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Assessment of high risk status among adolescents

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Abstract

Adolescent is the transition period from childhood to adulthood. Currently the world's adolescent population is around 1.2 billion and 87% of these adolescents live in developing countries. Adolescent risky behavior often results from their inadequate knowledge and lack of understanding of the risks involved.

Aim: The aim of the study was to find out the risk status of adolescents.

Materials and Methods: Descriptive survey design was used. By using non probability purposive sampling technique 158 students studying from 9th to 12th standard were selected.

Results: Most of the students (73%) were in the age group of 14- 16 years. Regarding behavioural risk factors, nearly half of the students (53%) had poor eating habits, 29 % of students had lack physical activity, a few students (6%) had engaged in violent behaviour. 59% of the students were in the category of moderate risk. BMI percentile was used to classify the physiological risk status. It was found that majority (68%) were in the healthy weight category. Only 5% & 3% were in the category of overweight and obesity respectively.

Conclusion: High risk behaviours can significantly impact the lives of the adolescents and those around them. Hence it is essential to modify the behavior and the factors that increase their likelihood to abate or prevent these risks.

Keywords: Adolescents, risk status, BMI, High risk Behaviour

Introduction

The term adolescence means "to emerge", or "achieve identity". The origins of the term from the Latin word, 'adolescere' meaning "to grow, to mature" indicate the defining features of adolescence. Adolescents form two-thirds of our population. This is a unique group of people with special needs. WHO defines Adolescence as in the age group between 10 and 19 years. Their life is marked by special attributes that includes rapid physical growth and development, sexual maturity, onset of sexual activity and experimentation. Because of the nature of experimentation they engage in high risk behaviours ^[1].

By definition, a risk behavior is a lifestyle activity that places a person at increased risk of suffering a particular condition, illness or injury. High-risk behaviours are those that can have adverse effects on the overall health, development and well-being of youth, or that might prevent them from future successes and development

Common high risk behaviours include Tobacco use in the form of smoking and smokeless, Alcoholism, Illicit drug use, High risk sexual behavior, Self-injurious Behaviors, Violence and Suicide, and behaviors Related to Obesity and Unhealthy Dieting ^[2].

There is a direct relationship between harmful levels of smoking and alcohol consumption and NCDs such as cancers and cardiovascular disease. Adolescents who begin drinking earlier are more likely to become dependent on alcohol within 10 years than those who begin drinking at an older age, and they also increase their risk of road traffic accidents, unprotected sex, intentional and unintentional injuries, poor mental health, and gender-based violence.

Insufficient physical activity and unhealthy diet can also lead to an array of negative physical changes in adolescence such as high blood pressure and overweight/obesity, which can trigger NCDs such as cardiovascular diseases, diabetes, and cancers in adulthood. Rapid urbanization is also a driving force behind these risks, and signs of insufficient physical activity and unhealthy diet are quickly emerging in developing countries ^[3].

The onset of multiple risk behaviours, such as smoking, anti-social behaviour, hazardous alcohol consumption and unprotected sexual intercourse, cluster in adolescence and are associated with increased risk of poor educational attainment, future morbidity and premature mortality. These behaviours shape adult behaviour and the consequences are costly to society and young people. Further, people who engage in any one risk behaviour are likely to engage in others, there may be shared biological and environmental factors which influence the development of these multiple behaviours, and so prevention and treatment interventions may impact on more than one outcome [4].

India is experiencing a rapid health transition, with large and rising burdens of chronic and communicable diseases. Nearly two-thirds of premature deaths and one-third of the total disease burden in adults are associated with conditions or behaviours that began in their youth, including tobacco use, lack of physical activity, unprotected sex or exposure to violence. Hence attempt was made to identify the risk status of adolescents and associated risk factors [5].

AIM

The present study aimed at identifying the risk status of adolescents in terms of behavioural, physiological, and familial risk factors.

Methodology

Descriptive study design was used to collect data. By using Non-probability purposive sampling 158 students studying in 9th, 10th, 11th and 12th standard in a selected matriculation school at Coimbatore were selected. Formal permission was obtained from the school authority and oral consent was obtained from the students.

