

# Assessment of lifestyle patterns among adolescents in selected schools of district Rohtak, Haryana: a cross-sectional study

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## ABSTRACT

**Introduction:** Adolescence is a period in which an individual undergoes major physical and psychological changes. There is convincing evidence between lifestyle diseases and unhealthy habits which are acquired during adolescence and persist in adulthood. An early investigation of the lifestyles of adolescents will probably prevent their progression into serious diseases.

**Methods:** The present cross sectional study recruited 600 adolescents studying 9<sup>th</sup> to 12<sup>th</sup> in the selected schools of Rohtak, Haryana, India. The lifestyle related behavior and practices were assessed based on a structured proforma with the following domains: Home and environment, education, eating habits and sexuality. Ethical permission was obtained from the concerned authorities.

**Results:** The mean age of the study subjects was 15.9 (SD-1.4) and most of them were males (61%). More than half of the study subjects (52.7%) were

having BMI of 18 to 25 Kg/m<sup>2</sup> and 39.8% of them belonged to lower middle socio economic status. A major proportion of the students felt happy to go to school (64%) and were regular in attending school (90%). The majority of them reported having some spiritual beliefs (88%). A major proportion of the students reported that they own smartphones (83%) and were using various social networking sites (83%). Around 63% of the subjects reported eating fast food on monthly basis. About 11% of the subjects reported the usage of alcohol in the current 3 months. Around 20% of the subjects reported knowledge regarding HIV /STD.

**Conclusion:** The study documents the presence of unhealthy dietary practices, higher levels of usage of mobile phones along with alcohol use in the school children in this setting. The current study provides some preliminary data for policymakers so that they can modify the current policies and interventions according to the needs of adolescents.

**Keywords:** Adolescents, Lifestyle; School; HIV; Smartphones; Environment; Education

## INTRODUCTION

Adolescence is a period in which an individual undergoes major physical and psychological changes. The term adolescents as defined by WHO includes persons aged 10-19 years. There are various changes in the social interactions and relationships of adolescents during this phase. In this phase, they are no longer considered as a child but is not yet an adult [1]. There are 1.2 billion adolescents across the world; or 1 in 6 of the world's population, who are adolescents aged 10-19 [2]. According to the census 2011 report, 20.9% of the population in India comprises adolescents. The rural and urban populations constituted 22% and 19% of adolescents respectively [3].

Adolescence is a window of opportunity because actions could be taken during this period to set the stage for healthy adulthood and to reduce the likelihood of problems in the years that lie ahead. This includes the prevention of cardiovascular diseases in adulthood through the development of healthy eating and exercise habits [4]. At the same time, it is a period of risk; a period when health problems that have serious immediate consequences can and do occur such as deaths resulting from road traffic injuries, sexually transmitted infections, and unwanted pregnancies resulting from unprotected sexual activity. It is also a period when problem behaviours could have serious adverse effects on health in the future such as long-term effects of tobacco smoking and alcohol consumption [5].

The family is the primary influence on a child's development of health-promoting behavior. Lifestyle is developed within one's family and one's cultural environment and the individual goes through a phase of changing from a child to an adult. Behavioural and emotional problems are commonly reported among adolescents [6]. Various factors such as hormonal changes, academic performance, participation in extracurricular activities, family background, socioeconomic status, peer pressure, etc., can

contribute to the level of stress perceived by the adolescent [7]. Adolescents are usually open to new ideas; they show curiosity and interest. Many habits acquired during adolescence will last a lifetime. Such routines and habits influence health status including mental health conditions. For example, studies conducted among Indian adolescents reported that excessive use of the internet may result in various psychological distress such as anxiety and depression [8,9].

## Need for the present study

Adolescents often turn away from parents and healthcare providers towards peers for support and guidance. Nonetheless, a brief look at the available information is therefore important in our pursuit of identifying and highlighting the health and lifestyle issues and recommending possible ways to deal with them, to promote a healthier lifestyle in this population. Therefore, a study has been undertaken to elucidate the lifestyle patterns of adolescents in this setting.

