

Changes in lifestyle and their impact on health during the COVID-19 pandemic in Thiruvananthapuram district, Kerala, India

Cambios en el estilo de vida y su impacto en la salud durante la pandemia de COVID-19 en el distrito de Thiruvananthapuram district, Kerala, India

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ABSTRACT

The World Health Organization (WHO) declared an outbreak of SARS-CoV-2, the virus that causes COVID-19, as a public health emergency of global outrage in January 2020. Over the past few months, COVID-19 has become a full-blown global pandemic. The outbreaks of pandemics in the present society are primarily caused by drastic changes in the dietary pattern and way of life. Women's lifestyle behaviours, such as physical activity and sedentary behaviours, may have been drastically impacted due to the persistent home confinement and the tight work schedule during the pandemic. This study aims to evaluate the impact of the COVID-19 pandemic on women's lifestyles in Thiruvananthapuram and the lifestyle factors affected before and during the pandemic. From the outbreak of COVID-19 to the current situation, the highest number of cases has been reported in the Thiruvananthapuram district of Kerala. A survey was conducted online during the first wave of the pandemic in 2020 through Google forms involving 150 samples aged between 18 and 64 years. The results were obtained and analyzed using statistical tools, including descriptive statistics, Wilcoxon Signed-Rank Test, Chi-square goodness of fit test, One-way ANOVA, Independent t-test, and Pearson Correlation Paired t-test. A substantial portion of the study's participants experienced positive and negative lifestyle changes. The participant's lifestyle changes may affect the future differently in their mental health and physical health. In the absence of lifestyle changes, the current pandemic may exacerbate the situation. Thus, a better understanding of the current state of women could help the concerned authorities identify and implement effective policies and interventions.

Keywords: Dietary Habits; Health risks; Lifestyle; SARS-CoV-2; Stress.

RESUMEN

La Organización Mundial de la Salud (OMS) declaró un brote de SARS-CoV-2, el virus que causa el COVID-19, como una emergencia de salud pública de indignación mundial en enero de 2020. En los últimos meses, el COVID-19 se ha convertido en un -explotada pandemia mundial. Los brotes de pandemias en la

sociedad actual son causados principalmente por cambios drásticos en el patrón dietético y la forma de vida. Los comportamientos de estilo de vida de las mujeres, como la actividad física y los comportamientos sedentarios, pueden haberse visto drásticamente afectados debido al persistente confinamiento en el hogar y el apretado horario de trabajo durante la pandemia. Este estudio tiene como objetivo evaluar el impacto de la pandemia de COVID-19 en los estilos de vida de las mujeres en Thiruvananthapuram y los factores de estilo de vida afectados antes y durante la pandemia. Desde el brote de COVID-19 hasta la situación actual, el mayor número de casos se ha notificado en el distrito de Thiruvananthapuram de Kerala. Se realizó una encuesta en línea durante la primera ola de la pandemia en 2020 a través de formularios de Google que involucró a 150 muestras con edades comprendidas entre los 18 y los 64 años. Los resultados se obtuvieron y analizaron utilizando herramientas estadísticas, incluidas estadísticas descriptivas, prueba de rango con signo de Wilcoxon, prueba de bondad de ajuste de chi-cuadrado, ANOVA unidireccional, prueba t independiente y prueba t pareada de correlación de Pearson. Una parte sustancial de los participantes del estudio experimentó cambios de estilo de vida positivos y negativos. Los cambios en el estilo de vida del participante pueden afectar el futuro de manera diferente en su salud mental y física. En ausencia de cambios en el estilo de vida, la pandemia actual puede exacerbar la situación. Por lo tanto, una mejor comprensión del estado actual de las mujeres podría ayudar a las autoridades competentes a identificar e implementar políticas e intervenciones efectivas.

Palabras llave: Hábitos Alimenticios; Riesgos de salud; Estilo de vida; SARS-CoV-2; Estrés.

INTRODUCTION

In January 2020, the World Health Organization (WHO) declared the outbreak of the SARS-CoV-2 virus a global health emergency (Baloran, 2020). In March 2020, WHO evaluated that COVID-19 could perceive as a pandemic. To control the outbreak's spread, the Government of India was urged to impose several containment measures such as travel restrictions, social distancing, and lockdowns (Pulla, 2020). Following the COVID-19 pandemic, many individuals have changed their lives and diets, especially regarding their mental health and social life. Lifestyle is used by people, groups, and nations and is formed in specific geographical, economic, political, cultural, and religious texts (Farhud, 2015). According to the WHO, 60 per cent of an individual's health-related quality of life depends on their lifestyle (Ziglio et al., 2004; Younis, 2014).

