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Assessment of changes in lifestyles among general population in western India during the COVID-19 pandemic- A Questionnaire study

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Abstract

Background: COVID -19 is an acute respiratory syndrome caused by SARS Coronavirus 2. Life was reorganized thoroughly and shifted to new normal paradigm which drastically altered people's lives, that have resulted in decreased physical activity, altered rhythms of daily life and unhealthy lifestyles.

Objective: To assess the changes in dietary habits, quality of life, physical activity amongst the population of Western India during COVID19 pandemic.

Materials & Methods: General Population from western India (Gujarat, Maharashtra, Rajasthan) were enrolled. An online questionnaire was sent to participant, comprised of total 26 questions about general characteristics, changes in dietary habits, physical activities and quality of life.

Results: During the pandemic changes were observed in quality and quantity of diet which included increased consumption of fruits (61.2%), nutrition supplements (70.6%) & immunity boosting food (79%). Due to lockdown population participated more in leisure & household chores (57.4%) with increased physical exercises (48.8%), quality of sleep (49.3%), stress & anxiety levels (63%). Conclusion: Majority of participants in western India has undergone lifestyles changes including changes in the dietary habits, quality

of life, physical activity during the COVID19 pandemic.

Keywords: COVID-19, SARS, Lifestyle, pandemic

Introduction

SARS coronavirus 2 causes COVID-19, a severe acute respiratory illness (SARS-CoV-2). SARS-CoV-2 was thought to have passed from animals to humans at the Huanan seafood market in December 2019 and spread quickly from Wuhan, Hubei Province, China, to the rest of the world.1 Since the beginning of the epidemic, in many countries strict regulatory government measures were introduced in order to stop further transmission of the virus, while providing adequate care for the infected patients[2].

To oppose and restrict the development of the new COVID-19, the Indian government agreed on more stringent containment measures at the beginning of March 2020: a prohibition on mass meetings and events, as well as a ban on meeting up for no urgent reason, and a stoppage of work at various eateries, coffee shops, fitness centres, and sport facilities around the country. The COVID-19 lockdown intervention was successful in limiting exponential transmission and achieving the desired beneficial health outcomes. However, large lockdowns have resulted in other lifestyle changes. [3]

Life was re-organized thoroughly, and shifted to a “new normal” paradigm, with major changes in social interaction and overall daily living, but consequently and increased sense of fear and other mental health disorders. 4,5 Like other infectious diseases and macro-level crises, such as malaria, plague, cholera, HIV/AIDS, and SARS, COVID-19 is a threat to life6but it may also be a contributor to change lifestyles and social life.

The pandemic has drastically altered people's lifestyles, with many people working from home and having no interaction with people outside of their immediate families. These shifts may have resulted in decreased physical activity, altered rhythms of daily life and unhealthy lifestyles. Many adults who do not leave home to go to work and instead spend more time at home may have significantly reduced levels of daily physical activity or outdoor time. Additionally, they may be snacking more and experiencing more circadian rhythm disorders.

People who experience psychological disorders and stressful events during the COVID-19 lockdown are more prone to consume unhealthy food rich in fat and sugar to relieve feelings of tension, anger, and confusion.6 Furthermore, due to stringent lockdown restrictions, households would stockpile ultra-processed and high-calorie foods, leading to the ingestion of unhealthy foods.7The lockdown has affected weight gain due to the limited access to daily grocery shopping coupled with reduced consumption of fresh foods and increased intake of processed convenient foods , particularly those high in sugar to help cope with COVID-19 psychological distress and improve the mood.

In the development and control of diseases, one's lifestyle is extremely important. Changes in lifestyle and social support can be influenced by gender, age, and socioeconomic resources.

The influence of a pandemic on an individual's lifestyle-related behaviour, such as nutrition, physical activity, and sleep habits, is expected to continue for a long time, so physicians must investigate the impact of COVID-19 on population lifestyle-related behaviour.[8]

So the main objective of the study was to assess the changes in dietary habits, physical activity and quality of life amongst the general population of Western India during COVID-19 pandemic.

Methodology

This questionnaire survey was conducted after approval from SVIEC. Participants from western India (Maharashtra, Gujarat & Rajasthan) who were 18years and above, educated and have access to social media were enrolled.

Method

Participants were evaluated by wed-based questionnaire. The questionnaire was formulated in English language and consisted of 27 questions. All the participants were selected according to the defined selection criteria. The participants were selected through convenient sampling randomly through email or WhatsApp groups. Online generated link was forwarded to them to fill the questionnaire. Inform consent was taken in the online survey itself. Questions in this study were concerned of the following areas (i) Dietary habits (ii) Immunity boosters (iii) Physical activity (iv) Stress & anxiety. Once questionnaire had been filled by all the participants, data was entered in the Excel sheet and was subjected for statistical analysis.