## MATERIALS AND METHODS

This was a cross sectional survey conducted in six higher secondary schools funded and supported by private management located in the urban area of Rohtak district a district of Haryana, India. The study participants were determined by preparing a sampling frame (list of the study population) after requesting from the concerned authorities. The potential subjects were recruited based on the convenience and availability of subjects during the data collection period. Adolescents aged between 14-19 years of age were invited to participate in the study. Informed consent was obtained and a participant information sheet in the vernacular language was provided. The concerned teachers were informed to get the filled consent forms from the parents of the respondents. The primary investigator guided the subjects in filling out the forms in case of any clarifications. Lifestyle is operationally defined as the pattern of behaviors and choices that affect current and

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future health during the transition from childhood to adulthood. The lifestyle related behavior and practices were assessed based on a structured proforma with the following domains: Home and environment, education, eating habits, activities, and sexuality. Ethical permission was obtained from the concerned authorities.

### Sample size calculation

The exact extent of the lifestyle hazards of adolescents in the Indian setting was not known. However, a previous survey conducted on Indian adolescents the magnitude of psychosocial lifestyle problems as 55.35%. Assuming this prevalence of 55% and an allowable error of 4% at a 95% level of significance, the sample size is calculated as 594 using OpenEpi version 2.3 and the total sample size was rounded off to 600.

## RESULTS

The mean age of the study subjects was 15.9 (SD-1.4) and most of them were males (61%). A major proportion of the subjects were in the Hindu

religion (92.7%) and more than half of the study subjects (52.7%) were having BMI of 18 to 25 Kg/m<sup>2</sup>. A maximum number of subjects belonged to the nuclear family (61.7%). Around 39.8% of them belonged to lower middle socio economic status.

### Lifestyle patterns: Home and school environment

The majority of them were not having a separate room (88.7%). Around 31% of the students spent 2-3 hours on their studies at home. Most of the subjects reported being silent if there is some significant problems due to the disagreement in the family. According to the participants, the father was involved in settling the disagreements in most of the subjects. A major proportion of the students felt happy to go to school (64%) and were regular in attending school (90%). Approximately half of the students had 3-5 friends in school & outside the school (48%). Table 1 describes the home and environment patterns of the lifestyle of adolescents.

**Table 1:** Home and environment patterns of lifestyle of adolescents.

Characteristics	Percentage
Do you have separate room?	
Yes	11.30%
No	88.70%
How much time per day (hours) spent for study at home?	
1-2	26.30%
2-3	31.40%
>3	42.30%
On what issues you discuss maximum in your family/parents?	
Nil	12%
Study	46.70%
Sports	21.30%
Carrier	8.30%
Other	11.70%
What happened in the house if there is a disagreement?	
Nothing	18.20%
Silent	51.70%
Punishment	21.10%
Squabble/Quarrel	9%
Who are involved in settling the disagreement most commonly?	
Father	70%
Mother	20%
Other	10%
How do you feel while go to school?	
Good	64%
Bad	36%
Are you regular in attending the school?	
No	10%
Yes	90%

How many friends do you have in school and outside the school?

2-3	18%
3-5	48%
>5	34%

### Lifestyle patterns: General activities of daily living

Nearly half of the subjects reported that they were not involved in any recreational activities during the weekend (46%). The majority of them reported having some spiritual beliefs (88%). Approximately 43% of the subjects reported watching TV for 2-3 hours per day. A major proportion of

the students reported that they own smartphones (83%) and were using various social networking sites (83%). Nearly 50% of the students used social networking sites for 2 hours per day and around 8% of the subjects spent money on online lotteries/gambling (Table 2).