Almost everyone in today's world leads an unhealthy lifestyle, and most of our diseases are caused by lifestyle. Problems like obesity, alcohol consumption, smoking, drug abuse, overuse, misuse of the internet, virtual communication, and stress can be caused by an unhealthy lifestyle, leading to illness, disability, and even death. Additionally, healthy sleep patterns and thinking can help individuals' well-being and allow them to reach a state beyond mere health (Kottke et al., 2016). Lifestyle is not simply a collection of behaviours; it is a way of life, but the term "lifestyle" is taken to mean a general way of living based on the interplay between living conditions in the broad sense and individual patterns of behaviour as determined by sociocultural factors and personal characteristics (Gundala and Chava, 2010; Health Education Unit, 1986).

Socioeconomic status is a primary indicator of health for both genders. Women compound the adverse impact on the health of low socioeconomic status by gender inequities. Poor health and reduced well-being are strongly associated with gender inequalities in allocating resources, including income, education, health care, nutrition, and political participation (Subedi, 2015). Thus, girls and women face differential exposures and vulnerabilities often poorly recognized across various health problems. In light of women's high reliance on health systems, it is paradoxical that health services are often inaccessible to unresponsive to their needs. The informal and formal health care systems rely heavily on women, who are the primary care providers for the family (WHO, 2009).

Further, there will be an inequitable distribution of the harmful effects of this pandemic. In the face of this crisis, women's rights, safety, and development face unprecedented risks. In many countries, the COVID-19 pandemic could be catastrophic for women. Women and children are threatened by the fact that it will unravel global progress across several Sustainable Development Goals, making already ambitious targets seem far off (Gupta et al., 2020). Traditional methods of measuring geographic correlates of healthy behaviour have utilized qualitative survey data. However, quantitative data are needed for sophisticated geographic, behavioural, and health modelling. The present study aims to analyze the impact of the COVID-19 pandemic lifestyle changes during the first wave among women in the Thiruvananthapuram district.

MATERIAL AND METHODS

Study Area: Thiruvananthapuram district, the capital of Kerala, is an emerging metropolitan city of India located at the southwestern tip of peninsular India. It lies between 8°.17' N and 8°.51' N latitude and 76°.41' E and 77°.17' E longitude. The Arabian Sea encloses the western part of the district, and the eastern part is by the Western Ghats (Figure 1). The administration system of the district is divided into two parts, revenue and local self-government. The revenue system includes revenue divisions, taluks, and villages. Though, the local self-government has statutory towns and panchayats. All Taluks are coming to the Thiruvananthapuram Revenue Division (District Census Handbook, Thiruvananthapuram, 2001). The average elevation of Thiruvananthapuram city is around 6 meters above sea level. Thiruvananthapuram is Kerala's biggest and most inhabited city; the more extensive metropolitan agglomeration has around 1,000,000. The district has an area of 2,192 square kilometers (541,655 acres) and a population of 307,061, of which males and females are 156,377 & 150,684, respectively, and the average population density of the district is 1,509 inhabitants per square kilometer (3,910/sq. mi) (Census of India, 2011). Climates of tropical savanna and tropical rainforest are present in the Thiruvananthapuram district; tropical monsoon climate is generally considered to prevail in this region (Kerala State Land Use Board, 2013).

Data: The lockdown and social distancing norms make a direct population study of the impact of isolation a problematic task. A cross-sectional study was conducted after the COVID-19 lockdown (on the first wave of COVID-19 in 2020) based on an online survey (an electronic questionnaire method on a self-report basis) with a structured questionnaire using Google forms. Snowball sampling was used to conduct this Google-form-based survey. The target population was adults, with 150 women aged between 18 to 64 years selected from the study area. The questionnaire inquired about the socio-demographic factors, including age, occupation and

residence, lifestyle changes due to lockdown, anxiety, and concerns related to COVID -19 spread. The study excluded those under 18 years who did not complete the questionnaire. The purpose and inclusion criteria were explained to the participants.

