DIETARY BEHAVIOURS AND PHYSICAL ACTIVITY PATTERNS OF ADOLESCENTS

[1]Rubina Perween, [2]Bandana Singh
[1]Research Scholar, [2]Associate Professor
PG department of Home science, Patna University

Abstract:

Adolescence is a significant period for physical growth and sexual maturation. Nutrition being an important determinant of physical growth of adolescents is an important area that needs attention. Growth retardation is one of the most important health concerns for adolescents and their parents. Adolescents need diets of higher quality and greater quantity, compared with children or adults. A large body of research has revealed that nutrition and physical activity influence brain functioning at various stages of the life course. In the present study adolescents were interviewed with the help of pre-tested questionnaire assessing food frequency, dietary patterns and physical activities. . Results showed that the dietary and exercise habits of adolescents were sub-optimal. Many adolescents fail to meet multiple diet and physical activity recommendations, however boys were more active than girls. Adolescents had a very low intake of fruits and vegetables. About 41.2 % adolescents used to skip their breakfast. Among 800 adolescents, about 47.5 % respondents were taking food supplements. For adolescents with two risk behaviours, the most prevalent cluster was formed by not meeting the physical activity and dietary recommendations. Limitations are noted and suggestions for future research are outlined.

Keywords

Physical Activity, Dietary Behaviour, diet, exercise, adolescent

Introduction

Adolescence is a time of growth for children, for both physical and mental development. Eating healthy is an important part of a healthy lifestyle and is something that should be taught at a young age. A healthy diet is not only essential for teenagers because of their heightened nutritional needs, but also because the foods they eat as

teenagers can impact their health when they reach adulthood. Healthy eating also promotes good food habits to last a lifetime. As teenagers mature into adulthood, they may continue some of the eating habits they developed earlier in life. Eating behaviors of children and adolescents are important in establishing adults' preferences and behaviors. (**Mahshid Pirouznia 2001)**

Scientific evidence shows that diet is important not only for physical health, but also for optimal mental development and functioning. Encouraging healthy lifestyles in children and adolescents is important for them when they grow older. Lifestyles that are learned in childhood are more likely to stay with the child enter into adulthood. A daily exercise program is a fun way to share physical activity with family and friends while helping to establish good heart-healthy habits.

When children become teenagers, they experience many physical changes with their bodies. As teens hit puberty, they gain weight and grow in height. While health is important throughout one's entire life, focusing on physical health in teens is especially important. If teenagers stay physically fit and active, they can avoid health problems and other complications in the future. There is evidence of an association between physical activity and dietary behaviours in adolescents. It is also found in different studies that there is an association between low fruit and vegetable consumption and low levels of physical activity.

Sanchez et al. (2007) found that nearly 80% of 11–15-year olds had multiple risk factors related to diet (fruit and vegetable consumption and calories from fat), less physical activity and sedentary behaviour (TV time and moderate-to-vigorous-physical activity – MVPA). The tendency for physical activity and dietary behaviours to cluster has important implications for health promotion, highlighting the need for effective behaviour change interventions targeting multiple behaviours.

Objectives:

This study focus specifically on objectively assessed physical activity, plus dietary pattern and behaviour of adolescents.

- To assess the dietary pattern of adolescents belonging to Patna district
- To assess the physical activities of adolescents belonging to Patna district

MATERIALS AND METHODS

Patna district was selected purposively keeping in mind the constraints of time and resources and also because it was convenient and easily to approach the respondents. Total sixteen schools were selected randomly for authentic collection of data. Eight hundred adolescents were selected for the study. Equal number of boys and girls were taken from each school. Physical activity was assessed using a self-report recall measure where students reported the type, duration, and frequency of participation in physical activity during an usual week. Survey method was adopted to collect the data from the selected respondents with the help of pre-tested schedule. Adolescents were personally interviewed during the period of study for the collection of required information. The data recorded during the course of investigation were analysed with suitable Statistical tools.

Result

Dietary Information:

It was observed that on an average maximum subjects, 80.8 % were vegetarian, 10.3 % were non-vegetarian and 8.3 % were eggetarian. Maximum number of respondents i.e 45% have the habit of taking three meals a day pattern (breakfast + lunch + dinner).

