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Lifestyle of school going adolescents in Mumbai, India: a cross sectional study

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ABSTRACT

Background: Adolescents, as defined by World Health organization, constitute individuals in between the age group of 10 to 19 years. Children, youth and young people are the other groups which have ages which overlap with the adolescent age group. The hormonal changes at this age are responsible not only for physiological growth but also emotional and cognitive changes. Lifestyle in this age group may have lasting and, in many cases, lifelong implications. We conducted this cross-sectional study to holistically analyse lifestyle of school adolescents in Mumbai.

Methods: This was a cross sectional study conducted in the in a tertiary care medical college. The students belonging to an English medium co-education school of a metropolitan city were included in this study on the basis of a predefined inclusion and exclusion criteria. A culturally acceptable questionnaire was structured in simple language and used in this study. Demographic data was asked. All questions were closed ended and requiring specific response the questionnaire was subjected to critical evaluation by experts from the field of Public Health Pediatrics, high school teachers, heads of schools, experts from Social justice and law input from the experts were incorporated in the questionnaire. Statistical analysis was done using SSPE 22.0 Software.

Results: A total of 538 adolescents were studied in this cross-sectional study. There were 270 boys (50.18%) and 268 (49.82%) girls with a M:F ratio of 1:0.95. Mean age of the studied cases was found to be 12.4±1.44 years. Majority of the adolescents were found to be residing in buildings (66.36%) and average family size was found to be 5.63±3.34 members Majority of the boys and girls (66.92%) were not having any knowledge about HIV/AIDS.7.06% adolescents were found to have suicidal or homicidal thoughts. 93.31% adolescents liked to come to school and 83.83% claimed to be obedient.

Conclusions: This cross-sectional study highlights the fact that adolescents have a significant amount of psychosocial problems. Important amongst these included inclination towards substance abuse, suicidal or homicidal thoughts and ignorance about HIV/AIDS. Strategies to tackle these issue needs to be devised so as to tackle these problems faced by adolescents.

Keywords: Adolescence, Acquired immunodeficiency syndrome, Psychosocial behaviour, Substance abuse

INTRODUCTION

Adolescents, as defined by World Health organization, constitute individuals in between the age group of 10 to

19 years. In a sense adolescence is a turbulent time for individuals. While many adolescents can cope this stress without getting unduly affected others may need professional help for facing the problems such as

substance abuse, aggressiveness and depression. Peer pressure resulting in high risk sexual behavior may be another concern in this age group. It can be said without any exaggeration that adolescent is the period of time when if proper psychosocial support is available then there are innumerable opportunities to develop habits that create a solid foundation for healthy and beneficial lifestyles and behavior over the full life span.² The urge to have independence in various aspects of life may expose them to unsafe environment and individuals. How these issues are tackled would have lifelong implications for physical and mental health of an individual. Psychosocial problems form the major chunk of concerns faced by adolescents and their family members and are some of the common problems for which medical consultations are sought. These problems include depression, anxiety, panic attacks and educational difficulties.3

Aggressive behavior is another risk factor for adverse life events such as accidents and assault. Given the increased vulnerability of individuals for psychosocial problems it is not surprising to know that almost 50% of mental and psychological problems start before 14 years of age and more than $2/3^{rd}$ of the patients with mental illnesses are diagnosed before 24 years.⁴

There is always a need to identify the risk factors which may predispose an adolescent to indulge in high risk behavior such as those living in poverty, foster care, orphans, street children and poorest of poor. Knowing an adolescents propensity towards high risk or aggressive behaviors may help take preventive measures so as to prevent catastrophic consequences such as homicides, suicides and accidents.⁵

Another important aspect of adolescent health which cannot be ignored is rapid globalization and adolescents are increasingly being influenced by the changing world. Adolescents and children today are subjected to innumerable stimuli that shape or influence their lifestyle as well as their perception about self and society⁶. Holistic view of lifestyle of adolescence spanning over eating habits, exercise, use of social media, attitude towards smoking and alcohol consumption, involvement of parents in areas of life where adolescence can fall easy prey to the predators in society are important criteria of concern.⁷

Adolescent health risk behaviors causing immediate and late onset morbidity and mortality leading to consequences on health and adulthood is a major Public Health issue in preventive medicine. Use of alcohol, tobacco products and other illicit drugs is common in adolescent age groups due to high risk and aggressive behavior. Substance abuse not only is harmful itself but also may complicate the matters by increased chances of risky sexual behavior leading to morbidity and mortality secondary to sexually transmitted diseases included human immunodeficiency virus (HIV) infection.