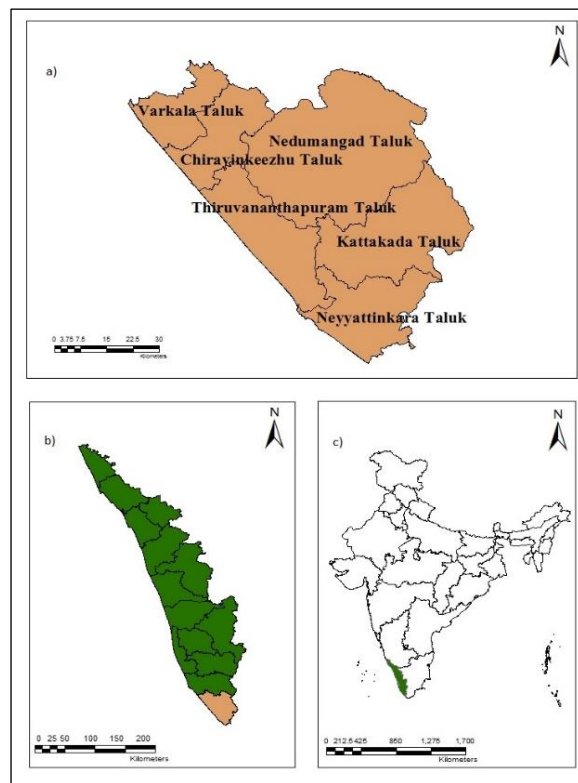


Figure 1. Location Map of the study area, a) Thiruvananthapuram along with its Taluk, b) Location of Thiruvananthapuram in Kerala, c) Location of Kerala in India; *Source: Created by author*

Statistical methods and materials: The data collected were analyzed using descriptive statistics, Chi-square goodness of fit test, Independent t-test, Paired t-test, One-way analysis of variance (ANOVA), Wilcoxon Signed-Rank Test, and Pearson Correlation. All statistical analyses were performed using SPSS software version 25.0 and Microsoft Excel 2019. The study area map was created using Arc Map 10.2.1.

Descriptive statistics were conducted to observe the distribution of the data. This study used descriptive analysis to determine the frequency and percentage of socio-demographic variables. Although the sign test can be used to test both one-sample and two-sample paired data, in comparison with signed-rank tests, Wilcoxon signed-rank tests have greater power for these tasks because it makes use of the magnitudes of the differences rather than just their signs (Andrew and Robert, 2019; Derryberry et al., 2010; Anaene and Ebuh, 2012).

The formula of Wilcoxon signed-rankest is:

$$W = \sum_{i=1}^{Nr} [\text{sgn}(x_{2,i} - x_{1,i}) \cdot R_i]$$

Where, W = test statistic, Nr = sample size, excluding pairs where $x_1 = x_2$, sgn = sign function, $x_{2,i} - x_{1,i}$ = corresponding ranked pairs from two distributions, R_i = rank i . Hypotheses for the Wilcoxon Signed

Rank Test concern the population median of the difference scores. The Wilcoxon signed-rank sum test is a non-parametric or distribution-free test (Rosie Shier, 2004; Anaene and Ebuh, 2012).

The Chi-square test is used to find if there is any correlation among non-numeric variables that are frequently used in statistical studies (Kothari, 2007; Nihan, 2020). The methods that test whether a randomly selected sample comes from the claimed theoretical distribution are called Chi-square goodness-of-fit tests (χ^2) is, also called single-sample goodness of fit test or Pearson's Chi-square of the goodness of fit test (Ozge et al., 2021). Data analysis will require finding the number of degrees of freedom, expected frequency counts, test statistics, and P-values for each test statistic (If the P-value is less than 0.05 ($P < 0.05$), there was a significant difference and if the P-value is greater than 0.05 ($P > 0.05$), there were no statistically significant differences). Degrees of freedom (DF) is equal to (k) number of minus 1 levels of the categorical variable. In our study, this method is used to investigate the categories for each stress-related variable with a 5-statement Likert scale.

The analysis of variance (ANOVA) test of the hypothesis is based on a comparison of two independent estimates of the population variance (Montgomery and Runger, 2003; Ostertagova and Ostertag, 2013). In the process of examining the relationship between variables, researchers can use a t-test or ANOVA to compare the means of two groups on the dependent variable (Green and Salkind, 2008). One-way ANOVA test was used to compare the average score before and during COVID-19 lifestyle-related variables and stress-related lifestyles for the socio-demographic variables containing more than 2 levels. F statics (F-value is the test statistic) are obtained from ANOVA and are used to determine whether significant differences exist in the mean values of the indicators. In other words, if the F value is significant, there is a greater likelihood that the variation associated with the independent variable is real and not caused by chance. If the P-value is less than 0.05 ($P < 0.05$), there was a significant difference between group means as determined by one-way ANOVA, whereas if the P-value is greater than 0.05 ($P > 0.05$), there were no statistically significant differences between group means.

