RESEARCH ARTICLE

THE IMPACT OF COVID-19 ON THE GENERAL POPULATIONREGARDINGSOCIAL AND DAILY HABITS IN SAUDI ARABIA

Shatha I. Alqassemi[1], Noor N. Alazmi[1], Seham M. Alanazi[1], Latifah M. AlBatly[1] and Salem D. Alsuwaidan[2]

1. Family Medicine Academy, King Saud Medical City (KSMC), Riyadh, Saudi Arabia.
2. Deputy Director of Research and Innovation Center, Head of Scienceand Technology, King Saud Medical City (KSMC), Riyadh, Saudi Arabia.

....

Manuscript Info

Abstract

....

....

The lockdown imposed around the world significantlyaffected the physical activity and dietary behaviorsof most citizens in an unhealthy manner. We aimed to identify the implications of COVID-19 on the social and daily lifestyle.The satisfaction rate was measured from the aspects ofjob category, educational level,and income. Overall,all participants were very satisfied during the curfew;however , a higher percentage of participants with a higher educationwere dissatisfied with their level of exercise. The rate of dissatisfaction in exercise, weight gain, and activities outside the home was significantly higher than those who were dissatisfied .The overall satisfaction was fair for most areas related to income, education, sleep, exercise, weight stability, activities outside the home, and travel within and outside the country. Family satisfaction showed the most agreement asfamilies that became closer during the curfew. Exercise, weight gain, and activities outside the home gave the least satisfaction among the Saudi community.

....

Introduction:-

Coronavirusis a ribonucleic acid (RNA) virus that infects both humans and animals; it causes a severe or acute respiratory infection ranging from mild symptoms to fatality. Coronaviruses instigated species such as severe acute respiratory syndrome-related coronavirus (SARS-CoV), Middle East respiratory syndrome-related coronavirus (MERS-CoV), and severe acute respiratory syndrome-related coronavirus 2 (SARS-CoV-2), which is the source of theCOVID-19 pandemic. In 2002, a new, life-threatening infectious disease known as severe acute respiratory syndrome (SARS) was identified as a global public health issue. As a result, 10 years after the first instance of SARS, a new case of respiratory disease caused global concern. Middle East respiratory syndrome (MERS) was the name given to the disease, which was more deadly than SARS. Today, history has repeated itself with a new global health problem, with the majority of respiratory diseases having a high case fatality rate worldwide (Ye et al., 2020).

COVID-19 started in December 2019 when the city of Wuhan, China, reported a cluster of cases presenting with a severe respiratory infection of unknown cause. TheCenter for Disease Control and Prevention(CDC) in the USA reported that a novel coronavirus (2019-nCoV) was found to be the reason for a large number of pneumonia cases and it was announced to the world (Wu and McGoogan, 2020). In the first few months of 2020, COVID-19 affected almost all countries in the world (Gwee et al., 2021). In the Kingdom of Saudi Arabia (KSA), around 750,000

Corresponding Author:- Salem D. Alsuwaidan
Address**:-** Deputy Director of Research and Innovation Center, Head of Scienceand Technology, King Saud Medical City (KSMC), Riyadh, Saudi Arabia.

infections and about 9,000 deaths have been reported as coronavirus-related since the pandemic beganaccording to Worldometers coronavirus population, the coronavirus cases and deaths in Saudi Arabia.

Globally, the COVID-19 pandemic resulted in a significant loss of human life, as well as damage to public health, the economy, and employment. Farmers have been unable to access markets, especially to acquire raw materials and sell their produce due to border closures, trade restrictions, and confinement measures, limiting the population's access to nutritious, safe, and diverse diets (Béné, 2020). Changes for workers included being confronted with high levels of working poverty, starvation, bad health, a lack of safety and labor protections, and various forms of abuse. Workers include the young and the old and migrants who labor in the informal economy and in jobs that are inadequately protected and pay only low wages.

