A Study of Lifestyle and Dietary Practices of Adolescents after Severe Pandemic Period

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1.0   Abstract

Nutrition during childhood and adolescence is very important for growth and can have long-term health implications. The COVID-19 lockdown caused significant changes in everyday life, including in children and adolescents. This study evaluated the Lifestyle and Dietary Practices of Adolescents after Severe Pandemic Period. A survey was carried out among the 150 adolescents girls living in Nagpur City. The self-administered questionnaire included demographic and dietary habit changes during and after the pandemic period.   The study results showed that there was significant (p<0.05) difference in the lifestyle of adolescents after severe pandemic period, while most of the adolescents have lightly active lifestyle after pandemic period. Also, high percentage of adolescents spent leisure time on computers/Internet after pandemic period and encountered prolonged sleep time. The consumption of non-vegetarian food increased during this time along with the meal pattern. In addition to above, TV watching while eating has increased significantly post (severe) pandemic period. The frequency of eating out has increased and changes in the time of dinner too. Overall the behavioural and dietary habits of the adolescent girls of Nagpur city have changed significantly after severe pandemic period.

2.0   Introduction

Apart from many problems, the COVID-19 pandemic since the inception i.e. March 2020 has influenced many aspects of human life and lifestyle behaviors is definitely one of the most prominent amongst them. The Covid-19 started in the Chinese city of Wuhan and spread across the globe very fast and many countries including India were found totally unprepared to face the challenges. The rapid spread forced the World Health Organization to declare the global pandemic state on 11th March 2020. In view of the sudden and radical change that has occurred in the habits and lifestyles of the population, a drastic change was observed in the form of reduced social activities. Moreover, the physical distancing and self-isolation strongly impacted peoples' lives, affecting in particular eating habits and everyday behaviours. Basically, there are two major influences: staying at home (which includes digital-education, smart

working, limitation of outdoors and in-gym physical activity) and stockpiling food, due to the restriction in grocery shopping.

Amongst the different types of people, the adolescent group is relatively more vulnerable to behavioural and diet related changes during the challenging times. During the quarantine period people developed new behavioural traits and the dietary practices were also severely affected. However, when the number of Covid cases came down the unlocking took place in all the areas. At this time period also new cases are being reported, however, the severity of the pandemic period is not much. Many studies reported that psychological and emotional responses to the COVID-19 outbreak may increase the risk of developing dysfunctional eating behaviours. It is well known how the experience of negative emotions can lead to overeating, the so-called "emotional eating". On the other hand, negative experiences may lead to eating restriction, due to the physiological stress reactions that mimic the internal sensations associated with feeding induced satiety. Finally, it is accepted that the lifestyle may be substantially changed due to the containment measures, with the consequent risk of sedentary behaviours, modification in various habits. Though we are aware of these changes, the degree of changes is not known. In view of the above, this investigation was carried out to determine the changes in lifestyle and dietary practices of adolescents of Nagpur City after severe pandemic period.

3.0   Methodology

In this study, a careful collection of facts was undertaken by the researcher to ensure the reliability as well validity of the facts.

3.1   Study Area – Nagpur City

Nagpur city is situated in the entral part of India and is one of the important districts of Maharashtra.

3.2   Sample Size

It is important to know the nature of the sampling frame. A study that is based completely on a sample drawn from limited area cannot be used to generalize about the complete population. In view of this a sample size of 150 adolescent girls was considered as an appropriate sample size. The selection of samples was carried out randomly.

3.3   Data Collection

3.3.1   Primary Data Collection

The primary data collection was carried out using a structured questionnaire (research instrument). The questionnaire development was done based on generally accepted principles of instrument design, and was conducted according to the standard methodology.

3.3.2   Selection of Measurement Scales

In the present study, Fixed Response (Qualitative) Rating scale was used. This type of scale was selected as fixed response questions are quick to answer, which facilitates analyzing the results.

3.3.3   Secondary Data Collection

The secondary data was collected from the research articles, books, policy reports, internet and other relevant sources.

3.4   Statistical Analysis of Data and Significance Level

Analysis of data was done with the help of suitable statistical tests. The descriptive statistics, such as frequency, percentage, mode, etc. were determined from the collected data. The inferential statistics test such as Chi-Square test was used to determine the significance of difference between the observed percentages. The significance level was chosen to be 0.05 (or equivalently, 5%) by keeping in view the consequences of such an error. The data generated during the study was processed using various statistical tests with the aid of Statistical Package for Social Sciences (SPSS) 18.0 software.

4.0   Results and Discussion

4.1   Family type of the Students

Table No. 1: Distribution of subjects with respect to their family type

Type of Family	Number of Girls	Percentage
Joint	39	26.0
Nuclear	99	66.0
Extended	12	8.0
Total	**150**	**100.0**

Chi–square 79.32; **df: 2, p**<0.05; **Table Value**: 5.99

Table 1 presents the results regarding distribution of subjects with respect to their family type. 26% subjects belong to joint family while 66% subjects have nuclear family. However, 8% subjects have extended family.