In total 60.8 % school adolescents had good appetite whereas about 30 % had fair and only 9.2 % adolescents had poor appetite. Lack of appetite might be due to lack of time, change of taste or any physiological changes in this age. About 41.2 % respondents used to skip their breakfast, may be due to lack of time, loss of appetite, desire to sleep longer in the morning, change of taste or due to their schedule, whereas 5.8 % adolescents are used to skip their mid-morning meal and 6.7 % skipped their lunch which resulted in reduction of calorie, protein and their other nutrients intake. “Breakfast skipping seems to be the matter of personal choice, providing free or subsidized meals will not help those who choose not to eat them,” Similar finding were reported by **Story (2005)** who reported that “breakfast is the most commonly skipped meal and is attributed to lack of time, desire to sleep longer in the morning and lack of appetite. Skipping breakfast may affect concentration, learning and school performance.

Among 800 sample adolescents, about 47.5 % respondents were taking food supplements. It was also observed that boys (31.2 %) were consuming more food supplements than girls (16.3 %); it may be happened because boys

may get more preference in their family than girls. Gender inequalities in quantity and quality of food intake may contribute to under-nutrition mainly in settings where the girl is still considered less important than the boy.

Table 1: Distribution of adolescents according to their dietary pattern.

Dietary pattern	Boys n=400		Girls n=400		Total N=800	
	No.	**%**	**No.**	**%**	No.	%
Type 'a'	193	48.33	167	41.66	360	45
Type 'b'	93	23.33	100	25	193	24.16
Type 'c'	47	11.66	106	26.66	153	19.16
Type 'd'	67	16.66	27	6.66	94	11.66

Type 'a'= breakfast + lunch + dinner

Type 'b'= breakfast + lunch + tea + dinner

Type 'c'=breakfast + lunch + mid morning + tea + dinner

Type'd'=breakfast + lunch + tea + dinner + bed time.

Table 1 shows that maximum number of adolescents, 45% , adopted meal pattern Type 'a' (breakfast + lunch + dinner) followed by 24.16 %, 19.16 % and 11.66 % adolescents Type 'b' (breakfast + lunch + tea +dinner), Type 'c' (breakfast + lunch +mid morning + tea + dinner) and Type 'd' (breakfast + lunch + tea + dinner + bed time) respectively.

Table 2: Distribution of adolescents according to their source of drinking water

Water source	Boys n=400		Girls n=400		Total N=800	
	No.	**%**	**No.**	**%**	No.	%
Direct from tap	253	63.33	280	70	533	66.66
Aqua guard	47	11.66	33	8.33	80	10

Filter water	20	5	20	5	40	5
Anyother source	80	20	67	16.66	147	18.33

According to table 2, about 66.66 % adolescents are taking direct water from tap/hand pump and 10 %, 5% from aquagard and filter water respectively.

Table no. 3: Food frequency consumption in adolescent

Food Items	**Every day**		**4-6 times in a week**		**2-4 times in a week**		**1-2 times in a week**		**Occasionally**		**Never**		**Total n=800**	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Cereals & Pulses	800	100	-	-	-	-	-	-	-	-	-	-	800	100
Milk& products	360	45.00	160	20	147	18.3	27	3.33	53	6.67	53	6.67	800	100
Green leafy vegetables	107	13.33	320	40	200	25.0	120	15.0	40	5.00	13	1.67	800	100
Roots & tubers	787	98.33	13	1.67	-	-	-	-	-	-	-	-	800	100
Other vegetables	533	66.67	200	25.0	27	3.33	27	3.33	13	1.67	-	-	800	100
Fruits	280	35.00	253	31.6	67	8.33	27	3.33	173	21.67	-	-	800	100
Meat & poultry	-	-	40	5.00	80	10.0	27	3.33	40	5.00	613	76.6	800	100
Fats & Oils	800	100	-	-	-	-	-	-	-	-		-	800	100
Sugar/ Jaggery	800	100	-	-	-	-	-	-	-	-		-	800	100

Tables no. 3 shows that all adolescents (100 %) were taking cereals and pulses daily. Sugar, fats and oils were also consumed on a daily basis. Vegetables, fruits, fats and oils, milk and milk products and sugar and jiggery was lower than their respective recommended dietary intake in the daily diets of adolescents.According to **UNICEF (1997)** extensive survey carried out in different parts of Indian, both rural and urban areas, indicate that the diets are predominantly cereal based and so these diets are deficient in several nutrients, deficiencies of these nutrients therefore occur frequently and to a greater degree among children. Inadequate intake of nutrients compounded by poverty is the main cause of nutritional deficiency disorders.