This pandemic had a massive impact on human lifestyles, through social distancing and isolation at home, with social and economic consequences. All human social and behavioral lifestyles, including dietary habits, were affected (Di Renzo et al., 2020). It is very important to highlight some daily routines due to lockdown conditions. Lockdown changed habits and ways of living. Almost 55% of people were working from home during the lockdown (Kumar and Dwivedi, 2020). The intake of foods such as fruit, savory snacks, and candy increased among food-secure participants during the COVID-19 curfew, highlighting the importance of avoiding food overconsumption, promoting positive eating habits, and increasing physical activity during the curfew to maintain health and prevent weight gain and to avoid negative consequences (Mumena, 2021; Madani et al., 2020).

The psychological impact of these habits was noted during the curfew such as the time of going to bed and waking up, and the use of the Internet changed including the time devoted to daily reading (Abdullah et al., 2020). People at the highest academic level showed great concern and anxiety due to COVID-19 and a lower psychological profile regarding inflexibility in fitting in to confinement situations and worrying levels of physical inactivity compared with those at a lower academic level (Arimura et al., 2020).

In similar countries. The lockdown imposed in Saudi Arabia had a significant impact on physical activity and dietary behaviors in an unhealthy way for most of the citizens. Therefore, it has been suggested that ways to address the purpose of this study aimed to identify the implications of COVID-19 on the social and daily lifestyles of the general population in the KSA.

Methods:-
A cross-sectional study was carried out throughout a survey designed for this purpose. The study covered all KSA regions during the period from September to December 2021 and included all KSA residents who agreed to complete the study questionnaire.

A questionnaire was designed and then distributed online, via communication media, and self-interview to collect data. The questionnaire consisted of two main sections:
1. The first section included items about the participants' demographic characteristics.
2. The second section included items about the participants' satisfaction during the curfew with aspects of their lives during the COVID-19 pandemic, namely, education, income, sleep, exercise, weight, family relationships, activities outside the home, and travel within and outside the country.

Participants were taken to have given their consent by responding to the questionnaire. The satisfaction rate was measured from the following aspects:
1. Job category (business, education, medical, military, engineering, and others, such as students and standby employees)
2. Educational level (primary, intermediate/secondary, higher education, and postgraduate)
3. Income rate (<5000 Saudi Riyal (SR), 5001–10000 SR, 10001–15000 SR, and >15000 SR)Statistical analysis

Data were analyzedusing (SPSS, version 26). To test the relationship between variables, qualitative data were expressed as numbers and percentages, and the Chi-squared test (χ^2) was used. Quantitative data were expressed as mean and standard deviation (mean ± SD), and correlation analysis was performed using Spearman's test, where a p-value of 0.05 was considered statistically significant.

Results:-

This study was conducted on 1017 participants to determine the impact of COVID-19 on the community socially, economically, and educationally. The female participants accounted for 747 (73.5%) and males 270 participants (26.5%), which is almost one-third of the female participation rate. The marital status was 433 (42.6%) single, 531 (52.2%) married, 35 (3.4%) divorced, and 18 (1.8%) widowed. More than half of the participants 550 (54.1%) had a bachelor's degree, 231 (22.7%) were secondary school graduates, 124 (12.2%) had a diploma, 98 (9.6%) were postgraduates, and 14 (1.4%) had attained primary education, and there were no illiterate participants.

The results showed that 35.6% of the females were single, compared with 61.9% of males, while the results for married, women were 35.6% compared to 61.9% of males. Although the education levels were somewhat but not significantly different, most of the participants had a bachelor's degree with the females' percentage predominating at 57.4% over the males' at 44.8%. Further details describing the demographic data are shown in Table 1.

Moreover, Table 1 also illustrates the job categories of the participants, showing the respondents in the medical category at 25.1%; the teaching and business categories at 16.7% and 15.3%, respectively; and then the minority from the military category at 2.5% and engineering at 1.8%.The majority of the respondents were categorized as others at 38.6%, such as students and standby workers. This majority reflected the fact of the income rate of < 5000 SR per month at 45.7%, and more than 50% of the respondents were within the income range of 5000 to 20,000 SR. Only 3.9% had an income of more than 20,000 SR.

