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## Assessment of the life style and risk for diabetes mellitus among adolescents in the age group of 14-17 years at selected schools in Chennai

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### Abstract

Adolescence has been characterized as a critical and discrete period of the life Cycle. The life style of adolescents are greatly influenced by many sectors of society, including families, peers, communities, schools, child care settings, the food and beverage etc. This study was aimed to assess the lifestyle issues related to the risk for diabetes mellitus among adolescents. The study was conducted among 200 samples. A total of 100 male adolescents and 100 female adolescents were selected in the age group of 14-17 years, studying in selected schools in Chennai, Tamilnadu. Simple random technique was used to select the samples. Self-administered questionnaire, rating scale and diabetic risk assessment tool was used to collect data on lifestyle and risk for diabetes mellitus among adolescents. The study findings revealed that majority (93.5%) of adolescents had average lifestyle risk and 50% of them had diabetes risk.

**Keywords:** Adolescence, life cycle, diabetes mellitus, lifestyle, risk assessment

### Introduction

Adolescence is the period of dynamic transition from childhood to adulthood and is associated with the rapid change in body, mind and social relationship (Susman & Dorn, 2009). Adolescence is accompanied by dramatic physical, cognitive, social and emotional changes and their growth spurt is rapid and they intensely increase in the height and weight as well as their hip and waist circumferences. Adolescents are characterized by a strong tendency to experiment with risk behaviour. During adolescence, healthy/unhealthy lifestyle and behaviours are formed and these behaviours tend to track into adulthood. The life style of adolescents are greatly influenced by many sectors of society, including families, peers, communities, schools, child care settings, the food and beverage industries and entertainment industries. Changes in life style, dietary habits and physical activity, socio cultural and environmental factors are associated with the occurrence of type 2 diabetes mellitus in children. The prevalence of childhood and adolescent diabetes from different parts of India ranged from 3-29% and the highest prevalence of diabetes mellitus was 2.55/1000 among Indian adolescents. (WHO, 2010)

### Statement of the Problem

A study to assess the life style and risk for diabetes mellitus among adolescents in the age group of 14-17 years at selected schools in Chennai.

### Objectives

- To assess the life style of adolescents in selected settings.
- To assess the risk for diabetes mellitus among adolescents in selected settings.
- To find the relationship between life style of adolescents and the risk for diabetes mellitus.
- To associate the life style with selected demographic variables of adolescents.
- To associate the risk for diabetes mellitus with selected demographic variables.

### Background of The Study

Healthy habit like physical activity and eating habits during adolescence are the fundamental prerequisite for physical growth, psychological development and cognitive performance, as well as for the prevention of chronic diseases in childhood. Although the prevalence of diabetes is increasing worldwide, the increase has been faster in developing countries

because of declining level of physical activity as well as nutrition transition characterized by a trend towards consumption of a diet high in fat, sugar, and refined foods and lower in fibre. The lifestyle choices people make today can impact their health either positively or negatively. For example, an unhealthy diet, comprising of excessive energy intakes, little or no fruits and vegetables on the daily menu, but greater consumption of foods low in dietary fibre, high in salt, unsaturated fats, trans fats and sugar increases risk for heart diseases, over weight/obesity, cancer, high blood pressure and diabetes (Newsday, February 2016).

### Materials and Methods:

Quantitative research approach was used in this study which was exploratory in nature. Descriptive research design was used for this study. The study was conducted among 200 samples, 100 male adolescents and 100 female adolescents were selected in the age group of 14-17 years, studying in selected schools in, Chennai. Using sampling frame, lottery method was adopted to select the male and female adolescents based on the inclusion criteria. The tool consisted of IV part. Part I consisted of structured questions to collect demographic information. Part II consisted of physiological data like weight, height, BMI etc. Part III consisted of rating scale to assess the life style of adolescents and Part IV consisted of diabetes risk assessment tool.

### Results

Equal number of 50(25%) adolescents in each age group. There were equal number 100 (50%) of male and female. Majority 181 (90.5%) of the adolescents were Hindus. Regarding mothers education, 84(42.0%) adolescents' mothers were post graduates. Regarding adolescents' fathers education, 95 (47.5%) adolescents' fathers were post graduates. Majority 182(91%) of adolescents monthly income was Rs.20, 001 & above. Regarding type of family, 157 (78.5%) of adolescents were living as single family and majority 107(53.5%) of adolescents had a family history of diabetes mellitus. Majority 69 (64.4%) of adolescents' grandfather had diabetes mellitus. Regarding food habits, majority 127 (63.5%) of adolescents were non-vegetarian. On assessment of overall level of lifestyle risk, majority (93.5%) had average risk and 2.5% had high risk for diabetes mellitus. On assessment of mean and standard