In an independent samples t-test, two groups are compared by their means. There is no assumption of normal distribution (if the distribution of one or both groups is really unusual, the t-test will not give good results with unequal sample sizes), but there is an assumption that the two standard deviations are equal. If the sample sizes are equal or very similar in size, even that assumption is not critical (Ross and Willson, 2017).

The general formula for the t-value may be written as: $t = \frac{\bar{X}_1 - \bar{X}_2}{S_{\bar{X}_1 - \bar{X}_2}}$

\bar{X} =sample mean, n= sample size, S= variance

When you have two samples and observations in one sample can be matched with observations in the other sample, the paired t-test is used to compare two population means (Rosie Shier, 2004; Anaene and Ebuh, 2012).

The formula for the paired t-test is given by $t = \frac{\sum d}{\sqrt{\frac{n(\sum d^2) - (\sum d)^2}{n-1}}}$

Where, $\sum d$ is the sum of the differences, d is the differences per paired value, and n is the number of samples.

Correlation is a measure of a monotonic association between 2 variables (Schober Patrick et al., 2018). There are two main types of correlation coefficients: Pearson's product moment correlation coefficient and Spearman's rank correlation coefficient (Mukaka, 2012).

$$r = \frac{\sum(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum(x_i - \bar{x})^2 \sum(y_i - \bar{y})^2}}$$

r = correlation coefficient, x_i = values of the x-variable in a sample, \bar{x} = mean of the values of the x-variable, y_i = values of the y-variable in a sample, \bar{y} = mean of the values of the y-variable.

RESULTS AND DISCUSSION

To examine the changes in lifestyle, stress, and quality of life due to COVID-19, the present study used a descriptive analysis such as frequency and percentage for socio-demographic variables (Table 1). The survey was based solely on an online Google form, so most respondents (93.3%) were in the 18-34 age group; there were slightly more urban (28.7 %) and semi-urban (34.7 %) respondents than rural (36.7 %) respondents. The educational status showed that 56 % were postgraduates and above, and 42% were graduates, with only 2 % having a high school education. Among the respondents, 60.6 % were students, 7.3% identified as homemakers, 9.3% doing government jobs at the office, 6 % identified as doing government work from home, and 3.3% doing private jobs at the office, 0.6 % doing private jobs as work from home and 12.6% were not employed.

Lifestyle changes of participants before and during the time of the pandemic: There have been widespread national lockdowns in many countries around the globe in order to contain the spread of the virus (Sarwal and Sarwal, 2020). During the COVID-19- persuade lockdowns, movement is restricted and food supply is disrupted; these are the common effects in most settings, as well as lifestyle changes. Here in this study, we take the Wilcoxon signed-rank test to compare the changes in pre and during-pandemic lifestyle factors. The average score of each respondent for the pre and during COVID-19 lifestyle-related variables and stress-related variables were calculated for the test. The test revealed that the lifestyle-based variables on outdoor food intake has changed or not, hours spent on any physical activity (workout, walking, domestic activities), participation in leisure-related activities (grocery shopping, walking in the park, gardening), and the number of hours daily spent on television were did not differ statistically between the pre and during the COVID-19 pandemic period ($P > 0.05$). The rest of the lifestyle-based variables (Table 2) show that there was a significant difference between the pre and during the COVID-19 pandemic period ($P < 0.05$). The test shows a statistically significant change in health and sanitation variables, specifically in the number of people doing health check-ups that have reduced during the pandemic compared to before the pandemic ($Z = -3.836$, $p = 0.000$, with a less effect size ($r = 0.22$). The people are more concerned about sanitation during the pandemic than before; the test found a significant positive change in washing hands with soap /hand wash/sanitizer (Figure. 2, a) ($Z = -3.619$, $p = 0.000$, with a less effect size $r = 0.20$). Purchasing food and essentials changed among participants and showed a significant difference compared with the pre-pandemic period ($Z = -3.468$, $p = 0.001$; $r = 0.20$) but not during the pandemic period. During the COVID-19 pandemic period, residential cleaning (per day) (Figure 2, b) did not differ statistically between participants ($Z = -1.492$, $p = 0.136$, with an effect size of 0.08). The results of mask-wearing among the participants indicate that over 29.3% preferred to wear a mask only when needed, while about 29.3%

were cautious about it. However, despite masks being compulsory preventive action, 5.3% of people reported occasional use of masks while minimal (0.6 %) never wore them.