Overall, participants were satisfied during the curfew from the point of view of education, income, sleep, exercise, weight gain, family environment, activities at home, and travel within and outside the country. Participants in all job categories were very satisfied, except for exercise, where the results showed an equal ratio of satisfaction and dissatisfaction. It is also worth mentioning that travel out of the kingdom showed a lower satisfaction rate than other satisfaction categories.

The satisfaction ratio (unsatisfied/satisfied) was mostly shown with family environment satisfaction where only 7.3% were unsatisfied, whereas exercise and weight gain were shown as 76.9% and 72.7%, respectively, as not being satisfied during the curfew, and these results are shown in more detail in Table 2. Similarly, the satisfaction rate for family environment during curfew was the highest in different marital status categories, while the same for exercise and weight gain showed a more dissatisfied rate as shown in Table 3.

A higher percentage of participants with a high education level showed dissatisfaction with their exercise as compared with other satisfaction categories. The rate of dissatisfaction with exercise, weight gain, and activities outside the home showed a significantly higher level of those who were dissatisfied ($p < 0.05$). Table 4 showed that participants with a bachelor's degree level of education had a significantly higher level of those who were dissatisfied with exercise and activities outside the home ($p < 0.05$). At the same time, a nonsignificant relationship was found between the participants' educational level and their satisfaction with education, income, sleep, weight, activities outside the home, or travel within or outside the country ($p > 0.05$). Education satisfaction results were almost the same in all age categories as a fair satisfaction rate with only a small difference in percentage, rated from 45% to 60%.

The higher the incomerate, the more dissatisfaction with jobs during curfew; it has been noted that more than 88% of the respondents with the highest income rate were not satisfied with their jobs. On the other hand, results showed that participants with a monthly income of < 5000 SR had a significantly higher level of dissatisfaction with their income, weight, and activities outside the home ($p < 0.05$). In addition, a nonsignificant relationship was found between the participants' income level and their satisfaction with education, sleep, exercise, family relationships, or travel within or outside the country ($p > 0.05$).

It is demonstrated that female participants formed a significantly higher percentage of those who were notsatisfied with their income, exercise, and travel outside the country during the COVID-19 pandemic compared to male participants ($p < 0.05$). However, a nonsignificant gender difference was found regarding satisfaction with education, sleep, weight, family relationships, activities outside the home, or travel within the country ($p > 0.05$).

Discussion:-

This study aimed to assess the impact of the COVID-19 pandemic on the social habits of the population of Saudi Arabia. It was conducted using 1017 participants: 747 (73.5%) were female and 270 were male (26.5%). The marital status of the participants was 433 (42.6%) unmarried, 531 (52.2%) married, 35 (3.4%) divorced, and 18 (1.8%) widowed. More than half of the participants 550 (54.1%) had a bachelor's degree, 231 (22.7%) were secondary school graduates, 124 (12.2%) had a diploma, 98 (9.6%) were postgraduates, and 14 (1.4%) had primary school education.

Previous research found that women have tended to be overrepresented in the frontline of the pandemic and also in the service sector, which has been particularly affected by the current crisis. This has translated into an increase in female unemployment rates and thus a higher likelihood of poverty for women. Women have also tended to undertake a disproportionate amount of uncompensated childcare work, even if enforced lockdowns have meant that men increased their household participation in comparison to the years before the pandemic (Anderton et al., 2021; Alon et al., 2020).

The job categories of the participants were 25.1% from the medical field; the teaching and business at 16.7% and 15.3%, respectively; and then a minority from the military at 2.5% and engineering at 1.8%. Most of the respondents were categorized as others at 38.6%, such as students and standby workers. Participants from all job categories were very satisfied with the criteria except for exercise, where the results showed an equal ratio of satisfaction and dissatisfaction. It is also worth mentioning that travel out of the kingdom showed a lower rate of satisfaction compared with other criteria. A result from another study found that frontline workers' exposure to the risk of the virus should affect their satisfaction, in addition to other reasons such as fear of the virus, long working hours, less time for sleeping and rest, extra workload, less training for junior staff, pay not commensurate with the work, and having to live away from family (Rastogi and Dhingra, 2018). However, job satisfaction had a significant positive impact on employee performance during the pandemic (Saptaet al., 2021).

