Original article:

Cross sectional Study on Nutritional Status and Morbidity pattern among School going Adolescents in Rural Health Training Centre, Patancheru, Hyderabad District –Telangana

Dr. Hari Krishna B.N [1], Dr. M Sreedhar [2], Dr .Madhukeerthi [3]

1. Assistant Professor, Department of Community Medicine, Esic Medical College, Hyd.
2.Associate Professor, Department of Community Medicine, Osmania Medical College, Hyd.
3.Senior Resident, Department of Community Medicine, Osmania Medical College, Hyd.
Corresponding author: Dr. M Sreedhar

Abstract

Back ground: In India, adolescents (10-19 years) constitute 21.4 percent of the population. The health and nutritional status of the children is an index of the national investment in the development of its future manpower.

Objectives: To assess the nutritional status and morbidity among the school going adolescents.

Materials and Methods: A cross sectional study was carried out in a government high school patancheru in the field practice area of rural health training centre of Osmania medical college, Hyderabad as a part of school health camp in the year 2017. Nutritional status of the adolescents was assessed through Body Mass Index and morbidity was assessed using a pre-designed, pre-tested, semi-structured questionnaire. A total of 100 children in the age group of 10 to 16 years were examined. Data was entered and analyzed by using SPSS-17 version. Chi- square test was used for assessing statistical significance.

Results: 53% of the adolescents were found to be normal and 47% were underweight. Early adolescents were at highest risk of underweight accounting for 78.8% compared to late adolescents 21.2% whereas 24% of the school going adolescents had anaemia. Girls suffering from anaemia (34.2%) are more compared to boys (17.7%). About 12% of the study subjects had dental caries while 14% of the study subjects were found to be suffering from refractive error. Other morbidities included worm infestation (13%), skin problems (9%) tonsillitis (3%) and wax in the ear (9%).

Conclusions: The study shows poor nutritional status among the adolescents. The common morbidities included anaemia, dental caries, refractive errors, worm infestations and skin infections. A periodical and regular health check-up with efforts towards their nutrition along with focused health education will improve the health and nutritional status of these school going adolescents.

Introduction:

Adolescence has been defined by the World Health Organization as the period of life spanning the ages between 10 to 19 years1. In India, adolescents (10-19 years) constitute 21.4 percent of the population, comprising one fifth of the total population.[2]

Adolescents form a crucial segment of population as it was, the vital 'bridge' between the present and the next generation[3.] The health and nutritional status of the children is an index of the national investment in the development of its future manpower.4 poor nutrition among adolescents resulting in short stature and low lean body mass is associated with many concurrent and future adverse health outcomes. Achievement of optimum growth during this period is of utmost importance in maintaining good health thereafter. Therefore comprehensive health care of this section will

www.ijbamr.com P ISSN: 2250-284X , E ISSN : 2250-2858

fulfils the health need of 1/5 population. School health services provide an ideal platform to detect the health problems early and treat them. Early detection of the morbidities through regular survey helps in prompt treatment and prevention of serious complications5. Therefore this study was carried out with the objective to assess the nutritional status and morbidity pattern among school going adolescents.

Aim/Objective:

To assess the nutritional status and morbidity pattern among the school going adolescents in a private school patancheru.

Materials & Methods:

Study setting: A government school in patancheru---100 students **Study Design**: Cross-sectional study **Study Duration:** As a part of school health camp Method: Census survey Selection of **study subjects:** All the students who were present in the school (from 10 years to 19 years) **Inclusion criteria:** 10 years to 19 years **Exclusion criteria**: Absent on the day of school health camp **Study instruments:** Pre tested semi structured interviewed schedule, measuring tape, Weighing machine, Otoscope. After obtaining permission from the institution and verbal consent from the subjects and headmaster each child was identified by name, age, sex and weighing scale was used to measure the weight in kilograms. The scale was calibrated against known weight regularly. Zero error was checked for and removed everyday if present. Cloths were not removed, as adequate privacy was not available (in classroom). The weights were recorded to the nearest 100 gms. Height in centimetres was marked on wall in school with the help of a measuring tape. The students were asked to stand with heels together and head positioned in such a way that the line of vision was perpendicular to the body. A scale was brought down to the topmost point on the head of students standing against the wall where the calibration was done. The height was measured to the nearest 0.5cm. Health Examination of each and every student underwent a thorough physical and systemic examination including a careful clinical history. The personal hygiene was assessed by observing them. The parents and children were provided with health information and suggested to contact the nearest health institution if needed.

Data was analyzed using SPSS version 17. Mean, standard deviation and percentile values were calculated for weight, height for all ages. Appropriate statistical tests were applied wherever necessary and p value <0.05 was considered as statistical significant.

Results:

Table 1: Gender wise distribution of study subjects (n=100)

Gender	Number	Percentage (%)
Boys	62	62
Girls	38	38
Total	100	100

*Boys are more (62%) in number when compared to girls (38%)

www.ijbamr.com P ISSN: 2250-284X , E ISSN : 2250-2858

Table: 2 Distribution of adolescents (n=100)

Adolescents	Number	Percentage (%)
Early adolescents (10-14 years)	86	86
Late adolescents (15-19)	14	14
Total	100	100

*Early adolescents (10-14 years) are more (86%) in number when compared to late adolescents.

Table: 3 Distribution of adolescents based on weight (n=100)

Adolescents	Underweight (%)	Normal (%)	Total (%)
Early adolescents (10-14 years)	37(78.8%)	49(92.4%)	86(86%)
Late adolescents (15-19years)	10(21.2%)	4(7.6%)	14(14%)
Total	47(100%)	53(100%)	100(100%)

X^2 =3.9; p= 0.04

*Table 3 showing 37(78%) early adolescents are underweight when compared with late adolescents who are making a total of 10(21.2%) and there is significant association between age and weight (p=0.04).

