R. C., Sullivan, K. M., Fagan, R. F., by Jeffrey Dean, P. A., Arner, T. G., Dean, A. G., Etzel, R. A., & Rodrigue, D. C. (1996). Epi info, version 6 : a word-processing, database, and statistics program for public health on IBM-compatible microcomputers (Issue 404, pp. 315–6440). https://stacks.cdc.gov/view/cdc/23189.

[6]. Bai, Y. M., Lin, C. C., Lin, C. Y., Chen, J. Y., Chue, C. M., & Chou, P. (2004). Survey of stress reactions among health care workers involved with the SARS outbreak. Psychiatric Services (Washington, D.C.), 55(9), 1055–1057. https://doi.org/10.1176/APPI.PS.55.9.1055

[7]. Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. J. (2020). The psychological impact of quarantine and how to reduce it: rapid review of the evidence. Lancet (London, England), 395(10227), 912–920. https://doi.org/10.1016/S0140-6736(20)30460-8.

[8]. Cohen, S., Kamarck, T., & Mermelstein, R. (1994). Perceived stress scale. Measuring stress: A guide for health and social scientists, 10(2), 1-2. - Google Search. (n.d.). Retrieved December 25, 2021, from https://www.google.com/search?q=23.+Cohen%2C+S.%2C+Kamarck%2C+T.%2C+%26+Mermelstein%2C+R.+(1994).+Perceived+stress+scale.+Measuring+stress%3A+A+guide+for+health+and+social+scientists%2C+10(2)%2C+1-2.%E2%80%8F&rlz=1C1WHCN_enSA976SA976&oq=23.%09Cohen%2C+S.%2C+Kamarck%2C+T.%2C+%26+Mermelstein%2C+R.+(1994).+Perceived+stress+scale.+Measuring+stress%3A+A+guide+for+health+and+social+scientists%2C+10(2)%2C+1-2.%E2%80%8F&aqs=chrome..69i57.786j0j4&sourceid=chrome&ie=UTF-8

[9]. Cucinotta, D., & Vanelli, M. (2020). WHO Declares COVID-19 a Pandemic. Acta Bio-Medica : Atenei Parmensis, 91(1), 157–160. https://doi.org/10.23750/ABM.V91I1.9397.

[10]. El-Zoghby, S. M., Soltan, E. M., & Salama, H. M. (2020). Impact of the COVID-19 Pandemic on Mental Health and Social Support among Adult Egyptians. Journal of Community Health, 45(4), 689–695. https://doi.org/10.1007/S10900-020-00853-5

[11]. HRQOL Concepts | CDC. (n.d.). Retrieved December 25, 2021, from https://www.cdc.gov/hrqol/concept.htm.

[12]. Khan, A. S., Alalawi, A. H., Alalawi, M. H., Alsahaf, H. A., Albahrani, M. S., & Alhasawi, F. A. (2021). Screening for depression, anxiety, and obsessive-compulsive disorders among secondary school students in Al-Hasa Region, Saudi Arabia. Journal of Family & Community Medicine, 28(1), 28–34. https://doi.org/10.4103/jfcm.JFCM_386_20.

[13]. Khoshaim, H. B., Al-Sukayt, A., Chinna, K., Nurunnabi, M., Sundarasen, S., Kamaludin, K., Baloch, G. M., & Hossain, S. F. A. (2020). Anxiety Level of University Students During COVID-19 in Saudi Arabia. Frontiers in Psychiatry, 11. https://doi.org/10.3389/fpsyt.2020.579750.

[14]. Kowal, M., Coll-Martín, T., Ikizer, G., Rasmussen, J., Eichel, K., Studzińska, A., Koszałkowska, K., Karwowski, M., Najmussaqib, A., Pankowski, D., Lieberoth, A., & Ahmed, O. (2020). Who is the Most Stressed During the COVID-19 Pandemic? Data From 26 Countries and Areas. Applied Psychology. Health and Well-Being, 12(4), 946–966. https://doi.org/10.1111/APHW.12234.