4.2   Monthly Income

Table No. 2: Monthly income of the parents of subjects

Monthly Income	Number of Girls	Percentage
< Rs. 15000	42	28.0
Rs. 15000 to 25000	59	39.3
Rs. 25000 to 35000	30	20.0
Above Rs. 35000	19	12.7
Total	**150**	**100.0**

Chi–square 22.107; **df:** 3, **p**<0.05; **Table Value**: 7.82

Table 2 presents the results regarding monthly income of the parents of subject. Monthly income of parents of 28% subjects is below Rs. 15000, while parents of 39.3% subjects have monthly income of Rs. 15000 to 25000. However parents of 20% and 12.7% subjects have monthly income of Rs. 25000 to 35000 and above Rs. 35000 respectively.

4.3   Life Style (Nature of activities performed by the adolescents)

Table 3: Information regarding nature of activities performed by subjects

Nature of activity	Number of Girls	Percentage
Sedentary	27	18.0
Lightly active	82	54.7
Moderately active	32	21.3
Very active	9	6.0
Total	**150**	**100.0**

Chi–square 75.996; **df:** 3, **p**<0.05; **Table Value**: 7.82

      Table 3 presents the results regarding distribution of subjects with respect to nature of activities performed after severe pandemic period. 18% subjects have sedentary lifestyle, while 54.7% subjects are lightly active after pandemic period. However 21.3% subjects have moderately active lifestyle and 6% subjects have very active lifestyle after pandemic period.

4.4   Mode of spending leisure time

Table 4: Mode of spending leisure time by subjects

	Number of Girls	Percentage
Sleeping	20	13.3
Computers/Internet	77	51.3
Reading	39	26.0
Outdoor games	8	5.3
Any other	6	4.0
Total	**150**	**100.0**

Chi–square 115; **df:** 4, **p**<0.05; **Table Value**: 9.49

      Table 4 presents the results regarding distribution of subjects with respect to mode of spending leisure time after severe pandemic period. 13.3% subjects spent leisure time in sleeping, while 51.3% and 26% subjects spent leisure time in computers/Internet and reading. However 5.3% subjects spent leisure time in playing outdoor games and 4% subjects spent leisure time in other activities.

4.5   Sleep Pattern

Table 5: Information about sleep pattern of subjects

Sleep Pattern	Number of Girls	Percentage
4-6 hrs.	15	10.0
7-10 hrs	42	28.0
8-10 hrs	72	48.0
More than 10 hrs.	21	14.0
Total	**150**	**100.0**

Chi–square 54.369; **df:** 3, **p**<0.05; **Table Value**: 7.82

      Table 5 presents the results regarding sleep pattern of adolescents after severe pandemic period. 10.0% subjects sleep for 4-6 hours, while 28% and 48% subjects take sleep of 7-10 hours and 8-10 hours. However 14% subjects sleep for more than 10 hours.

4.6   Eating Habits – Eating Pattern

Table 6: Information about eating pattern of subjects

Sleep Pattern	Number of Girls	Percentage
Vegetarian	49	32.7
Non-Vegetarian	78	52.0
Eggetarian	23	15.3
Total	**150**	**100.0**

Chi–square 30.28; **df:** 2, **p**<0.05; **Table Value**: 5.99

   Table 6 presents the results regarding eating pattern of adolescents after severe pandemic period. 32.7% subjects have vegetarian diet, while 52% subjects have non-vegetarian diet. However 15.3% subjects are eggetarians.

4.7   Meal Pattern

Table 7: Information about meal pattern of subjects

	Number of Girls	Percentage
2 Meals	16	10.7
3 Meals	33	22.0
4 Meals	81	54.0
> 4 Meals	20	13.3
Total	**150**	**100.0**

Chi–square 71.493; **df:** 3, **p**<0.05; **Table Value**: 7.82

   Table 7 presents the results regarding meal pattern of adolescents after severe pandemic period. 10.7% subjects have 2 meals /day, while 22% subjects have 3 meals per day. However 15.3% subjects have 4 meals and 13.3% subjects have more than 4 meals per day.

4.8   Skipping Meals

Table No. 8: Incidence of Skipping Meals by the subjects

Age groups	Number of Girls	Percentage
Yes	19	12.7
No	131	87.3
Total	**150**	**100.0**

Chi–square 83.627; **df:** 1, **p**<0.05; **Table Value**: 3.84

   Table 8 presents the results regarding incidence of skipping meals by the adolescents after severe pandemic period. 12.7% subjects have skipped meals, while 87.3% subjects have not skipped meals.

4.9   Activities carried out during eating

Table 9: Type of activities carried out while eating by the subjects

Activities	Number of Girls	Percentage
Nothing	9	6.0
Watching TV	86	57.3
Reading	30	20.0
Work on Computer	14	9.3
Other	11	7.3
Total	**150**	**100.0**

Chi–square 139.8; **df:** 4, **p**<0.05; **Table Value**: 9.49

Table 9 presents the results regarding type of activities carried out while eating by the adolescents after severe pandemic period. 6% subjects do not perform any activity while eating, however 57.3% subjects watch TV while eating and 20% subjects read while eating. Moreover 9.3% subjects work on computer while eating and 7.3% subjects perform other activities while watching TV.

