

## Health Profile of Rural Adolescent Boys in Thane District, Maharashtra

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### Abstract

This cross-sectional descriptive study using convenience sampling technique was conducted in rural Thane district in Maharashtra State on male adolescents (n=200) to determine their health-related behaviour and health profile. A pre-tested formatted proforma was used to record socio-demographic and health-related data. Their mean age was 17.81 ± 1.20 years (95% CI: 17.65–17.98 years). 153 (76.5%) belonged to lower middle class and the rest to lower class as per B.G. Prasad Classification. 64.5% were students while 35.5% had dropped out of studies. The participants had relatively good personal hygiene. Consumers of alcohol and tobacco comprised 10.0% and 15.5%, respectively. Their current health-related problems comprised dental conditions (15%), skin diseases (12.5%), eye conditions (6.5%), ear problems (2.5%), vitamin A deficiency (2%) and vitamin B deficiency (1.5%). Self-reported history of past illness included tuberculosis, typhoid, upper respiratory tract infection, dengue, malaria and jaundice. The illnesses among family members included tuberculosis, diabetes and hypertension. Periodic health assessment of adolescents can help initiate early interventions. Community-level educational intervention can help in coping with nutritional deficiencies.

**Keywords:** Adolescents, Health profile, Rural.

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### INTRODUCTION

Adolescence is defined as age spanning 10-19 years; adolescence is further divided into early adolescence (11-14 years), middle adolescence (15-17 years), and late adolescence (18-21 years) [1]. The term “adolescence” literally means “to emerge” or “to attain identity” and is essentially the period of rapid physical and psychological development starting from the onset of puberty to complete growth and development. Adolescents experience a phase comprising a multitude of physical, hormonal, psychological, behavioural and social developmental changes [2]. The behavioural patterns established during this developmental phase determine their existing health status and also the likelihood of developing some chronic diseases in their later years. According to Census 2011 Report, adolescents comprise 22% of rural and 19% urban Indian population [3].

The chain of biological changes occurring during adolescence includes an increase in height and weight, completion of skeletal growth with an increase in skeletal mass, sexual maturation and changes in body composition. These biological changes are influenced by age of onset, gender, duration, in conjunction with individual variations. The accompanying psychological stress can affect their relationships with their peers and

adults. By and large, adolescents tend to be impulsive and have a propensity to getting influenced by peers [1].

The objective of the present study was to determine the health-related behaviour and health profile of rural adolescent boys in the study population.

### MATERIALS AND METHODS

This cross-sectional descriptive study using convenience sampling technique was conducted at Vaitarna village, Thane district, Maharashtra State. The total population of the village was about 4600, with about 620 households. Adolescents comprised nearly 20% of the total population, 8-10% being adolescent boys. The sampling unit comprised male adolescents who were inhabitants of the village. After obtaining permission from the Institutional Ethics Committee, the objective of the study was clarified to the village elders, parents and prospective participants. Both parents and participants were provided with Statements of Disclosure and informed consent and assent letters in Marathi (the local language) and were assured of confidentiality of the data.

A pre-tested formatted proforma was used to collect socio-demographic (age, education, occupation,

religion and community, family income) and health-related data (personal hygiene, history of present and past illness, family history of illness and self-reported consumption of tobacco and alcohol). A participant was considered a “tobacco user” or “alcohol user” if he self-reported consumption of tobacco or alcohol in any form during one year preceding the study. Modified B. G. Prasad classification 2016 was used to determine the socio-economic status.

The data were collected, compiled and tabulated in Microsoft Excel 2013 (Microsoft Corporation, Redmond, WA, USA) and statistically analysed using Open Epi Software Version 2.3. Mean and standard deviation (SD) were calculated. The 95% confidence interval was depicted as: [Mean-1.96 \* Standard Error] to [Mean+1.96 \* Standard Error]. Statistical significance was determined at  $p < 0.05$ .

## RESULTS

### Socio-Demographic Profile

The mean age of the adolescent boys ( $n=200$ ) was  $17.81 \pm 1.20$  years (95% CI: 17.65–17.98 years). The maximum and minimum age was 19 years and 16 years, respectively. The median age was 17.76 years. (Fig.1) 4 (2%) were Muslims while the rest were Hindus. Their community wise distribution was as follows – 4 (2%) Koli, 6 (3%) Katkari, 7 (3.5%) Dawari, 11 (5.5%) Thakur, 51 (25.5%) Kunbi, 84 (24%) Warli and 37 (18.5%) belonged to other communities. 129 (64.5%) were students while the rest had dropped out of studies and were doing unskilled or semi-skilled work in order to financially support their families. 153 (76.5%) belonged to lower middle class as per Modified B.G. Prasad classification, 2016, while the rest belonged to lower class.