Table 1. Description of the socio-demographic characteristics of the study population (N=150)

Socio-demographic characteristics		N	%
Age	18-34	140	93.3
	35-44	6	4.0
	45-54	2	1.3
	55-64	2	1.3
Type of location	Urban	43	28.7
	Semi-Urban	52	34.7
	Rural	55	36.7
Status of education	Uneducated	0	0.0
	High school	3	2.0
	Graduation	64	42.7
	Post-Graduation & above	83	55.3
Marital status	Single	113	75.3
	Married	36	24.0
	Widow	1	0.7
Working status	Student	91	60.7
	Homemaker	11	7.3
	Working	29	19.3
Current living arrangements	Unemployed	19	12.7
	Live with family	143	95.3
	Live alone	5	3.3
Type of family	Others	2	1.3
	Nuclear family	132	88.0
	Joint Family	18	12.0
Members of a family	1-4 members	102	68.0
	5-8 members	47	31.3
	9-12 members	1	0.7
No. of women in a family	1	14	9.3
	2	69	46.0
	3	53	35.3
	4	11	7.3
	5	2	1.3
	6	0	0
	7	1	0.7

Source: Authors' calculation from the data collected from an online survey

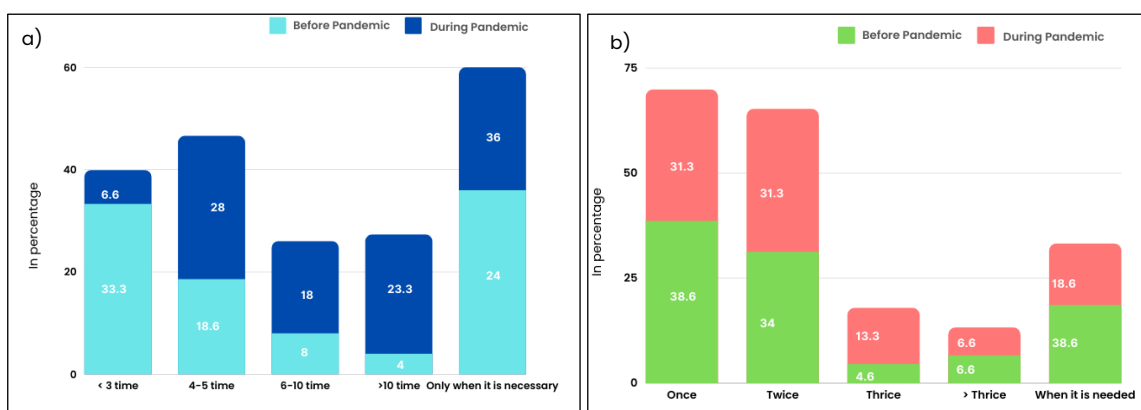


Figure 2. Health & Sanitation of respondents between pre and during the COVID -19 pandemic a) Washing hands and b) Cleaning the house.