Sample population

The sample size of the present study was estimated to be 384 at 95% confidence interval. Participants invited to fill the form were twice the number of sample size calculated. The participants were asked to forward the questionnaire to their friends and family so that maximum participation could be ensured. Designing of web-based questionnaire.

The questionnaire comprised of 27 close ended questions which was adopted from a previous study conducted by Kumari A et al[8]

It was designed using a template provided by the Google Forms (Google Inc., USA). To design an online version of the questionnaires, Google Drive application was accessed through an existing Google account. After accessing the Google Drive application, a new Google Forms template was created. All the questions along with choices were entered onto the Google Form template and were saved. The surveyor could access the link to the online questionnaire through a laptop and smartphone.

Statistical analysis

At the 95 percent confidence interval, the sample size for this study was calculated to be 384. In this study, descriptive and inferential statistical analyses were performed. The findings of continuous data were provided as Mean SD, while categorical measurements were presented as a number (percent). The statistical significance level was set at p=0.05, and any value less than or equal to that was considered statistically significant.

The relevance of study parameters on a categorical scale was determined using Chi square analysis. The data was analysed using IBM SPSS statistics 20.0 (IBM Corporation, Armonk, NY, USA), and graphs, tables, and other graphics were created using Microsoft Word and Excel.

Results

A total of 399 participated out of which 196 were males and 203 were females. Around 332 (80%) of the population resided in the urban areas with Maharashtra having the highest participation rate at 39.6%. In Graph, the demographic information of the participants is displayed. The study included the participants from Western India who submitted the questionnaire with a total of 27 close ended questions comprising of Lifestyle changes due to COVID-19. The changes in the lifestyle in terms of dietary habits, Consumption of immunity boosters, physical activity and stress and anxiety level.

Dietary habits

During the COVID 19 pandemic, 54.9 % reported a rise in snacking between meals, whereas 61.2 percent reported an increase in daily fruit and vegetable consumption. 57.1 % claimed to have increased their intake of a balanced diet that included nutritious elements such whole wheat, pulses, legumes, eggs, nuts, fruits, and vegetables, while 52.1 % claimed to have reduced their intake of junk/fried food.

Sugar-sweetened beverages, such as carbonated soft drinks and sugar-sweetened juices, as well as sweets/candies/chocolate intake, were both reduced by 45.4 % and 40.1 %, respectively.

Immunity Boosters

Among the participants 44.4% claimed that due to the support from their friends and family they have increase the consumption of healthy food during the pandemic whereas consumption immunity-boosting foods such as “lemon”, “turmeric”, “garlic”, “citrus fruits” and “green leafy vegetables” in the diet was significantly increased in 42.1% and slightly increased in 37.8%. 70.6% of the participants have started taking the nutrition supplement to increase their immunity.

Physical activity

Due of the strict lockdown people were bound to stay at home that lead to the increase participation in traditional cooking, household chores, leisure activity by 63.4% and 57.4% respectively aerobic exercise showed a mixed response with significant increase in 18.5 %, slightly increase in 30.3%, grossly similar in 37.5% and significant decrease in 13.8%.

Stress & anxiety

Outbreak of the disease has also resulted in increase in the stress and anxiety levels by 63.4%. Consumption of unhealthy food due to stress was increased by 33.6% Participants, on the other hand, had varied responses on sleep duration and quality. Nearly half of the participants reported increase in the duration whereas another half reported grossly similar results.

Discussion

Since COVID-19 was declared a public health emergency, it has had a significant impact on people's lifestyles. In the intial phases of the disease the country went under complete lockdown which had affected people in many ways. First, consequences were in terms of food supply and its utilization because of which concept of home gardening was encouraged and people shifted their unhealthy eating habit to a healthy one that led to the consumption of a proper balanced diet which included more amounts of fruits and vegetables, immunity boosting food.

Furthermore, the closure of gyms and fitness centres, as well as limits imposed on visiting parks and playgrounds, has curtailed access to various forms of physical activity. In addition, isolation has resulted in a shift in sleeping patterns.[8]

As a result of the aforementioned issues, it was necessary to determine how serious the pandemic's influence and restrictions on people's lifestyle associated behaviour in terms of dietary habits, physical activity, and quality of life was.

So, we used a validated questionnaire developed by Kumari A et al 2020 8 to examine food habits, physical activity, and quality of life among people in western India, which enabled us assess their lifestyle changes during the COVID outbreak. It included 20 items that covered all of the necessary information to assess dietary habits (intake, meal pattern, and snack consumption), physical activity (duration and type), and sleep (duration and quality). Equal participation from both the gender and all the three states of western India was observed but more participation was from urban population (83.2%)

as the questionnaire was formulated in English language and circulated through social media.