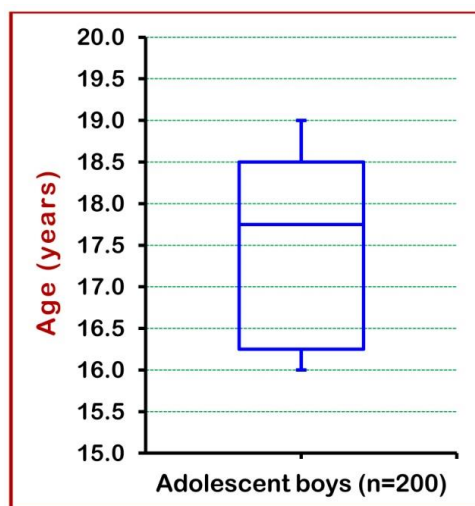


Fig-1: Boxplot of age-distribution

### Health Profile

98 (49.0%) bathed daily, 118 (59.0%) used tooth brush and tooth paste for brushing teeth and 192 (96.0%) washed their hands with soap and water after

defecation. 20 (10.0%) consumed alcohol while 31 (15.5%) were users of smoked or smokeless tobacco or both. The health-related problems of the participants are outlined in Fig-2.

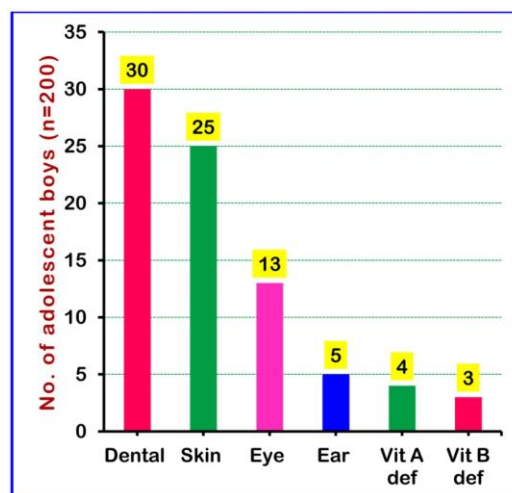


Fig-2: Health-related problems

4(2.0%) and 3(1.5%) had overt signs of Vitamin A and Vitamin B deficiencies, respectively. Eye-related complaints included watering of eyes (06) and redness of eyes (07). Four participants complained of pain in ear while one had discharge from right ear. Skin problems included acne 17(8.5%), boils 1(0.5%), scabies 2(1.0%) and superficial mycoses 5(2.5%). The dental conditions were 20 (10.0%) tobacco staining of teeth, 5(2.5%) tooth ache, 1(0.5%) bleeding gums, and 4(2%) dental caries. Past history of illness included tuberculosis (1), typhoid (1), upper respiratory tract infection (2), dengue (2), malaria (3) and jaundice (3). Illness among family members included tuberculosis (1), diabetes (2), and hypertension (4).

## DISCUSSION

Overall, the participants had relatively good personal hygiene, though there was scope for improvement. The frequency of alcohol and tobacco consumption was 10.0% and 15.5%, respectively. Tobacco addiction is ascribed to easy availability, its use as a stress buster, and is promoted by peer pressure. An estimated 20 million Indian adolescents aged 10-14 are tobacco users [4]. A Mumbai-based study [5] stated that 5.1% adolescents had self-reported ever-use of tobacco and that there was no difference in exposure to media messages between users and non-users of smokeless tobacco. Another study [6] has found the prevalence of consumption of smoked and smokeless tobacco to be 9.1% and 17.4%, respectively among adolescents.

A study [7] from Andhra Pradesh reported 4.33% ear morbidity, which is much higher than that in the present study (2.5%). Only 1% of participants in the present study suffered from scabies, which is much lower than that reported by studies from Haryana (3.6%) [8] and Andhra Pradesh (16.03%) [7]. Only 2% of the participants had dental caries, which was much lower than that reported by other studies - 18.3% [8], 20.10% [7], 21.5% [9] and 41% in a Rajasthan-based study [10]. A South Indian study found that 90% of participants had knowledge about causes of dental caries and the role of tooth brushing in its prevention but 63.3% did not know whether their toothpaste contained fluoride or not, 61.9% brushed their teeth two or more times a day and only 18.2% visited the dentist for routine check-ups [11].

The inconsistent and erratic food habits of adolescents can lead to nutritional deficiencies. As compared to this study, higher frequencies of vitamin A deficiency: 10.69%, [7] 6.2% [12], 6% [8] and vitamin B deficiency: 25.7% [7], 16.5% [12] have been reported. There were no overt manifestations of other nutritional deficiencies in the present study, but a Gujarat-based study [12] has found Vitamin C deficiency (10%) and phrynoderma (16.4%). The

dissimilarity in findings may be ascribed to differences in dietary habits of the study participants.

## LIMITATIONS

Extrapolating the findings of the study to the general population would be hampered since this cross-sectional study was limited to one specific geographical area and was based on convenience sampling of participants who gave written informed consent. It was not possible to avert recall bias since some information was obtained by recall of past behaviour.

## CONCLUSION

Health education of adolescents, their family members and stakeholders in the community can help improve adolescence health. The health-impacting behaviours, such as tobacco and alcohol consumption, need sustained educational interventions at community level. Community-level educational intervention can help in coping with nutritional deficiencies. A large-scale comprehensive study using data on anthropometry, dietary intake, laboratory investigations, and clinical signs would help estimate the prevalence of health problems of rural adolescents. Periodic health assessment of adolescents can help initiate early interventions.

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