Table no. 4: Frequency of physical activities among Adolescent boys

Physical activities	Indoor games	Outdoor games	Morning /evening walk	Yoga/exercise
Everyday	35 (8.75%)	30 (7.5%)	45 (11.25%)	40 (10%)
4-6 times in a week	148 (37%)	25 (6.25%)	32 (8%)	45 (11.25%)
2-4 times in a week	57 (14.25%)	45 (11.25%)	50 (12.5%)	32 (8%)
1-2 times in a week	80 (20%)	170 (42.5%)	160 (40%)	55 (13.75%)
Occasionally	30 (7.5%)	100 (25%)	30 (7.5%)	80 (20%)
Never	50 (12.5%)	30 (7.5%)	83 (20.75%)	148 (37%)

Table 5: Frequency of physical activities among adolescent girls

Physical activities	Indoor games	Outdoor games	Morning /evening walk	Yoga/exercise
Everyday	45 (11.25%)	25 (6.25%)	40 (10%)	30 (7.5%)
4-6 times in a week	65 (16.25%)	40 (10%)	52 (13%)	40 (10%)
2-4 times in a week	72 (18%)	45 (11.25%)	60 (15%)	30 (7.5%)
1-2 times in a week	105 (26.25%)	95 (23.75%)	80 (20%)	74 (18.5%)
Occasionally	40 (10%)	90 (22.5%)	64 (16%)	78 (19.5%)
Never	73 (18.25%)	105 (26.25%)	104 (26%)	148 (37%)

Regular physical activity is recommended for health maintenance in adolescence, but basic descriptive epidemiological data are lacking for this age group. The present study table 4 and 5 clearly examined sex differences in physical activity. Boys reported more vigorous exercise outside of school and during school physical education, as well as more participation in sports teams, but girls reported taking more activity-related lessons and classes. These data may be used to identify specific activities that may be preferred by subgroups of adolescents and specific variables that can be targeted in physical activity promotion programs for adolescents.

Conclusion

Many adolescents fail to meet multiple diet and physical activity recommendations, supporting previous evidence that physical activity and dietary behaviours do not occur in isolation. Differences in dietary and physical activity behaviours between adolescent boys and girls should be taken into consideration when assessing the efficacy of strategies promoting multiple health behaviour change. Available data suggest that the adolescents had less intake of all important foods/nutrients required for proper growth and development. Only when children and adolescents get required nutrients they can reach their potential in physical growth and motor coordination.

Future studies should assess not only the relationships between the physical activities and the dietary behavior but also the relationships among the determinants as well as a multivariate approach to build the most useful health parameters.

References:

- Mahshid Pirouznia, (2001) "The influence of nutrition knowledge on eating behavior – the role of grade level", Nutrition & Food Science, Vol. 31 Issue: 2, pp.62-67, https://doi.org/10.1108/00346650110366964
- Kremers SPJ, De Bruijn GJ, Schaalma H, Brug J: Clustering of energy balance-related behaviours and their interpersonal determinants. Psychol Health 2004, 19:595-606.
- Driskell MM, Dyment S, Mauriello L, Castle P, Sherman K: Relationships among multiple health behaviors for childhood and adolescent obesity prevention. Prev Med 2008, 46:209-215
- Sanchez A, Norman GJ, Sallis JF, Calfas KJ, Cella J, Patrick K: Patterns and Correlates of Physical Activity and Nutrition Behaviors in Adolescents. Am J Prev Med 2007, 32:124-130.
- Dwyer JT, Evans M, Stone EJ, Feldman HA, Lytle L, Hoelsher D, Johnson C, Zive M, Yang M: Adolescents' eating patterns influence their nutrient intakes. J Am Diet Assoc 2001, 101:798-802.
- World Health Organization: Young people's health in context: selected key findings from the Health Behaviour in Schoolaged Children study. Fact Sheet EURO/04/04. [http:// www.euro.who.int/document/mediacentre/fs0404e.pdf].

- Srilakshmi, B. (2006).Nutrition Science,Revised Second edition. New Age International (p) Limited Publishers: 328-337,392
- Swaminathan, M.(2007),Assessment of nutritional status. Advanced text book on Food and Nutrition, The Bangalore printing and publishing Ltd., volume-2, 300-310, 336-340.