The diet-related elements of the questionnaire measure the consumption of main meals, snacking patterns, intake of healthy food items such as whole grains, fruits and vegetables, eggs, nuts, and consumption of unhealthy food items such as fried food, junk food, and sugar-sweetened goods, majority of the participants have shown a shift from unhealthy diet to a healthy one which was similar to the study conducted by Kumari A et al 20208 in which they assessed the dietary changes among the diabetic patients. Martínez V et al 20209 assessed lifestyle changes in population of Spain where he observed that due to uncertainty of food supply community members purchased ultra-processed, unhealthy food instead of fresh food.

During the pandemic, the line of therapy was also focused on modifying ways for employing nutritional supplements that can reduce continuous oxidative stress, acute-inflammation, and cytokine storm so that damage and injury to affected tissues is minimized, because of which many people have added the consumption of nutrient supplements this change was observed in our study where nearly 70% of participants have reported consuming nutrient supplement for increasing their immunity.

Koichiro Azum et al 202010 assessed possible favorable lifestyle changes among middle-aged Japanese women where they observed decline in physical activity among the population of Japan, in this study participants reported a mixed response in their involvement in aerobic exercise, household chores activities.

There has been a strong link shown between increased stress/poor sleep quality and a lack of physical activity and exercise. Stress is not only directly linked to health and disease, but it is also linked to other lifestyle behaviours that promote well-being, such as sleep and physical activity we found that majority of participants showed increase in stress and anxiety levels with changes in the sleep duration. The limitation of study were that the survey was conducted online in English language.

Conclusion

In this study, we have provided data on lifestyle changes among the population of western India, in terms of dietary habits, immunity booster, physical activity and during the COVID-19 pandemic. Majority of participants in western India has undergone lifestyles changes including changes in the dietary habits, physical activity, stress and anxiety during the COVID19 pandemic.

Fig 1:

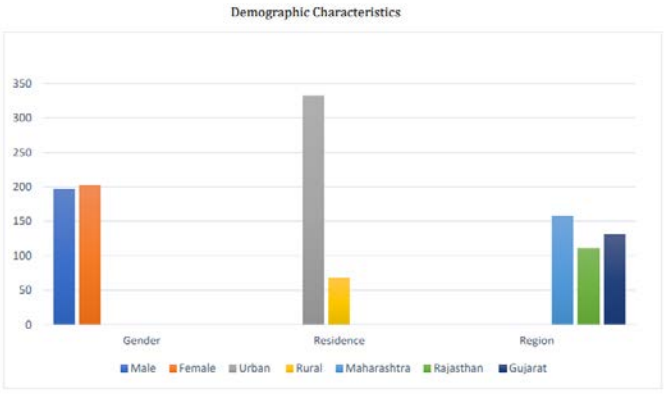

Table 1: Dietary Habits.

Sn.	Questions	Significantly increased n (%)	Slightly increased n (%)	Grossly similar n (%)	Significantly Decreased n (%)
1	During COVID pandemic, how has your probability of skipping one of the main meals (breakfast/lunch/dinner) changed?	59 (14.8%)	111 (27.8%)	176 (44.1%)	53 (13.3%)
2	During COVID pandemic, how has your habit of snacking between meals changed?	63 (15.8%)	156 (39.1%)	138 (34.6%)	42 (10.5%)
3	During COVID pandemic, how has your quantity/portions of meals and snacks changed?	50 (12.5%)	139 (34.8%)	168 (42.1%)	42 (10.5%)
4	During COVID pandemic, how has your daily intake of fruits and vegetables changed?	96 (24.1%)	148 (37.1%)	117 (29.3%)	38 (9.5%)
5	During COVID pandemic, how has your intake of a balanced diet (including healthy ingredients such as whole wheat, pulses, legumes, eggs, nuts, fruits and vegetables) changed?	96 (24.1%)	135 (33.8%)	142 (35.6%)	26 (6.5%)
6	During COVID pandemic, how has your consumption of junk food/fast food and fried food changed?	28 (7.0%)	63 (15.8%)	100 (25.1%)	208 (52.1%)
7	During COVID pandemic, how has your intake of sugarsweetened beverages (carbonated soft drinks, sugar-sweetened juices) changed?	24 (6.0%)	56 (14.0%)	138 (34.6%)	181 (45.4%)
8	During COVID pandemic, how has your consumption of sweets/candies/chocolate changed?	27 (6.8%)	70 (17.5%)	142 (35.6%)	160 (40.1%)
9	During COVID pandemic, how has your participation in cooking new/traditional recipes changed?	111 (27.8%)	142 (35.6%)	131 (32.8%)	15 (3.8%)
10	During COVID pandemic, how has your consumption of unhealthy food when you are bored or stressed or upset changed?	37 (9.3%)	97 (24.3%)	129 (32.3)	136 (34.1%)
11	During COVID pandemic, how has your interest in learning healthy eating tips from the media (newspaper articles/magazines blogs/videos/TV shows/text messages) changed?	96 (24.1%)	167 (41.9%)	120 (30.1%)	16 (4.0%)