Regarding the participants' satisfaction with activities outside the home and travel within and outside the country, 76.2%, 79.4%, and 69.4% were satisfied, respectively. It was found that the impacts of the pandemic on intercity travel and movements within and across urban regions have been significant (Abdullah et al., 2020; Arimuraet al., 2020). While the decrease in activities outside the home revealed in the present study was also observed during COVID-19 quarantine, a decrease in population physical activity increased sedentary lifestyle and decreased life satisfaction (Hermassiet al., 2021).

The dissatisfaction rate due to exercise, weight gain, and activities outside the home showed a significantly higher level of those who were unsatisfied (p< 0.05). Participants with a bachelor's degree level of education had a significantly higher level of those who were unsatisfied with exercise and activities outside the home (p< 0.05). Previous studies found that there was, overall, great dissatisfaction with body image, and currently, many women desire a lean body as promoted by the media around the world (Infiel, 2011), and there was evidence that the prevalence of body weight misperception declines with increasing educational level (Gao et al., 2017). The significant dissatisfaction about weight gain among low-income participants was the same interpretation as the previous study (Santos Silva et al., 2011) in addition to the perception of weight gain, which was observed in 48.6% of the population (Di Renzo et al., 2020).

Education satisfaction results were almost the same in all age categories to be a fair satisfaction rate with only a small percentage difference, rated from 45% to 60%. On the other hand, a nonsignificant relationship was found between the participants' educational level and their satisfaction with education, income, sleep, weight, activities outside the home, or travel within or outside the country (p> 0.05).

This study showed that participants with a bachelor's degree level of education had a significantly higher level of those who were unsatisfied with exercise and activities outside the home. The mandated restrictions concerning engagement in outdoor activities, including regular physical activity during the time of the COVID-19 pandemic, are reducing exercising and increasing sedentary behavior, which can consequently contribute to anxiety, depression, and common chronic health diseases (Schuchet al., 2020; Ingram et al., 2020). In addition, restrictions likely reduced all kinds of physical activity and its frequency and duration among typically active people who were unable to access gyms and health clubs and among those who achieve sufficient levels of physical activity incidentally, through walking or cycling to work or study (Ammar et al., 2020; Lesser and Nienhuis, 2020). It has been

previously reported that COVID-19 confinement produced negative psychological effects, including post-traumatic stress, confusion, and anger (Brooks et al., 2020; Fuentes-García et al., 2020). During confinement, most individuals live in an unprecedented situation of unknown duration, being exposed to anxiety, fear, depression, or sleep disruption (Altenaet al., 2020; Ning et al., 2020).

Most of the female participants were dissatisfied with their income, exercise, and travel outside the country compared to male participants ($p < 0.05$). A nonsignificant gender difference was found regarding satisfaction with education, sleep, weight gain, family relations, activities outside the home, or travel within the country ($p > 0.05$). Another study showed a significantgender difference in employees' work satisfaction, work engagement, and work efficiency when working from home during curfew. The same study showed an increase in women's housework and childcare, thereby creating a gender gap in work satisfaction (Rožmanet al., 2021). This could be translated into an increase in female unemployment rates and thus a higher likelihood of poverty for women. Women have also tended to undertake a disproportionate amount of uncompensated childcare work, even if enforced lockdowns have meant that men increased their household participation in comparison to the years before the pandemic (Anderton et al., 2021; Alon et al., 2020).

Conclusion:-
The overall satisfaction level was fair for most of the areas related to income, education, sleep, exercise, weight stability, activities outside the home, and travel within and outside the country. Family satisfaction showed the strongest agreement as an interpretation that families had become closer during the curfew. This had been noticed when people were engaged in emotion-focused coping and would like to be free of supervisors (Vaziriet al., 2020). Exercise, weight gain, and activities outside the home had the lowest scores ofsatisfaction among the Saudi community.

Table 1:- Demographic data for the 1017 subjects who participated in the study to ascertain the impact of COVID-19 on the community.