**Table 2:** General activities of daily living patterns among adolescents.

General activities of daily living	Percentage
What are the general recreational activities you performed?	
Nil	46%
Yoga	12%
Sports	32%
Others	10%
Do you have some spiritual belief?	
No	12%
Yes	88%
How many hours do you watch TV in a day?	
1-2	47%
2-3	43%
>3	10%
Do you have smart/android mobile phones?	
No	17%
Yes	83%
Do you use social networking web sites?	
No	12%
Yes	88%
How many hours per day do you engage in social networking web sites?	
1 hr or less	39%
2 hr	49%
>2 hr	12%
Do you spend money on online lotteries/gambling?	
No	92%
Yes	8%

### Lifestyle patterns: Eating habits and sexual health

The majority of the students reported eating vegetarian diets (70%). Around 63% of the subjects reported eating fast food on monthly basis. More than half (57%) of the students reported eating three diets per day. About 11% of the subjects reported the usage of alcohol in the current 3

months. Around 20% of the subjects reported knowledge regarding HIV/STD. Approximately 10% of the subjects reported experiencing sexual abuse from others (Table 3).

**Table 3:** Eating habits and sexual health among adolescents.

Eating habits and sexual health	Percentage
Do you take non-vegetarian food?	
No	70%
Yes	30%
How often do you eat fast food?	
Daily	10%
Weekly	47%
Monthly	63%
How many meals you take per day?	
2	32%
3	57%
>3	11%
Have you ever used alcohol in the current 3 months?	
Yes	11%
No	89%
Do you have the information about STD/HIV?	
No	80%
Yes	20%
Have you had any sexual abuse from anybody?	
No	90%
Yes	10%

### DISCUSSION

There is convincing evidence between lifestyle diseases and unhealthy habits which are acquired during adolescence and persist in adulthood. An early investigation of the lifestyles of adolescents will probably prevent their progression into serious diseases. Studying about the lifestyle helps to make the services adolescent friendly and further support their healthy development. The current study provides data about the lifestyle of adolescents in this setting. The present study identified that a major proportion of the students reported that they have their smartphones (83%) and were using various social networking sites (83%). Nearly 50% of the students used social networking sites for 2 hours per day and around 8% of the subjects spent money on online lotteries/gambling. The last two decades have witnessed significant momentum in wireless internet connectivity in India. However, it also resulted in many adverse impacts, especially among youths. Often adolescents fail to use the intervention responsibly and leading to behavioural or emotional problems [10].

About 11% of the subjects in the current study reported the usage of alcohol in the current 3 months. There has been an increasing trend of alcohol consumption among youth in India in the last decade. Although the scientific information about alcohol addiction among adolescents is relatively limited, the prevalence of risky use of alcohol appears to be high among Indian youths. Strikingly, the age of initiation of alcohol is increasing and male gender, rural residence, and locally brewed alcohol were associated with earlier initiation of drinking [11,12]. Further, the recorded and unrecorded use of alcohol is rampant in India irrespective of the study population [13]. Majority of the students reported eating vegetarian diets (70%). Around 63% of the subjects reported eating fast food on monthly basis. A study from North India, reports inappropriate dietary practices (fast food consumption, low fruit consumption), low physical activity, higher level of experimentation with alcohol, and a high prevalence of obesity and hypertension in school children. The study also

showed an association between BMI, systolic and diastolic blood pressures amongst children, and other lifestyle factors [14]. Around 20% of the subjects reported knowledge regarding HIV/STD. Similar findings were also mentioned in an earlier study conducted in the Indian setting. The knowledge regarding safe sex practices and STDs is still considered taboo in Indian societies, especially in rural areas.

### CONCLUSION

The study documents the presence of unhealthy dietary practices, higher levels of usage of mobile phones along with alcohol use in the school children in this setting. The current study provides some preliminary data for policymakers so that they can modify the current policies and interventions according to the needs of adolescents. Moreover, it lays another foundation stone for other researchers to plan some interventional studies for adolescents.

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