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A Community Based Study to Know The Impact Of Parental Educational Status On Nutritional Profile Of Adolescent Girls In Rural Areas of Hapur District

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ABSTRACT
Background: Adolescent is a period where significant growth changes occur necessitating optimum nutritional requirement. During adolescence 20% of adult height attained and 50% of adult bone mass gained. Girls deposit twice as much body fat as boys at this time, and boys double their lean body mass. As a result nutrition requirement peak in adolescent. Failure to achieve optimum nutrition intake at this time can potentially retard physical growth, intellectual capacity and sexual maturation.

Objectives
To study the effects of parental education on health status of the adolescent girl.
Material and Methods: A community based cross sectional study was carried out among 400 randomly selected adolescent girls belonging to rural area of Pilukhuwa in Hapur District. The data was recorded in pre-designed and semi-structured Questionnaire.
Results: A total of 946 families comprising 4834 individuals were studied to cover the desired sample of 400 adolescent girls. The proportion of adolescent girls aged 10-14 years and 15-19 years comprised of 41.2% and 58.8% respectively. Under nutrition was maximum (50%) in adolescent girls whose mothers were illiterate followed by 41% in girls whose mothers were just literate. Similarly, The prevalence of under nutrition was maximum (100%) in adolescent girls whose fathers were illiterate.
Conclusion: This study found strong association between the health of adolescent girls and education. Illiteracy of adolescent girls and their parent is the main factor of malnutrition among the study population.

Keywords: Adolescent girls, malnutrition, parental education.

I. INTRODUCTION

Adolescence is a period of dramatic growth and development. WHO define adolescence as the period between 10-19 years of age that include pubertal development also. Early (10-13yrs),mid (14-15yrs) and late (16-19yrs) adolescents as described by WHO have different health needs and health status for each of these three groups. This period is very crucial since these are the formative years in life where major physical, psychological and behavioral changes take place. This is also the period of preparation for undertaking greater responsibilities including healthy responsible parenthood Future of society depends on adolescents and they form a great human resource for the society. Nutrition and health needs of the adolescent are also more because of more requirement for growth spurt and increase in physical activity.

Adolescence represents a window of opportunity to shape and consolidate healthy eating and lifestyle behaviors, thereby preventing or postponing the onset of nutrition related chronic diseases in adulthood. In addition preventing nutrition related chronic disease involves prevention of fetal malnutrition.

Over the years, adolescent age group has received low priority mainly because of the lower mortality as compared to other age group. This is reflected in the paucity of data on Indian adolescent .Studies among adolescent have observed that height, weight and body mass index values are significantly lower in those from poor socioeconomic strata than the well to do group. The main nutritional problems affecting adolescent population includes under nutrition and iron deficiency anaemia besides others.

The prevalence of under nutrition is higher among adolescent boys in most of the developing countries as compared to girls except in India. In some developing countries eg. Benin, Cameron and Egypt the nutritional

status of boys showed more stunting than girls. In India on the other hand stunting was far more prevalent among girls than boys 45% compared to 20% which is attributed to gender bias in south Asia.

Besides, various sociodemographic factors play equally important role in the causation of malnutrition in regard to adolescent girl such as poverty, illiteracy, ignorance, presence of infectious diseases, cultural factors, insufficient education, lack of knowledge regarding nutritive value of food, inadequate sanitary environment, large family size, availability of health services Food habits, personal like and dislike also known as food fads, cooking practices, customs, beliefs, traditions and attitudes: Food habits are among the oldest and most deeply entrenched aspects of any culture. They have deep psychological roots and are associated with love, affection, warmth, self image and social prestige. The family plays an important role in shaping the food habits, and these habits are passed from one generation to another.

II. MATERIAL AND METHODS

Sample size:

The present study was conducted in the population registered at rural area of Pilukhuwa in Hapur District. Since there were no baseline data on the quality of services for adolescents, the evaluation assessed levels of quality using Standards Framework in these dedicated adolescent centers. For calculating the sample size because of non availability of data about prevalence of malnutrition in adolescent girls and varying prevalence of different nutritional disorder, the average prevalence of malnutrition is being taken as 50% to calculate the sample size for the study. Therefore by taking prevalence of malnutrition as 50% for confidence level 95% with a relative precision of 10%.

Period of Study-

The data for this study was collected from April 2019 to October 2019.

III. METHODS:

In order to have an effective completion of study, a house to house survey was done from locality to locality so as to cover the desired sample. During home visits, demographic profile of the family was taken along with the interview & examination of eligible persons i.e. adolescent girls aged 10-19 years. All adolescent girls belonging to alternate family were interviewed using oral questionnaire method. If any of the adolescent girls in the family was absent or hostile, during the time of study, the girl in the next family was interviewed. For proper response the heads of the families were explained in detail the purpose of the study. Detailed information was collected on a predesigned & pretested proforma about socio-demographic characteristics & contributory factors responsible for nutritional status by oral questionnaire methods supplemented by physical examination which includes weight, height and BMI.