		All (n = 1017)	Female (n = 747) (73.5%)	Male (n = 270) (26.5%)
Average age (± st. dev)		32.09 (± 11.5)	33.35 (± 11.7)	28.61 (± 10.3)
Family income rate (± st. dev)		8373.61 (±11042)	8290.26 (±11799)	8604.23 (±8625)
Marital status	Single	433 (42.6%)	266 (35.6%)	167 (61.9%)
	Married	531 (52.2%)	432 (57.8%)	99 (36.7%)
	Widowed	18 (1.8%)	17 (2.3%)	1 (0.4%)
	Divorced	35 (3.4%)	32 (4.3%)	3 (1.1%)

Educational level	Primary	14 (1.4%)	11 (1.5%)	3 (1.1%)
	Secondary	231 (22.7%)	156 (20.9%)	75 (27.8%)
	Diploma	124 (12.2%)	82 (11%)	42 (15.6%)
	Bachelor's	550 (54.1%)	429 (57.4%)	121 (44.8%)
	Postgraduate	98 (9.6%)	69 (9.2%)	29 (10.7%)
Job categories	Business	156 (15.3%)	104 (13.9%)	52 (19.3%)
	Teaching	170 (16.7%)	153 (20.5%)	17 (6.3%)
	Medical	255 (25.1%)	179 (24%)	76 (28.1%)
	Military	25 (2.5%)	3 (0.4%)	22 (8.1%)
	Engineering	18 (1.8%)	5 (0.7%)	13 (4.8%)
	Other	393 (38.6%)	303 (40.6%)	90 (33.3%)
Income rate	<5000	465 (45.7%)	333 (44.6%)	132 (48.9%)
	5001–10000	247 (24.3%)	199 (26.6%)	48 (17.8%)
	10001–20000	265 (26.1%)	194 (26%)	71 (26.3%)
	>20000	40 (3.9%)	21 (2.8%)	19 (7%)

Table 2:- Frequency of satisfaction and dissatisfaction for the participants during the COVID-19 curfew with different job categories.

Satisfaction		Busin	Teach	Medic	Military	Engin	Other	χ^2	p-value
Education	No	19	26	48	4	3	63	3.27	0.658
	Yes	137	144	207	21	15	330		
Income	No	37	34	55	5	3	99	2.8	0.73
	Yes	119	136	200	20	15	294		
Sleep	No	26	44	49	6	6	80	6.6	0.252
	Yes	130	126	206	19	12	313		
Exercise	No	58	78	127	8	8	163	9.06	0.107
	Yes	98	92	128	17	10	230		
Weight gain	No	56	89	109	9	7	158	10.87	0.054
	Yes	100	81	146	16	11	235		
Family	No	10	10	30	1	1	17	14.36	0.013
	Yes	146	160	225	24	17	376		
Activity outside home	No	21	40	87	10	4	80	30.38	< 0.001
	Yes	135	130	168	15	14	313		
Travel_within	No	35	38	56	4	3	74	2.17	0.825
	Yes	121	132	199	21	15	319		
Travel outside	No	45	43	91	11	5	116	7.97	0.157
	Yes	111	127	164	14	13	277		

Note: Busin = Business; Teach = Teaching; Medic = Medical; Engin. = Engineering

Table 3:- Frequency of satisfaction during the COVID-19 curfew by marital status.

Satisfaction		Single	Married	Widowed	Divorced	χ^2	p-value
Education	No	72	77	5	9	64.53	< 0.001
	Yes	361	454	13	26		
Income	No	96	117	6	14	7.26	0.064
	Yes	337	414	12	21		
Sleep	No	102	99	3	7	3.7	0.296
	Yes	331	432	15	28		
Exercise	No	194	225	8	15	0.58	0.9
	Yes	239	306	10	20		
Weight gain	No	159	241	13	15	14.2	0.003

	Yes	274	290	5	20		
Family	No	40	24	0	5	12.85	0.005
	Yes	393	507	18	30		
Activity outside home	No	103	130	3	6	1.49	0.683
	Yes	330	401	15	29		
Travel within	No	90	103	6	11	4.76	0.19
	Yes	343	428	12	24		
Travel outside	No	128	171	4	8	2.44	0.485
	Yes	305	360	14	27		

Table 4:- Frequency and percentage of satisfaction during the COVID-19 curfew by educational level.