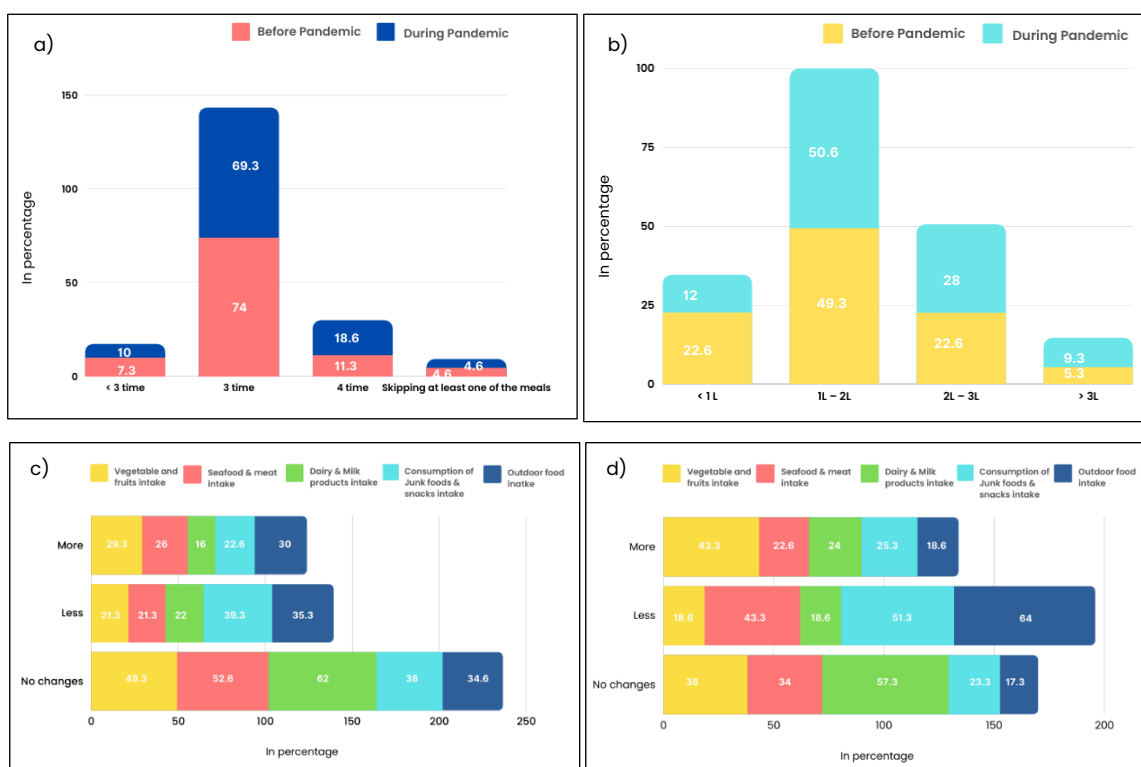


Figure 3. The differences in Food/Diet of respondents between pre and during the COVID -19 pandemic a) Number of meals (per day), b) water for drinking (per day in Litters), c) Before the pandemic-Vegetables & fruits intake; Seafood and Meat intake; Dairy & milk products intake; consumption of junk food & snacks intake and Outdoor food intake d) During the pandemic -Vegetables & fruits intake; Seafood and Meat intake; Dairy & milk products intake; consumption of junk food & snacks intake and Outdoor food intake

The differences in Food/ Diet and lifestyle of respondents between pre and during the COVID-19 pandemic (Figure 3 a, b, c, d), compared with before the COVID-19 pandemic, respondents consumed more vegetables and fruits during the pandemic. The number of seafood and meat consumed by participants has decreased. The number of dairy products consumed by participants has increased. As a result of the covid-19

pandemic, outdoor food consumption has been drastically reduced. The majority of participants follow a particular sleeping pattern. The majority of respondents sleep between 6 and 8 hours a night. The number of respondents who prefer to sleep 6 or more hours is deficient. Compared with before the covid-19 pandemic, more respondents are taking naps during the day. None of the other lifestyle variables has changed significantly. Table 2, Table 3, and Table 4 summarize the results of the Wilcoxon signed-rank test, and Figure 4 (a, b, c, d, e, f, g, h) represents the lifestyle changes of participants before and during the pandemic.

Table 2. The differences in Health & Sanitation of respondents between pre and during the COVID -19 pandemic (N-Sample size)

Health and sanitation Variables		Pre-COVID-19 (N)	During COVID-19 (N)	Z Value	P-Value
Health check-up	Once	55	37	-3.836	0.000
	Twice	12	9		
	Thrice	2	4		
	>Thrice	11	2		
	Did not visit	70	98		
Washing hands	< 3 times	50	10	-3.619	0.000
	4-5 times	28	42		
	6-10times	12	27		
	>10 times	6	35		
	Only when it is necessary	54	36		
Buying food and essentials	Supermarket	77	51	-3.468	0.001
	Grocery store	42	63		
	Local-street market	30	18		
	Online	1	18		
Cleaning the house (per day)	Once	58	47	-1.492	0.136
	Twice	47	51		
	Thrice	7	20		
	>Thrice	10	10		
	When it is needed	28	22		
	1-2 hours	25	30		
	3-4 hours	23	30		
> 4 hours	24	41			

Source: Authors' calculation from the data collected from an online survey

Due to their study purposes, entertainment, boredom, learning new things, and working from home, the screen time (extra time spent using a device such as a computer, television, or games console) among the participants increased significantly. And most of the participants are having eyesight problems or headaches because of the over-screening time. In the wake of the pandemic, most people communicated through social

media (texting, calling, and video calling). During the pandemic, the participants learned new activities, 18.6% were learning to cook, 8% were interested in gardening, 9.3% started reading books, 10% learned arts and crafts, 2.8% were learned dance, 12.3% were doing exercise/yoga, and another 4% were learning some other activities. At the same time, 10 percent did not learn any new activities during the pandemic. Participants responded that 88% wanted to continue all these learning activities even after the outbreak, while the remaining 12% did not wish to follow up. The study found substantial lifestyle changes in a considerable number of participants for the better and the worse. The participants' lifestyle changes may affect their mental and physical health in the future.