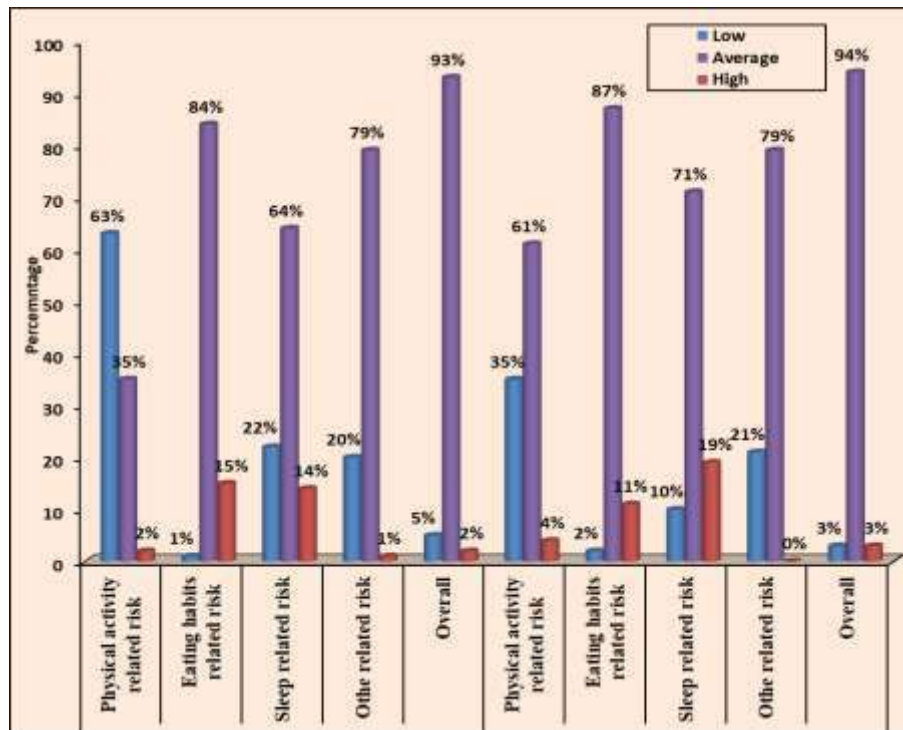
deviation, there was a significant difference in physical activity related risk among male and female adolescents at 1% level of significance. On assessment of overall level of diabetes risk, 15% had high risk, 35% had moderate risk and 50% had mild risk for diabetes mellitus. The results showed that, there was a significant positive correlation between lifestyle and risk for diabetes mellitus at  $p<0.01$  level. There was a statistically significant association between lifestyle and risk for diabetes mellitus among adolescents at 1% level of significance. There was a statistically significant association between lifestyle risk for diabetes mellitus and demographic variables such as age ( $p<0.05$ ), education of father, education of father, occupation of father, family member relationship and food habits ( $p<0.001$ ). There was a statistically significant association between risk for diabetes mellitus and demographic variables such as age, family member relationship ( $p<0.001$ ) and education of father ( $p<0.05$ ).

### Discussion

In relation to lifestyle risk, majority of (48%) of adolescents had average risk and 3% of them had high risk related to physical activity. Regarding eating habits, majority (85.5%) of adolescents had average risk and 13% of them had high risk. The result is supported by Sara R. *et al.* (2012) who revealed that, in relation to lifestyle risk only 20% of adolescents in mild risk, 41.6% in average risk and 37.6% in high risk for diabetes mellitus.

There is a significant difference is found in physical activity related risk among male and female adolescents at 1% level of significance. This is also in par with the finding of Allafi. A. *et al.* (2013) who reported that 76% of girls do not perform adequate physical activity, spend more time on sedentary activities and unhealthy dietary practices than boys.

There was a significant positive correlation ( $r = 0.681$ ) between the lifestyle risk and risk for diabetes mellitus at 1% level of significance. This clearly indicates that when the lifestyle risk for diabetes mellitus among adolescents increases, the risk for diabetes mellitus also increases. The similar finding is supported by Mariana I. *et al.* (2012) in their study on correlation between lifestyle and diabetes mellitus, indicated that there is a positive correlation ( $r= 0.48, p<0.01$ ) between lifestyle and diabetes mellitus.



**Fig 1:** Percentage distribution of lifestyle risk for diabetes mellitus among adolescents

### Conclusion

The study concluded that majority of adolescents had average risk for lifestyle and moderate risk for diabetes mellitus. This study proved a positive correlation between lifestyle and risk for diabetes mellitus. Though the risk for diabetes mellitus is same in boys and girls, it is observed from the study that boys are physically more active than girls; there is a significant difference in physical activity at 1% level of significance.

### Nursing Implications

- School health nurse should create awareness through health programme to all teachers and adolescents regarding the importance of diet, exercise, lifestyle modification and on prevention of diabetes mellitus
- Peer leaders among children can be identified and trained to educate adolescent children, on prevention of diabetes mellitus. Child to child approach and mother to mother approach also can be used.

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