DATA PROCESSING AND ANALYSIS:

Data was entered into SPSS Version 19.0 and analyzed by using appropriate tests like Chi square test, was applied to find out significant association between independent and dependent variables. A p value of less than 0.05 was considered significant. Results were expressed as in proportion.

IV. RESULTS:

As shown in table 1, 41.2% girls were in the age group 10-14 and rest 58.8% were l5-19 year old.

Table-1 shows that in 10-14 year age group ,BMI was found < 18.5 in 15.8% while in 15-19 year age group 24.7% girls were suffering from under nutrition and this difference in prevalence of under nutrition in relation to age was statistically significant ($P<0.05$).

Literacy Status: As shown in Table-2, maximum girls were educated up to primary class (28.5%) followed by middle class (21.8%), high school (19%) and Intermediate (18.8%). 8.6% of girls were graduate. 1.5% girls were illiterate and 1.8%were just literate.

Table-2 shows that prevalence of undernutrition was maximum (50%%) in illiterate girls, followed by girls who are just literate (42.9%). 30.7% undernutrition was found in girls who were educated till primary , 23% in girls who were educated up to middle ,13.2% undernutrition was found in girls who were educated till highschool and least prevalence of undernutrition was found in girls who were graduate (8.6%) and this difference in prevalence of undernutrition in relation to educational status of girls was found to be statistically significant ($P<0.001$).

Mothers Education:

As shown in the **Table-3**, 1.5% of mothers were illiterate, 9.8% were just literate,22% were educated till primary,28.3% were educated till middle,27.3% were educated till high school, 9% were educated till intermediate and 2.3% were educated till graduate and above.

Table-3 shows that prevalence of under nutrition was maximum (50%) in adolescent girls whose mothers are illiterate,41% in girls whose mothers are just illiterate, followed by primary (26.1%), middle (17.7%) ,high school (15.6%) and 13.8% and o% in intermediate and graduate respectively. The difference in prevalence of under nutrition in relation with education status of mother was found significant (p<.05).

4. Fathers Education:

Table-4, 1.5% fathers were illiterate,9.8% were just literate, 22% were educated till primary,28.3% were educated till middle ,27.3% were educated till highschool,9% were educated till intermediate and 2.3% were graduate and above. shows that prevalence of under nutrition was maximum (100%) in adolescent girls whose fathers were illiterate,62.5% in girls whose fathers were just illiterate, followed by primary (42.6%), middle (28.8%),high school(20.9% and 11.6% and 5.9%in intermediate and graduate respectively. The difference in prevalence of under nutrition in relation with education status of mother was found to be significant (p<.001).

V. DISCUSSION:

The present cross-sectional study was conducted at Rural areas of Hapur Distt. the Field Practice area of Department of Community Medicine,Saraswathi Institute of Medical Sciences Hapur. In all 486 adolescent girls were enumerated amongst whom 400 (82.3%) were covered in the study by house to house visit and rest 17.7.% could not be covered due to either non availability or non-cooperative attitude.The proportion of adolescent girls aged 10-14 years and 15-19 years comprised of 41.2% and 58.8% respectively in the present study.In the present study, the proportion of girls having BMI < 18.5 (undernutrition) was statistically significant (P<0.05) with advancing age being 15.8% in age group 10-14 years and 24.7% in 15-19 year age group .

In the present study 98.5% of adolescent girls were found to be literate with 28.5% educated upto primary class and 44% high school education. In the present study undernutrition was statistically significantly in illiterate girls (50.0%), followed by girls who were just literate (42.9%), and further decreased with increasing literacy with the least prevalence of 11.4% in those girls who were graduate. This may be due to better awareness regarding different preventive measures for a healthy living with increasing literacy.

In the present study prevalence of under nutrition was maximum (50.0%) in adolescent girls whose mothers were illiterate followed by 41.0% in girls whose mothers were just literate and decreased gradually with increasing literacy status of mothers being nil with mothers education up to intermediate and above (P<0.001). Similarly the prevalence of under nutrition in adolescent girl in the present study was maximum (100.0%) in adolescent girls whose fathers were illiterate and decreased gradually with increasing fathers education being maximum(5.9%) with fathers education up to graduate level(P<0.001).

VI. CONCLUSION:

The present study shows that Under nutrition was maximum (50%) in illiterate girls, followed by girls who were just literate(42.9%), and prevalence decreased with increasing literacy being 30.7% ,23% and 13.2% ,12% in girls educated up to primary, middle, high school and intermediate respectively and least in graduate(11.4%) with statistically significant difference (P<0.001).Under nutrition was maximum (50%) in adolescent girls whose mothers were illiterate followed by 41% in girls whose mothers were just literate and decreased with increasing mother's education being 13.8% and nil with mothers education up to intermediate and graduate respectively. (p<.05).Similarly, The prevalence of under nutrition was maximum (100%) in adolescent girls whose fathers were illiterate,62.5% in girls whose fathers were just illiterate, followed by primary (42.6%), middle (28.8%),high school(20.9% and 11.6% and 5.9% in intermediate and graduate respectively (p<.001).

