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Epidemiological Study of Health Profile of Adolescent Schoolgirls Residing in Social Welfare Hostel in Rural Area of Kuppam

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Abstract

Introduction: The importance of the health of adolescents has started to receive increasing recognition particularly in developing countries where four out of five of the world's young people live and where more than half the population is under the age of 25. *Aims and Objectives*: The study was done with the objectives of assessing the the health status profiles of adolescent girls residing in welfare hostel in Kuppam town of Andhra Pradesh. *Materials and Methods*: study was conducted among adolescent school girls who were residing in the social and tribal welfare hostel in Kuppam Mandal of Chittoor Disrtict. Andhra Pradesh. *Results*: A total of 218 Adolescent school girls were studied. Our study found out there was high prevalence of undernutrtion (68.8%) which was significantly associated with the younger age. There was also higher prevalence of morbidity conditions like reproductive (26.1%), skin (25.5%) and dental problems (19.3%). Emphasizing regular school health programmes for health education, early detection and proper treatment will curtail the burden of malnutrition among this population.

Keywords: Adolescence; Health; Morbidity; School; Undernutrition.

Introduction

The importance of the health of adolescents has started to receive increasing recognition particularly in developing countries where four out of five of the world's young people live and where more than half the population is under the age of 25 [1]. More than half the world's adolescents live in either the South Asia or the East Asia and Pacific region, each of which contains roughly 330 million adolescents. In India, they constitute around 23 percent of the total population. The period is characterized by a combination of physical changes (puberty), behavior changes and shifts in social grouping. This is also the period of preparation for undertaking greater responsibilities including healthy responsible parenthood. Nutritional and health needs of adolescent are also more because of more requirements for growth spurt and increase in physical activity [2].

Inadequate iron storage during adolescence and before conception is a major cause of iron deficiency anemia during pregnancy, which aggravates the risk of death due to anemia during pregnancy.

Establishment of social welfare hostels is an important measure for the educational advancement of adolescent girls belonging to weaker sections of the society. The health care of this group of

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adolescents is of utmost importance as many of them already being suffering from malnutrition, infectious diseases, anemia, and helminithiasis etc. They may be at further risk of deterioration of health if inadequate food menu is followed in these social welfare hostels. Hence with this background the study was undertaken to assess the health status profiles of adolescent girls residing in welfare hostel in Kuppam town of Andhra Pradesh.

Materials and Methods

This cross sectional study was conducted among adolescent school girls aged 10-19years who were residing in the social and tribal welfare hostel in the Paramasamudram village of Kuppam Mandal of Chittoor Disrtict. Andhra Pradesh, from April to September 2015.A total of 218 adolescent girls were residing in the hostel studying in various classes from 5th to intermediate and were included in the study after obtaining permission from principal of the school. Pre-tested semi structured proforma was used for data collection and it included detailed physical clinical examination of the children present in hostel and the identified health problems were referred to the urban health training center for further management.

WHO Body Mass Index (BMI) classification [3] was used for nutritional status classification after taking anthrometric measurements like height and weight. Hemoglobin estimation was done by Drapkin's method as it is a single step procedure using single reagent and errors due to subjective visual matching can be avoided as spectrophotometer is used and hence the reading would be precise and reliable [4]. The WHO guidelines [5] were used for classification of anemia. The collected data was analyzed by using proportions, percentages and chi-square test. The results were discussed by comparing with other similar studies collected as review of literature and the detailed report was prepared.

Results

Of the 218 adolescent girls studied, majority of them were Hindu (84.9%) by religion and followed by Muslims (15.1%). 39% of study subjects were having three or more siblings, followed by 33.9% had two siblings. Majority of the parents were literates. One third of the mothers were illiterate, whereas 26.2% of fathers were illiterate. Majority of the fathers (94.5%) and almost half of the mothers (53.2%) were working to earn the livelihood (Table 1).

Table 2 shows the various morbidity conditions among the study participants. Majority of them had history of reproductive tract infections (26.1%), followed by skin (21.6%), and dental problems (18.4%). 11% of the subjects were having clinical anemia and other disorders like Vit-B complex deficiency, URTI, ENT problems etc were present in less than 8% of the subjects. Estimation of Hemoglobin levels by Drapkin's method (Table 3) revealed that almost half of them were anemic. Among them, the percentages of mild, moderate, and severe anemia was 19.7%, 23.4%, and 4.6% respectively.