With this background in mind we conducted this study in which holistic overview of lifestyle of school adolescents in Mumbai was analyzed. The purpose of the study was to analyse the lifestyle in adolescence in Mumbai by various parameters. Further the ways in which social media is used and thought pattern for suicide and homicidal tendencies were also analyzed. Finally attitudes towards addiction to alcohol and tobacco usage and awareness about HIV/ AIDS infection specifically with respect to knowledge regarding mode of transmission was also studied.

METHODS

This was a cross sectional study conducted in the in a tertiary care medical college. The students belonging to an English medium co-education school of a metropolitan city were included in this study on the basis of a predefined inclusion and exclusion criteria.

The School authorities were explained about the need of the study (to analyze lifestyle trends among the adolescence that can have impact on future life of adolescence) and due permission was taken from concerned authorities. A culturally acceptable questionnaire was structured in such a way that adolescence from 5th to 9th grade will easily understand. Demographic data was asked. All questions were closed ended and required specific response. The questionnaire was subjected to critical evaluation by experts from the field of public health, pediatrics, high school teachers, heads of schools, experts from social justice and law and input given by these experts were incorporated in the questionnaire.

Questionnaire was user friendly, easy to comprehend and took maximum 20 minutes to answer. The teachers in each school were briefed about the project and given the questionnaire to read for the knowledge and understanding. Teachers were requested to help students who could not understand a particular question. A total of 538 students from 2 schools participated and responded to the questionnaire the questionnaire after completion were recollected by the teachers and submitted to the investigator.

Appropriate statistical tests were applied whenever necessary statistical analysis was done by employing data in Microsoft Excel sheet for numerical data the mean and standard deviation values were calculated and for nominal data number of candidates with the percentages were calculated and results are interpreted. SSPE 22.0 was used for statistical analysis.

Inclusion criteria

- All students between 5th-9th grades in an English medium coeducation school
- Those who were willing to be part of the study.

Exclusion criteria

- Questionnaires having incompletely filled answers
- Questionnaires having contradictory answers.

RESULTS

This cross-sectional study included total 538 adolescents out of which there were 270 (50.18%) boys and 268 (49.81%) girls with a M:F ratio of 1:0.95 (Figure 1).

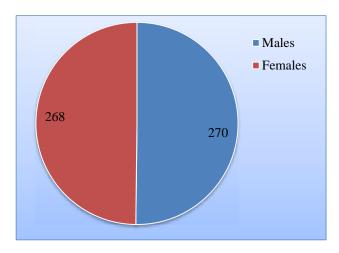


Figure 1: Gender distribution of the studied cases.

The mean age of the boys was found to be 12.5±1.46 while in females mean age was found to be 12.3±1.42. The overall mean age was found to be 12.4±1.44. There was no statistically significant difference between the age groups of boys and girls (P=0.107) (Table 1).

Table 1: Mean age of the studied cases.

Mean age	Boys	Girls	P = 0.107
of the studied cases	12.5±1.46	12.3±1.42	(Not significant)

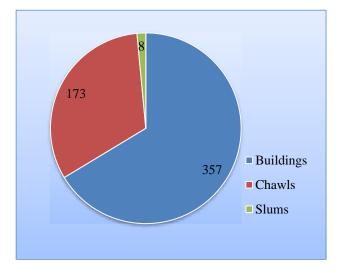


Figure 2: Type of residence in the studied cases.

The analysis of the pattern of residence showed that out of 538 adolescents who were studied 357 (66.36%) were residing in buildings 173 (32.16%) were residing in chawl residential system while 8 (1.49%) of adolescents were residing in slum dwellings. Average family size of the study population was 5.63±3.34 (Figure 2).

The analysis of education status of the mothers showed that out of 538 adolescents 366 (68.03%) had mothers who were educated till Secondary School, 35 (6.51%) have mothers with primary education while 137 (25.46%) adolescents' mothers completed graduation or had higher academic qualifications (Figure 3).

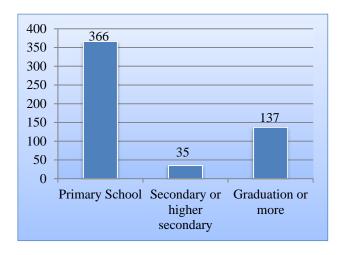


Figure 3: Educational status of the mother in studied cases.

