ORIGINAL RESEARCH PAPER

Volume-6 | Issue-11 | November-2017 | ISSN No 2277 - 8179 | IF : 4.176 | IC Value : 78.46

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

NUTRITIONAL STATUS AMONG ADOLESCENT GIRLS IN TEA GARDENS OF DIBRUGARH DISTRICT OF ASSAM

Community Medicine

Dr. Benudhar Nath* Assistant Professor, Community Medicine, Tezpur Medical College, Tezpur *Corresponding Author

Dr. Ratna Sarma Professor, Community Medicine, Gauhati Medical College, Guwahati

ABSTRACT

INTRODUCTION: Adolescence is characterized by rapid growth and development; physiologically, psychologically and socially. Among adolescents, girls are more vulnerable due to various adverse socio-cultural and economic reasons. The present study has been undertaken with the following aims and objectives

1. To assess the nutritional status of adolescent girls residing in the tea gardens of Dibrugarh district, Assam.
2. To ascertain the factors influencing nutritional status of adolescent girls residing in the defined study area.

MATERIALS AND METHODS: A community based, cross-sectional study was conducted over a period of one year in tea gardens of Dibrugarh district, Assam. A total of 370 adolescent girls were selected through multistage sampling procedure. Data was collected by interviewing the adolescent girls using predesigned and pre tested Proforma. Statistical analysis was done using Percentage, Mean, and Chi-square test.

RESULTS: The prevalence of thinness and stunting among adolescent girls were 29.19% and 50.27% respectively. A significant association was observed between stunting and educational status of parents ($p<0.05$). 1.08% of the adolescent girls were found to be overweight. Other nutritional deficiency disorders were pallor (94.05%), angular stomatitis (35.13%), goitre (2.43%) etc.

CONCLUSION: It is concluded that there is a high prevalence of under nutrition among adolescent girls in the tea gardens of Dibrugarh district of Assam. Health education and nutrition interventions are needed on priority basis.

KEYWORDS

Adolescent, nutrition, tea garden, Dibrugarh

Introduction

Adolescence, the critical period between 10-19 years is characterized by rapid growth and development; physiologically, psychologically and socially.[1] Due to rapid accretion of new tissues and other widespread developmental changes, nutritional needs are also more during this period of life cycle. However inadequate diet and unfavorable environment in developing countries may adversely influence the growth and nutrition of adolescents[2].

Adolescence is a time of great energy, creativity and productivity and that given the right degree of support and opportunity; they are a great resource for the present and future of all societies. Till now many studies have been done in different parts of our country on health status of adolescents and their morbidity patterns. But very little studies have so far been done in Assam particularly in tea gardens. Therefore, considering the importance of the subject, the present study has been undertaken to assess the nutritional status of adolescent girls residing in the tea gardens of Dibrugarh district of Assam.

Materials and Methods

A community based cross-sectional study was conducted during September/2010 to August/2011, in the tea gardens of Dibrugarh district of Assam through house to house visit. A two-stage sampling design was adopted in the study for the selection of the adolescent girls. Four tea gardens of the districts were selected randomly as first stage unit, followed by random selection of households within the primary sampling unit in the second stage to reach the adolescent girls. All the unmarried adolescent girls in the age group of 10-19 years of the selected households were eligible to participate in the study. Considering the prevalence of under-nutrition among adolescents in the tea gardens of Dibrugarh district as 51.9% [3] and taking 10% of prevalence as allowable error the sample size was calculated to be 370. The relevant data was collected by interviewing the adolescent girls using a pre-designed and pre-tested schedule. Age was recorded in completed years based on birth certificate or other available records. Nutritional status was assessed by anthropometric measurements using standardized methodology as recommended by WHO.[2]

Results

Among the 370 adolescent girls, 65.95% belonged to early adolescence (10-14 years) and 34.05% to late adolescence (15-19 years) age group. Most of them (89.19%) were Hindus and majority of the families (62.97%) were nuclear in type. Overall prevalence of stunting was found to be 50.27%, with a significant difference ($p<0.05$) between early and late adolescent age group (Table 1).

Among 370 adolescent girls, prevalence of thinness was 29.19%, without any significant difference ($p>0.05$) between early and late adolescent age group (Table 1).

A significant association ($p<0.05$) was observed between prevalence of stunting and literacy status of parents, but no significant association ($p>0.05$) was found between prevalence of thinness and literacy status of parents (Table 2).

A statistically significant association ($p<0.05$) between prevalence of stunting and thinness with socio-economic status of the family was found (Table 3).

Discussion

Any impairment of growth and development of adolescent girls will adversely affect the nutritional status of future generations. In the present study, the prevalence of thinness among adolescent girls was found to be 29.19%. Anand K. *et al* in their study also reported almost similar pattern of extent of thinness among adolescent girls from rural north India.[4] Medhi G. K. et al reported an overall prevalence of 41.32% of thinness among adolescent girls in the tea gardens.[3]

In the present study, the prevalence of stunting was found to be 50.27% (Table-1). Das P et al [5], Medhi G. K. et al [3] in their study also found almost similar findings. But Das D. K. et al [6], Choudhury S. et al [7] in their study observed lower prevalence of stunting compared to the present study. These differences of findings might be due to differences of study areas or definition criteria.