[15]. Li, S., Wang, Y., Xue, J., Zhao, N., & Zhu, T. (2020). The Impact of COVID-19 Epidemic Declaration on Psychological Consequences: A Study on Active Weibo Users. International Journal of Environmental Research and Public Health 2020, Vol. 17, Page 2032, 17(6), 2032. https://doi.org/10.3390/IJERPH17062032.

[16]. Ma, Z. F., Zhang, Y., Luo, X., Li, X., Li, Y., Liu, S., & Zhang, Y. (2020). Increased stressful impact among general population in mainland China amid the COVID-19 pandemic: A nationwide cross-sectional study conducted after Wuhan city's travel ban was lifted. The International Journal of Social Psychiatry, 66(8), 770–779. https://doi.org/10.1177/0020764020935489.

[17]. Mazza, C., Ricci, E., Biondi, S., Colasanti, M., Ferracuti, S., Napoli, C., & Roma, P. (2020). A Nationwide Survey of Psychological Distress among Italian People during the COVID-19 Pandemic: Immediate Psychological Responses and Associated Factors. International Journal of Environmental Research and Public Health 2020, Vol. 17, Page 3165, 17(9), 3165. https://doi.org/10.3390/IJERPH17093165.

[18]. Ministry of Foreign Affairs: Saudi Arabia Temporarily Suspends Entry of GCC Member States' Citizens to Makkah, Madinah The official Saudi Press Agency. (n.d.). Retrieved December 22, 2021, from https://www.spa.gov.sa/viewfullstory.php?lang=en&newsid=2040697

[19]. Serafini, G., Parmigiani, B., Amerio, A., Aguglia, A., Sher, L., & Amore, M. (2020). The psychological impact of COVID-19 on the mental health in the general population. QJM : Monthly Journal of the Association of Physicians, 113(8), 229–235. https://doi.org/10.1093/QJMED/HCAA201.

[20]. Sinta, R., Limcaoco, G., Mateos, E. M., Matías Fernández, J., & Roncero, C. (2020). Anxiety, worry and perceived stress in the world due to the COVID-19 pandemic, March 2020. Preliminary results. MedRxiv, 2020.04.03.20043992. https://doi.org/10.1101/2020.04.03.20043992.

[21]. Siu, J. Y. man. (2016). Coping with future epidemics: Tai chi practice as an overcoming strategy used by survivors of severe acute respiratory syndrome (SARS) in post-SARS Hong Kong. Health Expectations : An International Journal of Public Participation in Health Care and Health Policy, 19(3), 762. https://doi.org/10.1111/HEX.12270.

[22]. The territorial impact of COVID-19: Managing the crisis and recovery across levels of government. (n.d.). Retrieved December 20, 2021, from https://www.oecd.org/coronavirus/policy-responses/the-territorial-impact-of-covid-19-managing-the-crisis-and-recovery-across-levels-of-government-a2c6abaf/.

[23]. Widyadharma, I. P. E., Sari, N. N. S. P., Pradnyaswari, K. E., Yuwana, K. T., Adikarya, I. P. G. D., Tertia, C., Wijayanti, I. A. S., Indrayani, I. A. S., & Utami, D. K. I. (2020). Pain as clinical manifestations of COVID-19 infection and its management in the pandemic era: a literature review. In Egyptian Journal of Neurology, Psychiatry and Neurosurgery (Vol. 56, Issue 1). Springer Science and Business Media Deutschland GmbH. https://doi.org/10.1186/s41983-020-00258-0.

[24]. Yang, Y., Li, W., Zhang, Q., Zhang, L., Cheung, T., & Xiang, Y. T. (2020). Mental health services for older adults in China during the COVID-19 outbreak. The Lancet. Psychiatry, 7(4), e19. https://doi.org/10.1016/S2215-0366(20)30079-1

Amany Gamal El gharieb El berdan. "Stress Impact on Saudi Society during the COVID-19 pandemic: A cross-sectional study." *IOSR Journal of Nursing and Health Science (IOSR-JNHS)*, 12(2), 2023, pp. 17-23.