The analysis of the daily habits of the adolescents showed that out of 538 adolescents 275 (51.12%) were doing regular exercise while 263 (48.88%) were not doing regular exercise. Majority of the adolescents were involved in outdoor games (86.06%). The food habit showed that majority of the adolescents was eating fruit and salad regularly (84.01%). Junk food, chocolates and Maggie were regularly consumed by 291 (54.09%), 258 (47.96%) and 140 (26.02%) adolescents (Figure 4).

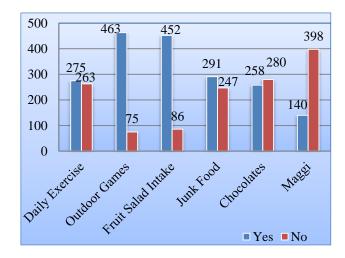


Figure 4: Health related activities in studied cases.

The analysis of television watching habits of the adolescents showed that out of studied cases Late night TV watching was present in 194 (36.06%) adolescents. 334 (62.08%) watched television under supervision of parents particularly at night time. 409 (76.02%) adolescents were found to have been watching cinemas with their parents regularly (Figure 5).

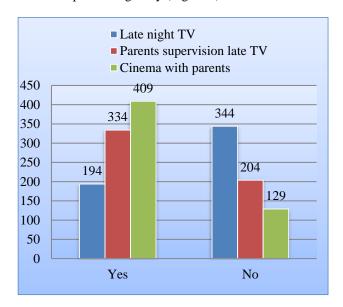


Figure 5: Media viewing in studied adolescents.

The analysis of gadgets and social media use showed that out of 538 studied adolescents 344 (63.95%) were regularly playing video games. 376 (69.88%) were using mobile phone and 431 (80.12%) were playing mobile games. Facebook and whatsapp was being regularly used by 162 (30.12%) and 129 (23.98%) adolescents (Figure 6).

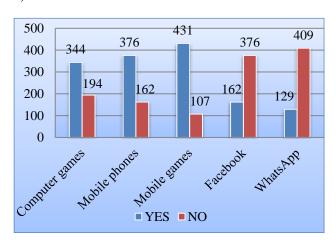


Figure 6: Social media and gadget use in studied adolescents.

18 adolescents out of study population (3.35%) (n = 538) express the desire towards consumption of gutka/ pan/tobacco. 15 (2.79%) adolescents express their desire to drink alcohol and 14 (2.66%) said that they would like to smoke bidi/cigarette (Figure 7).

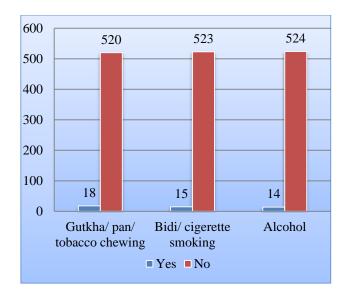


Figure 7: Tobacco products and alcohol use in adolescents.

Out of 538 only 178 (33.08%) adolescents heard about HIV/AIDS and out of those who heard about it only 81 (45.5%) knew how HIV/ AIDS is transmitted. Out of total 538 adolescents studied 33.08% (178) said that they had heard about HIV/ AIDS while 66.92% (360) did not have any knowledge about HIV/ AIDS while 15.06% (81) adolescents out of total 538 studied knew how HIV/ AIDS is transmitted. Alarmingly 84.94% (457) adolescents did not know how one contracts HIV/ AIDS. 33 (6.13%) adolescence wrote that they had girlfriend/ boyfriend (Figure 8).

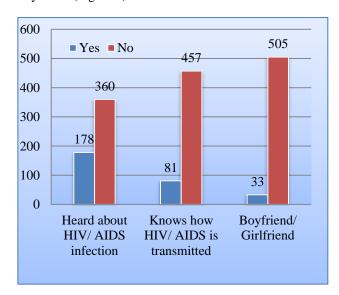


Figure 8: Knowledge towards HIV/AIDS in adolescents.

Out of adolescents studied 69 (12.80%) were not having any futuristic approach towards life that is they have not given any thought about their future. but surprisingly 469 candidates were having some or the other vision about the future. Out of 538 adolescents 38 (7.06%) were found

to have thoughts of suicide or homicide. 502 (93.31%) said that they like to attend school regularly while 36 (6.69%) adolescents didn't like to attend school regularly.

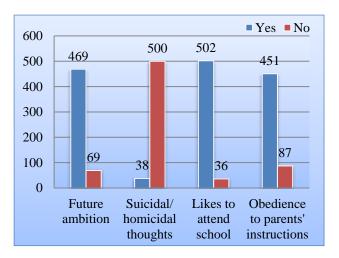


Figure 9: Future ambitions, suicidal or homicidal thoughts, obedience and school attendance.