Table: 4 Distribution of adolescents based on height (n=100)

Adolescents	Stunting (%)	Normal (%)	Total (100%)
Boys	24(38.7%)	38(61.3%)	62(100%)
Girls	24(63.2%)	14(36.8%)	38(100%)
Total	52(52%)	48(48%)	100(100%)

X^2 =5.642; p= 0.01

*Table 4 showing 38.7% boys and 63.2% girls are having stunted growth and there is significant association between gender and height (p=0.01).

www.ijbamr.com P ISSN: 2250-284X , E ISSN : 2250-2858

Table: 5 Distribution based on morbidity pattern (n=100)

Nutrional problems	Boys (n=62) (%)	Girls(38) (%)	Total (100)
Anemia	11(17.7%)	13(34.2%)	24(24%)
Vit A deficiency	2(3.2%)	1(2.6%)	3(3%)
ENT PROBLEMS			
Tonsillitis	3(4.8%)	0	3(3%)
Pharyngitis	5(8%)	2(5.3%)	7(7%)
CSOM	2(3.2%)	1(2.6%)	3(3%)
Wax in ear	6(9.7%)	3(7.9%)	9(9%)
EYE PROBLEMS			
Refractive errors	10(16.2%)	4(10.5%)	14(14%)
Conjunctivitis	2(3.2%)	1(2.6%)	3(3%)
SKIN PROBLEMS			
Pyoderma	2(3.2%)	1(2.6%)	3(3%)
Fungal infections	3(4.8%)	3(7.9%)	6(6%)
ABDOMINAL PROBLEMS			
Worm infestation	9(14.5%)	4(10.5%)	13(13%)
DENTAL PROBLEMS			
Dental caries	7(11.3%)	5(13.3%)	12(12%)
Total	62	38	100

Table5. Showing 24% of the school going adolescents had anaemia with girls suffering more 34.2% as compared to boys 17.7%. 12% adolescents had dental caries. 14%adolescents were found to be suffering from refractive error. 13% adolescents had worm infestation .9% adolescents had skin problems. 22% adolescents had ENT problems.

Discussion:

The entire school going adolescents in the age groups of 10 – 19 years were examined in this study. School health surveys give excellent chance to screen a huge number of pediatric populations with minimum resources. The present study was undertaken to find out the nutritional status and morbidity patterns of the students. A survey done in Pokhara, found that the prevalence of wasting and stunting in the school children (4-15 years of age) are 10.3 % and 14.9% in six governmental primary school in Pokhara valley[6] which is lower when compared to the present study where 38.7% boys and 63.2% girls are showing stunting. In World, the prevalence of malnutrition in term of Underweight, stunting and wasting are 27%, 31% and 10% respectively[7] Nutritional deficiency related health problems were strikingly high in the present study. Overall 24% of the school going adolescents had anaemia with girls suffering more 34.2% as compared to boys 17.7%. Panda et al[8] also observed the similar results for anaemia among adolescents. a study done in Bhaktapur found the prevalence of important problems detected were ear problems(22.03%), worm infestation (16.10%) and dental caries (13.56%).[9] whereas in the present study ear problems (12%) worm infestations (13%) dental caries (12%). The survey done in Pokhara, found the prevalence of dental caries (41.5%), worm infestation (33.7%) in both sexes in six governmental primary school in Pokhara valley.[6] which is high compare to the present study. As per DG Dhambare et al[10] 35.34% Adolescents had dental caries which is very high compare to the present study dental caries (12%).

Conclusions:

The study shows the poor health and nutritional status among the adolescents. A periodical and regular health check-up with dedicated efforts towards their nutrition along with focused health education will improve the health and nutritional status of these school going adolescents. The development of a country depends upon the development of children thus; if we help these children today the nation will get civilized citizen tomorrow. I sincerely acknowledge Dr.Siva balajireddy, rhtc staff on others who helped me in this study.

References:

1. GHAI O.P., GUPTA P. & PAUL VK (2004): Essential Paediatrics; 6th ed. CBS Publishers and Distributors, New Delhi, p. 66-7.

2. Adolescents growth in girls – The Indian perspective. Editorial. *Indian Pediatrics.* 1990;27:149 -55

3. Raman, L. 1992. Health and nutritional problems of adolescent girls. Nutrition, 10, (5), National Institute of Nutrition, Hyderabad, India. Pp 8-12

4. Goyal RC, Chavan UA. Health status of school children in Ahmednagar city. *Indian J of Maternal and Child Health.* 1993;4(3):81-83

5.Panda P, Benjamin AI, Singh S, Zachariah P. Health status of school children in Ludhiana city. *Indian J of Community Medicine.* Oct – Dec 2000;Vol. XXV(4):150–155.

6. L. Shrestha, J. Khatri. Health status of school children of Pokhara valley, Nepal. J. of Nepal Med Asso 2003; 42(147):128-32.

7. UNICEF. (2004). The state of the world's children.

8. Panda P, Benjamin AI, Singh S, Zachariah P. Health status of school children in Ludhiana city. *Indian J of Community Medicine.* Oct – Dec 2000;Vol. XXV(4):150–155.

9. S. Pandeys, I. Dudani, A. Pradhan. Health Profile of School Children in Bhaktapur, Nepal. Kathmandu Uni Med J, 2005; 3(3): 274-80.

10. Dambhare DG, Bharambe MS, Mehendale AM, Garg BS. Nutritional Status and Morbidity among School going Adolescents in Wardha, a Peri-Urban area. *Online J Health Allied Scs.* 2010;9(2):3