Satisfaction no. (%)		Primary	Secondary/intermediate	Diploma	Bachelor	Postgraduate	χ^2	p-value
Education	No	1 (0.6)	29 (17.8)	18 (11)	97 (59.5)	18(11)	4.55	0.336
	Yes	13 (1.5)	202 (23.7)	106(12.)	453(53.4)	80 (9.5)		
Income	No	1 (0.4)	59 (25.3)	23 (9.9)	130(55.8)	20 (8.6)	4.72	0.317
	Yes	13 (1.7)	172 (21.9)	101(12.9)	420(53.6)	78 (9.9)		
Sleep	No	2 (0.9)	43 (20.4)	16 (7.6)	129(61.1)	21 (10)	8.11	0.087
	Yes	12 (1.5)	188 (23.3)	108(13.4)	421(52.2)	77 (9.6)		
Exercise	No	3 (0.7)	89 (20.1)	49 (11.1)	246(55.7)	55(12.4)	12.59	0.013
	Yes	11 (1.9)	142 (24.7)	75 (13)	304(52.9)	43 (7.5)		
Weight gain	No	7 (1.6)	86 (20.1)	59 (13.8)	237(55.4)	39 (9.1)	4.57	0.334
	Yes	7 (1.2)	145 (24.6)	65 (11)	313(53.1)	59 (10)		
Family	No	0 (0.0)	10 (14.5)	9 (13)	38 (55.1)	12(17.4)	7.89	0.095
	Yes	14 (1.5)	221 (23.3)	115(12.1)	512 (54)	86 (9.1)		
Activity outside home	No	6 (2.5)	42 (17.4)	30 (12.4)	130(53.7)	34 (14)	13.2	0.01
	Yes	8 (1)	189 (24.4)	94 (12.1)	420(54.2)	64 (8.3)		
Travel within	No	4 (1.9)	48 (22.9)	19 (9)	112(53.3)	27(12.9)	5.56	0.234
	Yes	10 (1.2)	183 (22.7)	105 (13)	438(54.3)	71 (8.8)		
Travel outside	No	3 (1)	69 (22.2)	38 (12.2)	164(52.7)	37(11.9)	3.13	0.536
	Yes	11 (1.6)	162 (22.9)	86 (12.2)	386(54.7)	61 (8.6)		

Table 5:- Frequency and percentage of satisfaction during the COVID-19 curfew by income rate in Saudi Riyal (SR).

Satisfaction no. (%)	<5000 SR	5001–10000	10001–20000 SR	>15000

			SR		
Education	No	68	38	51	6
	Yes	397	209	214	34
Income	No	123	52	52	6
	Yes	342	195	213	34
Sleep	No	95	48	63	5
	Yes	370	199	202	35
Exercise	No	185	106	139	12
	Yes	280	141	126	28
Weight gain	No	178	101	135	14
	Yes	287	146	130	26
Family	No	30	15	23	1
	Yes	435	232	242	39
Activity outside home	No	91	61	79	11
	Yes	374	186	186	29
Travel within	No	89	50	61	10
	Yes	376	197	204	30
Travel outside	No	136	66	98	11
	Yes	329	181	167	29