Table 3. The average stress factors score and average before and during COVID-19 pandemic lifestyle score of the different age groups of respondents

Variables	Age	N	Mean	Std. Deviation	95 Confidence Interval for Mean		F Value	P-Value
					Lower Bound	Upper Bound		
Average Stress	18-34	140	2.59	0.71	2.47	2.71	0.922	0.432
	35-44	6	2.91	0.38	2.51	3.31		
	45-54	2	2.28	0.71	-4.07	8.63		
	55-64	2	2.06	0.23	-0.04	4.15		
Average Before	18-34	140	1.46	0.27	1.41	1.50	1.107	0.348
COVID-19 Lifestyle	35-44	6	1.33	0.21	1.11	1.55		
	45-54	2	1.20	0.00	1.20	1.20		
	55-64	2	1.33	0.25	-0.90	3.55		
Average During	18-34	140	1.56	0.21	1.52	1.59	3.356	0.021
COVID-19 Lifestyle	35-44	6	1.48	0.11	1.36	1.60		
	45-54	2	1.15	0.00	1.15	1.15		
	55-64	2	1.35	0.05	0.90	1.79		

Source: Authors' calculation from the data collected from an online survey

Table 4. Paired t-test results for average lifestyle score of the respondents from before -COVID-19 and during COVID-19.

Variables score	Mean	N	Std. Deviation	t value	P-Value
Average Before -COVID-19 Lifestyle	1.45	150.00	0.27	-5.173	0.000
Average During COVID-19 Lifestyle	1.55	150.00	0.21		

Source: Authors' calculation from the data collected from an online survey



Figure 4. The differences in the Lifestyle of respondents between pre and during the COVID -19 pandemic a) Average bedtime (in the night), b) Day's sleep, c) Before the pandemic- Hours spent on any physical activity; Participation in household chores and Participation in leisure-related activities, d) During the pandemic-Hours spend on any physical activity; Participation in household chores and Participation in le activities, e) Daily sitting time at work/household chores f) Daily screen time g) Before the pandemic-Hours daily spent on mobile /tablets/laptop and h) During the pandemic- Hours daily spent on mobile /tablets/laptop

Stress during the COVID-19 pandemic: As for stress and anxiety, most participants reported that the COVID-19 pandemic and associated lockdown restrictions caused them some mental distress. The news related to the pandemic was one of the important contributors to stress and anxiety. While nearly 21% of participants reported that news made them highly anxious, more than half (54.6 %) felt little anxious, and the rest ignored the news (20.6%). Of the participants, 4% experienced distress during the pandemic and 16.6% were highly bothered by the pandemic. 26% of respondents said the pandemic was quite distressing, and 40% said it was somewhat bothersome; only 15.3% said it was not at all distressing for them. The Chi-square goodness of fit test was used to investigate the categories for each stress-related variable that are equally distributed. Suppose there is a large deviation between actual and expected responses. In that case, the Chi-Square statistic will be higher, indicating the less likely the results will meet the original hypothesis. Here, the chi-square goodness of fit test revealed that the categories for each stress variable are significantly different ($P < 0.05$), which means the p-value will tell whether the test results are significant or not, and the usual alpha level is 0.05 (5%). Pearson chi-square value is found (X^2 value) 47.733, according to the values p, the value $p < 0.05$ is obtained, so it is found that there is a significant correlation between the stress and the participant who felt nervous, anxious, or on edge during the pandemic. The rest of the stress-related variables also showed a significant positive correlation.

Stress and lifestyle changes before and during the COVID-19 pandemic

Most respondents did not know whether their stress levels had changed because of their lifestyle. For finding out the One-way ANOVA test, we mainly used indicators such as the age of the participants, residential status, educational status, and marital status. The test results reveal that the average stress factors score and average before-COVID-19 lifestyle score of the different age groups of respondents did not differ statistically ($P > 0.05$). The ANOVA results suggest that the average during-COVID-19 lifestyle factor score was significant among the different age groups ($F = 3.356$, $P = 0.021$). To check for individual differences between the variables, post hoc comparisons were assessed using Tukey HSD. Table 4 summarizes the One-Way ANOVA results.