4.10   Quantity of water consumed per day

Table 10: Quantity of water (glass) consumed by subjects per day

	Number of Girls	Percentage
Up to 6 glass	33	22.0
7 to 10 glass	75	50.0
More than 10 glass	42	28.0
Total	**150**	**100.0**

Chi–square 19.56; **df:** 2, **p**<0.05; **Table Value**: 5.99

Table 10 presents the results regarding quantity of water (glass) consumed by the adolescents per day after severe pandemic period. 22% subjects consume upto 6 glass of water per day, however 50% subjects consume 7 to 10 glass of water per day. Moreover 28% subjects consume more than 10 glass of water per day.

4.11   Frequency of eating outside food

Table 11: Frequency of eating outside food by the subjects

	Number of Girls	Percentage
Never eat outside food	21	14.0
Once a week	27	18.0
2-3 times a week	67	44.7
Every alternate day	16	10.7
Once in 15 days	14	9.3
Once a month	5	3.3
Total	**150**	**100.0**

Chi–square 95.44; **df:** 5, **p**<0.05; **Table Value**: 11.07

Table 11 presents the results regarding frequency of eating outside food by the adolescents per day after severe pandemic period. 14% subjects never eat outside food, however 18%, 44.7% and 10.7% subjects have outside food once in a week, 2-3 times a week and every alternate day respectively. Moreover 9.3% subjects have outside food once in 15 days and 3.3% subjects have outside food once in a month.

4.12   Time of dinner

Table 12: Timings of dinner of the subjects

	Number of Girls	Percentage
8 - 9 pm	47	31.3
9-10 pm	26	17.3
After 10	77	51.3
Total	**150**	**100.0**

Chi–square 26.28; **df:** 2, **p**<0.05; **Table Value**: 5.99

Table 12 presents the results regarding timing of dinner of the subjects after severe pandemic period. 31.3% subjects have dinner between 8-9 pm. However 17.3% subjects have dinner between 9-10 pm and 51.3% subjects have dinner after 10 p.m.

5.0   Conclusions

5.1   Family type of the Students

- In view of the study results, it is concluded that there was significant (p<0.05) difference in the family type of adolescents, while most of them have nuclear family.

5.2   Monthly Income

- In view of the study results, it is concluded that there was significant (p<0.05) difference in the monthly income of parents of adolescents, while most of the parents of adolescents have monthly income of Rs. 15000 to 25000.

5.3   Life Style

- In view of the study results, it is concluded that there was significant (p<0.05) difference in the lifestyle of adolescents after severe pandemic period, while most of the adolescents have lightly active lifestyle after pandemic period.

5.4   Mode of spending leisure time

- In view of the study results, it is concluded that there was significant (p<0.05) difference in the mode of spending leisure time by adolescents after severe pandemic period, while most of the adolescents spent leisure time on computers/Internet after pandemic period.

5.5   Sleep Pattern

- In view of the study results, it is concluded that there was significant (p<0.05) difference in the sleep pattern of adolescents after severe pandemic period, while most of the adolescents had sleep of 8-10 hours after pandemic period.

5.6   Eating Habits – Eating Pattern

- In view of the study results, it is concluded that there was significant ($p<0.05$) difference in the eating pattern of adolescents after severe pandemic period, while most of the adolescents have non-vegetarian diet.

5.7   Meal Pattern

- In view of the study results, it is concluded that there was significant ($p<0.05$) difference in the meal pattern of adolescents after severe pandemic period, while most of the adolescents have 4 meals per day.

5.8   Skipping Meals

- In view of the study results, it is concluded that there was significant ($p<0.05$) difference in the incidence of skipping meals by the adolescents after severe pandemic period, while most of the adolescents have not skipped meals.

5.9   Activities carried out during eating

- In view of the study results, it is concluded that there was significant ($p<0.05$) difference in the type of activities carried out while eating by the adolescents after severe pandemic period, while most of the adolescents watch TV while eating.

5.10   Quantity of water consumed per day

- In view of the study results, it is concluded that there was significant ($p<0.05$) difference in the quantity of water consumed by the adolescents after severe pandemic period, while most of the adolescents consume 7 to 10 glass of water per day.

5.11   Frequency of eating outside food

- In view of the study results, it is concluded that there was significant ($p<0.05$) difference in the frequency of eating outside by the adolescents after severe pandemic period, while most of the adolescents have outside food 2-3 times a week.

5.12   Time of dinner

- In view of the study results, it is concluded that there was significant ($p<0.05$) difference in the timing of dinner of the adolescents after severe pandemic period, while most of the adolescents have dinner after 10 p.m.

6.0 Bibliography

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