References:-

1. Abdullah, M., Dias, C., Muley, D., &Shahin, M. (2020).Exploring the impacts of COVID-19 on travel behavior and mode preferences. Transportation Research Interdisciplinary Perspectives, 8, 100255. https://doi.org/10.1016/j.trip.2020.100255.
2. Alon, T., Doepke, M., Olmstead-Rumsey, J., &Tertilt, M. (2020).The impact of COVID-19 on gender equality. National Bureau of Economic Research.
3. Altena, E., Baglioni, C., Espie, C. A., Ellis, J., Gavriloff, D., Holzinger, B., Schlarb, A., Frase, Frase, L., Jernelöv, S., &Riemann, D. (2020). Dealing with sleep problems during home confinement due to the COVID-19 outbreak: practical recommendations from a task force of the European CBT-I Academy. Journal of Sleep Research, 29, e13052. https://doi.org/10.1111/jsr.13052.
4. Ammar, A., Mueller, P., Trabelsi, K., Chtourou, H., Boukhris, O., Masmoudi, L., Bouaziz, B., Brach, M., Schmicker, M., Bentlage, E., How, D., Ahmed, M., Aloui, A., Hammouda, O., Paineiras-Domingos, L. L., Braakman-Jansen, A., Wrede, C., Bastoni, S., Pernambuco, C. S., … ECLB-COVID19 Consortium (2020). Psychological consequences of COVID-19 home confinement: the ECLB-COVID19 multicenter study. PLOS ONE, 15, e0240204. https://doi.org/10.1371/journal.pone.0240204.
5. Anderton, R., Botelho, V., Consolo, A., Da Silva, A. D., Foroni, C., &Mohr, M. (2021).The impact of the COVID-19 pandemic on the euro area labour market. Economic. Bulletin Articles, 8.
6. Arimura, M., Ha, T. V., Okumura, K., &Asada, T. (2020).Changes in urban mobility in Sapporo city, Japan due to the Covid-19 emergency declarations. Transportation Research Interdisciplinary Perspectives, 7. https://doi.org/10.1016/j.trip.2020.100212.
7. Béné, C. (2020). Resilience of local food systems and links to food security–A review of some important concepts in the context of COVID-19 and other shocks. Food Security, 12, 805-822. https://doi.org/10.1007/s12571-020-01076-1.
8. Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., &Rubin, G. J. (2020 March 14).The psychological impact of quarantine and how to reduce it: rapid review of the evidence. Lancet, 395, 912–920. https://doi.org/10.1016/S0140-6736(20)30460-8.
9. Di Renzo, L., Gualtieri, P., Pivari, F., Soldati, L., Attinà, A., Cinelli, G., Leggeri, C., Caparello, G., Barrea, L., Scerbo, F., Esposito, E., &De Lorenzo, A. (2020).Eating habits and lifestyle changes during COVID-19 lockdown: an Italian survey. Journal of Translational Medicine, 18, 229. https://doi.org/10.1186/s12967-020-02399-5.
10. Fuentes-García, J. P., Martínez Patiño, M. J., Villafaina, S., &Clemente-Suárez, V. J. (2020).The effect of COVID-19 confinement in behavioral, psychological, and training patterns of chess players. Frontiers in Psychology, 11, 1812. https://doi.org/10.3389/fpsyg.2020.01812.

11. Gao, C., Lv, X., Yin, Y., Song, Y., Zhang, P., Wang, R., Jiang, L., Wang, Y., Yu, Y., &Li, B. (2017).Perceptions and behaviours towards high body weight among adults in Northeast China. Public Health Nutrition, 20, 1557–1563. https://doi.org/10.1017/S1368980017000556.

12. Gwee, S. X. W.,Chua, P. E. Y.,Wang, M. X., &Pang, J. (2021).Impact of travel ban implementation on COVID-19 spread in Singapore, Taiwan, Hong Kong and South Korea during the early phase of the pandemic: a comparative study. BMC Infectious Diseases, 21, 799. https://doi.org/10.1186/s12879-021-06449-1.

13. Hermassi, S., Sellami, M., Salman, A., Al-Mohannadi, A. S., Bouhafs, E. G., Hayes, L. D., &Schwesig, R. (2021).Effects of COVID-19 lockdown on physical activity, sedentary behavior, and satisfaction with life in Qatar: A preliminary study. International Journal of Environmental Research and Public Health, 18, 3093. https://doi.org/10.3390/ijerph18063093.Infiel, G. M. (2011). Notas de umaantropóloga. Editora Record.

14. Ingram, J., Maciejewski, G., &Hand, C. J. (2020).Changes in diet, sleep, and physical activity are associated with differences in negative mood during COVID-19 lockdown.Frontiers in Psychology, 11:2328. https://doi.org/10.3389/fpsyg.2020.588604.

15. Kumar, M., &Dwivedi, S. (2020).Impact of coronavirus imposed lockdown on Indian population and their habits. International Journal of Science and Healthcare Research, 5, 88–97.