The average stress factors score and average before and during COVID-19 lifestyle score based on the residential status of respondents did not differ statistically ($P > 0.05$). One-way ANOVA test results reveal that the average stress factors score of respondents with different levels of educational status of participants differ statistically ($F = 3.96$, $P = 0.025$). However, the results show no significant difference in average before and during COVID-19 in the pandemic lifestyle score of respondents with different educational backgrounds ($P > 0.05$). The average stress factors score of respondents with different occupations differ statistically ($F = 2.568$, $P = 0.022$). However, the results show no significant difference in average before and during the COVID-19 pandemic lifestyle score of respondents with different occupations ($P > 0.05$).

Pearson correlation analysis results show no relationship between an increasing number of children in a family with average stress score, average lifestyle score during before -COVID-19, and average lifestyle score during COVID-19 ($P > 0.05$). A paired t-test was used to study the relationship between the average score for pre and during lifestyle-related variables and stress-related lifestyle scores. Paired t-test results for the average lifestyle score of the respondents before COVID-19 and during the COVID-19 pandemic reveal a significant difference in lifestyle scores before -COVID-19 and during the COVID-19 pandemic period ($P = 0.000$) (Table 5).

Additionally, changing a person's daily life activities, including healthy habits and lifestyles, is a significant health issue associated with the COVID-19 pandemic, including compulsory detention and other legal restrictions. As a result of the pandemic, most women participants (41.3%) gained weight compared to before the pandemic, and a number of the women (22.2%) were able to lose weight due to their diet and lifestyle changes due to the pandemic. Three-quarters (36.7%) of those surveyed said their weight had not changed. A majority of participants (59.3%) were exposed to sunlight at least three times a week. There were a much smaller number of participants (14%) who were exposed to sunlight for a period of 3 to 7 hours. The rest of the participants were not exposed to sunlight because they did not go outside. In a pandemic environment, for those who suffer chronic illnesses, the majority of the participant (65.3%) reported they would be able to obtain medical care, fewer participants (7.3%) reported not being able to access it, and approximately 24.7% of respondents stated difficulty accessing medical care and rest of them (2.7%) had cancelled their appointment. According to our survey, almost a third of respondents (35.3%) rated nearby hospital facilities very good; nearly half of those surveyed (49.3%) were satisfied with nearby hospital facilities. Almost one-fourth of respondents (14%) rated nearby hospital facilities as neither good nor bad, while 1.3% rated them as poor, and no one mentioned having a very poor hospital facility.

In response to the survey, 17.4% of respondents reported that someone in their family had tested positive for COVID-19, nearly half of the respondents (46.3%) stated someone outside of their family tested positive, and the rest of them (36.3%) were reported there is no one in their family tested positive. Nearly 80.7% of families have a place where a member of the household can be quarantined if they get affected by COVID-19, while others (19.3%) do not. To contain the spread of COVID-19, the state administration has divided the districts into four zones such as Containment Zone or Buffer Zone (severely affected by the coronavirus outbreak), Red Zone or Hotspot (several active cases), Orange Zone (neither red nor green) and Green Zone (zero confirmed cases). More than a third of respondents (35.3%) reported experiencing a Containment Zone or Buffer Zone in their locality; 26% reported an Orange Zone, and others (9.4%) experienced a Green zone during the pandemic. In the days following the pandemic, about nearly 43.3% of the participants reported feeling very safe in their neighbourhood; a very few of the respondents (5%) felt the neighbourhood was safe; 5 % of them said they were not feeling very safe at their locality and remaining the others (0.5%) felt unsafe at all. There is still a great deal of work to be done in determining the full impact of the COVID-19 pandemic and lockdown (Ifdil et al., 2020; Kutlu et al., 2020; Mattioli et al., 2020); it may be that they are concern lifestyles and behaviours (Stanton et al., 2020).

As conclusion, the study shows that though people were traumatized by the lockdown and the pandemic, fear of illness, and loss of income, people managed to show resilience and maintain a somewhat high standard of living. However, more extensive population-based surveys are needed once the lockdown is lifted due to our limitations. The situation is normalized to study the real impact of the lockdown retrospectively. During the COVID-19 pandemic and lockdown, lifestyles of the general population changed frequently and in a most unhealthy way. During pandemics, prevention measures and communication should focus on promoting healthy lifestyles, including modifying physical activity and eating guidelines for mobility restrictions and

infection control. This study is to understand the present situation of the lifestyle on women's health. However, due to the ongoing COVID-19 pandemic, it is imperative to confirm and investigate the data with more comprehensive studies of the general population in the future.

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