Table 4 depicts that majority of them were classified with severe under nutrition (35.7%), subjects with Mild and Moderate under nutrition were 19.3% and 13.8% respectively. 6.9% were Overweight and none were obese. The proportion of under nutrition was high among younger adolescents of 10-14 yrs age group (80.1%), and it was statistically significant (Table 5).

Table 1: Distribution of socio-demographic variables of study subjects

Variables	No.	Percentage (%)
Religion		
Hindu	185	84.9%
Muslim	33	15.1%
Siblings		
Nil	7	3.2%
One	52	23.9%
Two	74	33.9%
Three or more	85	39%
Father's Education		
Secondary and above	137	62.8%
Primary	24	11%
Illiterate	57	26.2%
Mother's Education		
Secondary and above	124	56.9%
Primary	21	9.6%
Illiterate	73	33.5%
Father's occupation		
Working	206	94.5%
Unemployed	12	5.5%
Mother's occupation		
Working	116	53.2%
Housewife	102	46.8%
Total	**218**	**100**

Table 2: Details of morbidity profile of study subjects (n=218).

Indicators	No.	Percentage (%)
Dental problems	42	19.30%
Vit B complex deficiency	18	8.30%
Thyroid enlargement	9	4.10%
Skin problem	49	22.50%
ENT problem	11	5.00%

Clinical anaemia	26	11.90%
Passing worms in stools	4	1.80%
Pediculosis	5	2.30%
URTI	13	5.96%
h/o RTI	58	26.60%

Table 3: Distribution of adolescent girls according to hemoglobin estimation

Hemoglobin level	No.	Percentage (%)
Normal	114	52.3%
Mild anaemia	43	19.7%
Moderate anaemia	51	23.4%
Severe anaemia	10	4.6%
Total	**218**	**100**

Table 4: BMI classification of study population as per WHO Classification according to BMI

BMI	No.	Percentage (%)
Severe undernutrition (<16)	78	35.7%
Moderate undernutrition (16-16.9)	30	13.8%
Mild undernutrition (17-18.49)	42	19.3%
Normal(18.5-22.9)	53	24.3%
Overweight (23-27.5)	15	6.9%
Obese >27.5	0	0
Total	**218**	**100**

Table 5: Association of nutritional status with age (n=203*)

Age group (in years)	BMI Undernourished	Total Normal	
10-14	109(80.1%)	27(19.9%)	136
15-19	41(61.2%)	26(38.8%)	67
Total	**150(73.9%)**	**53(26.1%)**	**203**

(*Overweight& Obese were excluded.X2= 8.36& p value = < 0.004)

Discussion

Adolescence is a phase separate from both early childhood and adulthood. It is a transitional period that requires special attention and protection. In our study, 68.8% of adolescent girls were under nourished. Similar findings were reported by Goyle A [6], Shivaramakrishna et al [7]. and Joshi SM [8], where the prevalence of under nutrition was 72%, 73.5%, and 69% respectively. This can be attributed to the poor socio economic status as majority of the girls were from rural areas.

High prevalence of under nutrition was seen (80.1%) in the younger age group, i.e., 10-14 yrs as the nutritional requirements in the early adolescent period is high, which is similar to findings by National Nutrition Monitoring Bureau [9] (787%) and by Joshi SM [8].

Our study also found that majority of the girls were suffering from various morbidity conditions such as skin (21.6%), and dental problems (18.4%). Similar findings with respect to skin problems were reported by Gupta KB [10] (23.2%), and Srinivasan K [11] (25.7%). Chabbra P [12] reported the prevalence of dental caries as 16.1% which was similar to our study findings. 26.1% of adolescent girls were having history of reproductive tract infections either in the form of dysmenorrheal, vaginal discharge and burning micturition which was comparable to findings by Wasnik V[3](16.7%).Poor personnel hygiene, overcrowding and lack of knowledge regarding the common infections might be the important contributing factors. Our study noted that 47.7% were anaemic which was lower than the estimates by Seshadri [13] S (60%) and by Padmaja P [14] (68%). This was probably due to different methods applied for haemoglobin estimation.

Conclusion

Focusing on health needs of vulnerable section of population such as adolescent girls from under privileged section of the community, who are residing in social welfare hostels, will give inputs in understanding the factors influencing under nutrition among them. Our study found that there was a significant association between under nutrition and early years of adolescent period. High burden of morbidity conditions were also reported. Measures like conducting school health programmes in the form of regular periodic medical examination and providing treatment will bring down issues pertaining to the morbidity conditions among this group of population. Emphasis should be given to training of school health personnel in early identification of the problems and assisting in referral services, as it forms the crucial component of these school health programmes.

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