16. Lesser, I. A., &Nienhuis, C. P. (2020).The impact of COVID-19 on physical activity behavior and well-being of Canadians. International Journal of Environmental Research and Public Health, 17, 3899. https://doi.org/10.3390/ijerph17113899.

17. Madani, A., Boutebal, S. E., &Bryant, C. R. (2020).The psychological impact of confinement linked to the coronavirus epidemic COVID-19 in Algeria.International Journal of Environmental Research and Public Health, 17, 3604. https://doi.org/10.3390/ijerph17103604.

18. Mumena, W. (2021).Impact of COVID-19 curfew on eating habits, eating frequency, and weight according to food security status in Saudi Arabia: a retrospective study. Progress in Nutrition, 22, e2020075.

19. Ning, L., Niu, J., Bi, X., Yang, C., Liu, Z., Wu, Q., Ning, N., Liang, L., Liu, A., Hao, Y., Gao, L., &Liu, C. (2020 December).The impacts of knowledge, risk perception, emotion and information on citizens' protective behaviors during the outbreak of COVID-19: a cross-sectional study in China.BMC Public Health, 20, 1751. https://doi.org/10.1186/s12889-020-09892-y.

20. Rastogi, M., &Dhingra, V.Job satisfaction DURING COVID-19: a review of various sectors. Psychology and education (ISSN: 1553-6939).

21. Rožman, M., SternadZabukovšek, S., Bobek, S., &Tominc, P. (2021). Gender differences in work satisfaction, work engagement and work efficiency of employees during the COVID-19 pandemic: the case in Slovenia. Sustainability, 13, 8791. https://doi.org/10.3390/su13168791.

22. Santos Silva, D. A., Nahas, M. V., de Sousa, T. F., Del Duca, G. F., &Peres, K. G. (2011).Prevalence and associated factors with body image dissatisfaction among adults in southern Brazil: a population-based study. Body Image, 8, 427–431. https://doi.org/10.1016/j.bodyim.2011.05.009.

23. Sapta, I.,MUAFI, M., &SETINI, N. M. (2021).The role of technology, organizational culture, and job satisfaction in improving employee performance during the Covid-19 pandemic. Journal of Asian Finance, Economics, and Business, 8, 495–505.

24. Schuch, F. B.,Bulzing, R. A.,Meyer, J.,Vancampfort, D.,Firth, J.,Stubbs, B.,Grabovac, I.,Willeit, P.,Tavares, V. D. O.,Calegaro, V. C.,Deenik, J., López-Sánchez, G. F., Veronese, N., Caperchione, C. M., Sadarangani, K. P., Abufaraj, M., Tully, M. A., &Smith, L. (2020).Associations of moderate to vigorous physical activity and sedentary behavior with depressive and anxiety symptoms in self-isolating people during the COVID-19 pandemic: A cross-sectional survey in Brazil. Psychiatry Research, 292, 113339.https://doi.org/10.1016/j.psychres.2020.113339.

25. Vaziri, H.,Casper, W. J.,Wayne, J. H., &Matthews, R. A. (2020).Changes to the work–family interface during the COVID-19 pandemic: examining predictors and implications using latent transition analysis. Journal of Applied Psychology, 105, 1073–1087. https://doi.org/10.1037/apl0000819.

26. Total coronavirus cases and deaths in Saudi Arabia. Worldometers coronavirus population. Retrieved from https://www.worldometers.info/coronavirus/country/saudi-arabia/.

27. Wu, Z., &McGoogan, J. M. (2020).Characteristics of and important lessons from the coronavirus disease 2019 (COVID-19) outbreak in China: summary of a report of 72 314 cases from the Chinese Center for Disease Control and Prevention. JAMA, 323, 1239–1242. https://doi.org/10.1001/jama.2020.2648.

28. Ye, Z. W., Yuan, S., Yuen, K. S., Fung, S. Y., Chan, C. P., &Jin, D. Y. (2020).Zoonotic origins of human coronaviruses.International Journal of Biological Sciences, 16, 1686–1697. https://doi.org/10.7150/ijbs.45472.