Table 2: Immunity booster

Sn.	Questions	Significantly increased n(%)	Slightly increased n(%)	Grossly similar n(%)	Significantly Decreased n (%)
1	During COVID pandemic, how has your intake of immunityboosting foods (lemon, turmeric, garlic, citrus fruits and green leafy vegetables) in the diet changed?	168 (42.1%)	151 (37.8%)	72 (18.0%)	8 (2.0%)
2	During COVID pandemic, how has your intake of nutrition supplements to boost immunity changed?	127 (31.8%)	155 (38.8%)	99 (24.8%)	18 (4.5%)
3	During COVID pandemic, how has the support of your family and friends in eating healthy changed?	105 (26.3%)	177 (44.4%)	113 (28.3%)	4 (1.0%)

Table 3: Physical activity

Sn.	Questions	Significantly increased n (%)	Slightly increased n (%)	Grossly similar n (%)	Significantly Decreased n (%)
1	During COVID pandemic, how has your participation in aerobic exercise changed?	74 (18.5%)	121 (30.3%)	149 (37.3%)	55 (13.8%)
2	During COVID pandemic, how has your participation in leisure and household chores changed?	80 (20.1%)	149 (37.3%)	151 (37.8%)	19 (4.8%)
3	During COVID pandemic, how has your sitting and screen time changed?	136 (34.1%)	152 (38.1%)	94 (23.6%)	17 (4.3%)

Table 4: Stress and Anxiety

Sn.	Questions	Significantly increased n (%)	Slightly increased n (%)	Grossly similar n (%)	Significantly Decreased n (%)
1	During COVID pandemic, how have your hours of sleep changed?	52 (13.0%)	145 (36.3%)	151 (37.8%)	51 (12.8%)
2	During COVID pandemic, how has your quality of sleep changed?	41 (10.3%)	107 (26.8%)	180 (45.1%)	71 (17.8%)
3	During COVID pandemic, how have your stress and anxiety levels changed?	112 (28.1%)	141 (35.3%)	121 (30.3%)	25 (6.3%)

References

1. Ralph R, Lew J, Zeng T, Francis M, Xue B, Roux M, et al. 2019-nCoV (Wuhan virus), a novel Coronavirus: human-to-human transmission, travel-related cases, and vaccine readiness. J Infect Dev Ctries 2020; 14:3–17

2. Meng L, Hua F, Bian Z. Coronavirus disease 2019 (COVID-19): Emerging and future challenges for dental and oral medicine. J Dent Res 2020; 99:481–487.

3. Miguel FK, Machado GM, Pianowski G, Carvalho L de F. Compliance with containment measures to the

COVID-19 pandemic over time: Do antisocial traits matter? Pers Individ Dif 2021; 168:110346

4. Peters A, Rospleszcz S, Greiser KH, Dal LaValle M, Berger K. The Impact of the COVID-19 Pandemic on Self-Reported Health: Early Evidence from the German National Cohort. Deutsch's Ärzte blatt International. 2020;117

5. Wang C, Pan R, Wan X, Tan Y, Xu L, Ho CS, et al. Immediate psychological responses and associated factors during the initial stage of the 2019 Coronavirus disease (COVID-19) epidemic among the general population in China. Int J Environ Res Public Health. 2020; 17:1729

6. Poleman MP, Gillebaart M, Schlinkert C, Dijkstra SC, Derksen E, Men sink F, et al. Eating behavior and food purchases during the COVID-19 lockdown: A cross-sectional study among adults in the Netherlands. Appetite. 2021;157

7. Creswell JI. just need the comfort': Processed foods make a pandemic comeback. The New York Times. 2020 Apr;7.

8. Kumari A, Ranjan P, Vikram NK, Kaur D, Sahu A, Dwivedi SN, et al. A short questionnaire to assess changes in lifestyle-related behaviour during COVID 19 pandemic. Diabetes ME tab Syndr2020; 14:1697–1701

9. Balanzá-Martínez V, Kapczinski F, de Azevedo Cardoso T, Atienza-Carbonell B, Rosa AR, Mota JC, et al. The assessment of lifestyle changes during the COVID-19 pandemic using a multidimensional scale. Rev Psiquiatr Salud Ment (Engl Ed). 2021; 14:16–26.

10. Azuma K, Nojiri T, Kawashima M, Hanai A, Ayaki M, Tsubota K, TRF-Japan Study Group. Possible favorable lifestyle changes owing to the coronavirus disease 2019 (COVID-19) pandemic among middle-aged Japanese women: An ancillary survey of the TRF-Japan study using the original "Tab rhythm" smartphone app. PLoS one. 2021 Mar 25;16: e0248935.