Tool-Instrument for data collection consisted of three parts.

- Demographic Proforma which includes age, sex, standard, area of residence, educational status of the father and mother, occupation of the father and mother, family income, family history of high risk behaviours, Diabetes mellitus, Hypertension and Myocardial infarction
- Risk behavior assessment: It was a checklist to assess the risk behaviors of the students which includes dietary habits, physical activity, violent behavior, and habits like smoking, alcohol, tobacco chewing and high risk sexual behaviour
- Physiological parameters: Height and weight was measured using inch tape and weighing machine. BMI was calculated and interpreted as Underweight, Normal, Overweight and obesity.

Self reported questionnaire was used to collect the baseline data and risk behavior assessment. Bio physiological measurement was used to assess the BMI.

Results and discussion

Demographic data of the students

Students age ranged between 13 years to 19 years, most of the students around 73% were in the age group of 14 to 16 years. Majority (65%) were males and residing in urban area (72%). Equal No. of fathers and mothers of students (76%) had school education and a least percentage 2% & 6% of fathers and mothers had not attended the school. Around 38% of fathers 18% of mothers were private employees. Majority of mothers (72%) were housewives. Nearly half of

the student's monthly family income was around Rs. 5,000-10,000.

Risk status of adolescents based on high risk behaviours

Lifestyle risk behaviours, such as poor diet, smoking, and physical inactivity are responsible for a large proportion of disease burden and premature mortality worldwide Risk behaviours tend to co-occur and cluster in populations [6].

It was found that nearly half of the students (53%) had poor eating habits, 29% of students had lack of physical activity, a few students (6%) had engaged in violent behaviour. Regarding the habits only 4%, 5%, 6% of students had history of smoking, chewing tobacco and alcoholism respectively. None of them had a history of engaging in high risk sexual behaviour. Contradictory reports are noted in NFHS-3, that 40 per cent of males and 5 per cent of females aged 15 to 24 yrs consumed tobacco nationwide. The survey showed that one per cent women and 11 per cent men aged 15-19 yrs and 1.4 per cent women and 28.8 per cent men aged 20-24 yrs consumed alcohol. It also indicated that 4 per cent of young women and 15 per cent of young men had ever experienced sex before marriage [7].

Steven BH. (2006) reported that an estimated 75% adolescents eat fast food one or more time per week [8]. Munni (2006) conducted a study among 1500 school students and found that 69% of students had witnessed violence in real life and 28% were of serious nature. Media violence exposure was universal [9].

Regarding the behavioural risk factors, Most of the students were in the category of moderate risk (59%) and 38% were having mild risk. Only 3% of them found to have severe risk (Figure1).

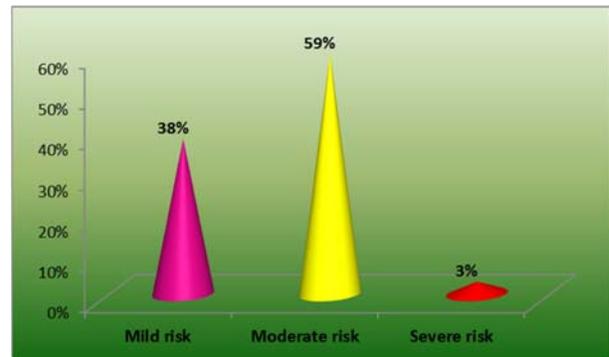


Fig 1: Risk status among Adolescents

Physiological risk factors

There has been revolution in adolescent's life style and eating pattern which can be largely attributed to changes in family and social environment. The changes in eating pattern contribute to the changes in normal health. Trends in adolescent's eating pattern shows a great concern with regard to prevalence of adolescent's obesity and increasing recognition of the contribution of diet to long term health.

Majority of the students were in healthy weight category, 24% of students were in the category of underweight and only a few percentage of students (3%, 5%) were falling in the category of overweight and obesity respectively (Figure 2).