The analysis of obedience in adolescents showed that 451 (83.83%) were obedient towards parents and elders while 87 (16.17%) did not do so. 33 (6.13%) adolescents had parents who regularly smoke bidi or cigarette while 29 (5.39%) parents consumed alcohol (Figure 9).

DISCUSSION

In this cross-sectional study of adolescent boys and girls we undertook a holistic overview of lifestyle of school adolescents in Mumbai. In this study we found that out of 538 adolescents 275 (51.12%) were doing regular exercise while 263 (48.88%) were not doing regular exercise. Daily exercise is reported to have a positive impact not only physical but also for mental health of adolescents. Rees DI et al conducted a study to estimate the effect of physical activity on adolescent psychological well-being. The authors found that a higher frequency of moderate physical exercise was associated with improved psychological well-being for adolescents.¹⁰ The authors conclude that exercise among youths may have important physical health benefits. Similar Beneficial effects of exercise in adolescents were also reported by authors such as Schneider M et al and Tomi E Mäkinen et al. 11,12

Present study showed that majority of the adolescents was eating fruit and salad regularly (84.01%). Junk food, chocolates and Maggie were regularly consumed by 291 (54.09%), 258 (47.96%) and 140 (26.02%) adolescents. Consumption of junk food is common amongst adolescents. Junk food not only is associated with obesity, hypertension and hypertriglyceridemia but also it is reported to be adversely affecting neurodevelopment of individuals. Reichelt AC et al in their review concluded that the increased neuroplasticity during adolescence may render the brain vulnerable to the negative effects of these foods on cognition and behavior. According to the

authors junk food can lead to alterations in dopaminemediated reward signaling, and inhibitory neurotransmission controlled by γ-aminobutyric acid (GABA), two major neurotransmitter systems that are under construction across adolescence. The authors proposed that poor dietary choices may derail the normal adolescent maturation process and influence neurodevelopmental trajectories, which can predispose individuals to dysregulated eating and impulsive behaviors.

The analysis of television watching habits of the adolescents showed that out of studied cases Late night TV watching was present in 194 (36.06%) adolescents. 376 (69.88%) were using mobile phone and 431 (80.12%) were playing mobile games. Facebook and whatsapp was being regularly used by 162 (30.12%) and 129 (23.98%) adolescents. The exposure of adolescents to improper content on television as well as on internet and social media such as whatsapp and facebook has been associated with adverse impact on the psychosocial development of adolescents. Increased use of social networking sites is found to adversely affect social relationships and participation in community life. In an interesting study Kraut R examined the social and psychological impact of the Internet on 169 people in 73 households during their first 1 to 2 years on-line.¹⁴

The authors used longitudinal data to examine the effects of the Internet on social involvement and psychological well-being. In this sample, the Internet was used extensively for communication. Nonetheless, greater use of the Internet was associated with declines in participants' communication with family members in the household, declines in the size of their social circle, and increases in their depression and loneliness. Similar adverse effects of excessive use of social media have been reported by authors such as Pantic I et al and Kross E et al. ^{15,16}

18 adolescents out of study population (3.35%) (n = 538) express the desire towards consumption of gutka/ pan/ tobacco. 15 (2.79%) adolescents express their desire to drink alcohol and 14 (2.66%) said that they would like to smoke bidi/ cigarette. Substance abuse in adolescence is found to have a positive correlation with later development of drug dependence later in adulthood. Belcher HM in their study found that substance abuse during adolescence is associated with a high risk for school underachievement, delinquency, teenage pregnancy, and depression. Similar adverse effects of substance abuse were reported by Dube SR et al and Bovin G et al.¹⁷⁻¹⁹

Finally, in this study it was found that alarmingly 84.94% (457) adolescents did not know how one contracts HIV/AIDS. The ignorance about healthy sexual behavior has been reported in many studies. A Rahman AA et al in their study of knowledge about HIV/AIDS amongst adolescents found that a large proportion of adolescents

were not aware about sexually transmitted diseases and AIDS. More than half (54.8%) of the adolescents never heard about AIDS. On an average, about one tenth of them had better knowledge on AIDS in terms of mode of transmission and prevention.²⁰

CONCLUSION

Adolescence is the time period of both great vulnerability and great opportunity. The common problems faced by adolescents include substance abuse, risk taking behavior, aggressiveness, depression, high risk sexual behavior and accidents (road traffic accidents and violent behavior). Proper health education, counseling and psychosocial support is needed to tackle these issues.

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Conflict of interest: None declared Ethical approval: The study was approved by the

Institutional Ethics Committee

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