The prevalence of stunting was significantly higher among the late adolescent age group than the early adolescent age group (Table-1). As stunting process occurs in early childhood and likely to persist into adulthood, if 'second opportunity' for catch up growth during adolescence is missed; comparatively higher prevalence of stunting among late adolescent age group may also indicate the existence of missed opportunity for catch up growth during their early adolescence. A significant association ($p<0.05$) was observed between literacy status of parents with stunting but not with thinness (Table-2). However Neetu Sing et al [8] observed an association with fathers' literacy status but not with mothers' literacy status. A significant association ($p<0.05$) was also observed between thinness and stunting with the socio-economic status of the family (Table-3). Deshmukh P.R. et al [9], Sing M.B. et al[10] in their study also revealed similar findings.

Conclusion

In the present study, nutritional status among the adolescent girls was found to be poor. A periodical and regular health check-up with concerted efforts towards their nutrition along with focused health education will improve the health and nutritional status of these adolescents' girls in tea garden area of Dibrugarh, Assam.

TABLE 1: PREVALENCE OF THINNESS AND STUNTING AMONG ADOLESCENT GIRLS

Nutritional status	N= 370		10-14 (n=244)		15-19 (n=126)	
	No.	%	No.	%	No.	%
Stunting*	186	50.27	97	39.75	89	70.63
Thinness**	108	29.19	73	29.92	35	27.78
	Total		Age(in years)			

*x^2=31.69, df=1, p<0.05
**x^2=0.184, df=1, p>0.05

TABLE-2: PREVALENCE OF THINNESS AND STUNTING AMONG ADOLESCENT GIRLS ACCORDING TO LITERACY STATUS OF PARENTS

Literacy status-Father	*Stunting No. (%)	**Thinness No. (%)
Literate (n=200)	79(39.50)	62(31)
Illiterate (n=170)	107(62.94)	46(27.06)
Total(N=370)	186(50.27)	108(29.19)

*x^2=20.19, d.f=1, p<0.05
**x^2=0.69, d.f=1, p>0.05

Literacy status-Mother	*Stunting No. (%)	**Thinness No. (%)
Literate (n=109)	36(33.03)	39(35.78)
Illiterate (n=261)	150(57.47)	69(26.44)
Total(N=370)	186(50.27)	108(29.19)

*x^2=18.38, d.f=1, p<0.05
**x^2=3.25, d.f=1, p>0.05

TABLE-3: PREVALENCE OF THINNESS AND STUNTING AMONG ADOLESCENT GIRLS ACCORDING TO THE SOCIO- ECONOMIC STATUS OF THE FAMILY

Socio- economic status	*Stunting No. (%)	**Thinness No. (%)
Class- I	0	0
Class- II	0	0
Class- III	16(8.60)	1(0.93)
Class- IV	82(44.09)	36(33.33)
Class- V	88(47.31)	71(65.74)
Total	186(100)	108(100)

*x^2=8.62, d.f=2, p<0.05
**x^2=12.59, d.f=2, p<0.05

References:

1. WHO. Adolescence; The Critical Phase: The Challenges and the potential. WHO: Regional office of the South East Asia, New Delhi, 1997.
2. Physical status: The use and interpretation of anthropometry. Technical Report Series. Geneva; World Health Organization; 1995. Report No: 854.
3. Medhi G. K., Hazarika N. C., Mahanta J. Nutritional Status of Adolescents among Tea Garden Workers. Indian Journal of Pediatrics. 2007; 74: 343-347.
4. Anand K., Kant S., Kapoor SK. Nutritional status of adolescent school children in rural North India. Indian Pediatrics. 1999; 36: 810-815.
5. Das P., Roy S. K., Jordar G.K., Dasgupta A. Nutritional profiles of adolescents in a rural community of Hoogly district in West Bengal. Indian Journal of Public Health. 2007; 51: 120-121.
6. Das DK, Biswas R. Nutritional status of adolescent girls in a rural area of North 24 Parganas district, West Bengal. Indian Journal of Public Health. 2005; XXXXIX:18-21.
7. Choudhury S, Mishra C.P., Shukla K.P. Nutritional status of adolescent girls in rural areas of Varanashi. Indian Journal of Preventive and Social Medicine. 2003; 34: 54-61.
8. Singh N, Mishra C.P. Nutritional status of adolescent girls of a slum community of Varanashi. Indian Journal of Public Health. 2001; XXXXV:128-134.
9. Deshmukh P.R., Gupta S.S., Bharambe M.S., Dongre A.R., Maliye C, Kaur S, et al. Nutritional status of adolescents in rural Wardha. Indian Journal of Pediatrics. 2006; 73: 139-141.
10. Singh M.B., Haldiya K.R., Yadav S.P., Lakshminarayana J, Mathur M.L., Sachdeva R, et al. Nutritional status of school age children of salt workers in Rajasthan. Indian Journal of Medical Research. 1996; 103: 304-309.