Steven BH. (2006) also revealed that eating away from home is becoming more common and fast food restaurants use is growing more rapidly Fast food like. Pizza, noodles, burgers are rapidly replacing our traditional menu not only

in restaurants and eating points but in households too. A number of factors contributing to this may be the increased number of working mothers, increased dual income households, nuclear small families, high socioeconomic status, availability of fast food outlets and increased propaganda of food service chains. Growing percentage of working mothers affects the selection of food. Now a days, our youth is attracted more towards fast food because of their easy availability. This increase in fast food consumption parallels the escalating obesity epidemic Data from Nutrition Survey of National Institute of Nutrition during 2001 and 2006 showed that more than half the population aged 10-18 yr were undernourished. A meta-analysis of nine studies in 2012 showed 12.6 per cent of children to be overweight and 3.3 per cent to be obese [10].

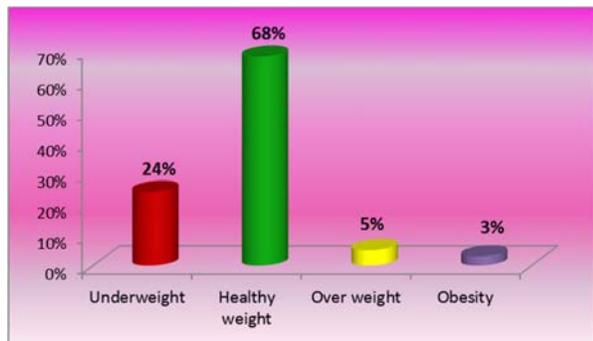


Fig 2: BMI Percentile of adolescents

Familial risk factors

With regard to family history among fathers, (23%) were smoking 18% were drinking alcohol, 3% were consuming tobacco. Among mothers none of them had the habit of smoking and drinking alcohol. 1% were consuming tobacco (Figure 3).

4% of the fathers and mothers have Diabetes mellitus, 6% of the fathers and 3% of the mothers have Hypertension and 1% of the fathers and mothers have the history of Heart attack

Geethadevi *et al* (2014) studied the determinants of tobacco, alcohol and drug use among adolescent high school students in an urban area of kottayam district, kerala revealed that the usage of alcohol and tobacco products among parents are strongly related to usage of alcohol and tobacco products among adolescents. This study made it clear that substance abuse among the family members will influence the adolescents resulting in increasing social evils like smoking, use of tobacco products, alcohol and drugs among adolescents. There is a need for intervention that address parental tobacco use and alcoholism to mitigate the risk for substance use among adolescents [11].

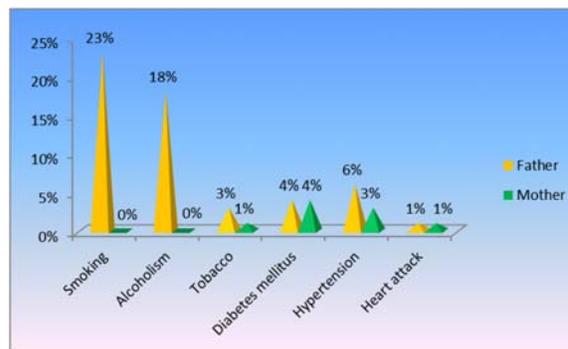


Fig 3: Familial risk factor

Many studies proved that adolescents have a tendency to model and mimic parental risk behaviours. Specifically, parental risk-taking behaviours and safety practices have been found to be key indicators of how teens will behave and how they intend to behave when they are adults [12].

Correlation and association

There was no correlation between the physiological and behavioural risk factors. BMI and risk status ($r = -0.01707$). There was a significant association between the risk status and selected demographic variables such as age, gender, education of the mother

S.No	Demographic variable	Chi-square	Table value
1	Age in years	38.12**	5.226 (df=12)
2	Gender	18.21* *	1.635(df=6)
3	Educational status of the Father	23.08* *	13.848(df=24)

** Significant ($P < 0.05$ level)

Conclusion

Adolescents need to be treated as a distinct segment of our population and it is important to realize and address their health and lifestyle problems. High risk behaviours can significantly impact the lives of adolescents and those around them. Hence it is essential to modify the behavior and the factors that increase their likelihood to abate or prevent these risks. Families can play an important role to help these adolescents live a healthier life. Further research studies should be carried out to highlight issues of concern and their possible solutions in this population.

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