Since it has been seen from the present study that health of an individual is directly related to the education of individuals and their parent. More emphasis should be given on girls education status in country like India.

Table-1 Prevalence of under nutrition in different age strata of sample population:

Age in groups (Yrs.)	No.	%	BMI < 18.5	
			No.	Percentage
10-14	165	41.2	26	15.8
15-19	235	58.8	58	24.7
Total	400	100	84	21.0

χ^2=4.65; df=1; P<0.05

Table-2 Nutritional status of adolescent girls in relation to Literacy status

			BMI					
Educational status	**Population**		**<18.5**		**18.5-24.9**		**>25**	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Illiterate [1]	6	1.5	3	50.0	3	50.0	0	0.0
Just literate [2]	7	1.8	3	42.9	4	57.0	0	0.0
Primary [3]	114	28.5	35	30.7	78	68.4	1	0.9
Middle [4]	87	21.8	20	23.0	62	71.3	5	5.7
High School	76	19.0	10	13.2	60	78.9	6	7.9
Intermediate	75	18.6	9	12.0	59	78.7	7	9.3
Graduate	35	8.6	4	11.4	22	62.9	9	25.7
Total	400	100	84	21.0	288	72.0	28	7.0

For calculation purpose, 1 and 2 were merged in one, 3 and 4 have been merged in one.

$\chi^2 = 55.19$; df = 4; P < 0.001

Table-3 Nutritional status of adolescent girls in relation to Mothers Education

			BMI					
Mothers Education	**Population**		**<18.5**		**18.5 - 24.9**		**>25**	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Illiterate	6	1.5	3	50.0	3	50.0	0	0.0
Just literate	39	9.8	16	41.0	23	58.9	0	0.0
Primary	88	22.0	23	26.1	63	71.7	2	2.3
Middle	113	28.3	20	17.7	88	77.9	5`	4.4
High School	109	27.3	17	15.6	84	77.1	8	7.3
Intermediate[1]	36	9.0	5	13.8	21	58.3	10	27.8
Graduate and above[2]	9	2.3	0	0.0	6	66.7	3	33.3
Total	400	100	84	21.0	288	72.0	28	7.0

χ^2=19.18; df 5; P<0.05, for chi square purpose 1 and 2 have been merged in one.

Table-4 Nutritional status of adolescent girls in relation to Fathers education

			BMI					
Fathers Education	Population		<18.5		18.5-24.9		>25	
	No.	%	No.	%	No.	%	No.	%
Illiterate1	1	1.5	1	100	0	50.0	0	0.0
Just literate2	8	9.8	5	62.5	3	58.9	0	0.0
Primary3	28	22.0	12	42.6	15	71.7	1	3.6
Middle	93	28.3	24	28.8	66	77.9	3	3.2
High School	124	27.3	26	20.9	90	77.1	8	6.5
Intermediate4	129	9.0	15	11.6	103	58.3	11	8.5
Graduate and above5	17	2.3	1	5.9	11	66.7	5	29.4
Total	400	100	84	21.0	288	72.0	28	7.0

χ^2=27.22 ; df 3; P<0.001, for chi sqare purpose 1,2 and 3 have been merged in one ,4 and 5 merged in another one.

REFERENCES:

[1]. Indian Journal of Public Health Vol. XXXXVIII No. 4 Oct.-Dec., 2004, 155-156.
[2]. WHO/ UNFDA/UNICEF statement, there productive health of adolescent,Geneva,WHO,1989.
[3]. Greydanus DE, Pratt HD, Patel DR. The first three years of life and the early adolescent. Comparisons and differences-lessons for child rearing. International Pediatrics 2004,19 (2);68-80
[4]. Textbook of Social and Preventive medicine,20th edition,515-521.
[5]. Singh Rita (2002): An epidemiological study of anaemia in adolescent girls in an urban area of Meerut (Thesis submitted for M.D. in Community Medicine, C.C.S. University, Meerut).
[6]. Anand K et al (1999): Nutritional status of adolescent school children in rural North India. Ind Pediatr, 36; 810-815.
[7]. Kapoor G and Aneja S (1992): Nutritional disorders in adolescent girls. Indian J of Pediatric, Aug, 29(8); 969-973.
[8]. A. Acharya,V. P. Reddaiah, N. Baridalyne,Nutritional Status and Menarche in Adolescent Girls inan Urban Resettlement Colony of South Delhi. Indian Journal of Community Medicine Vol. 31, No. 4, October-December, 2006,302.
[9]. Mukhopadhyay A.Bhadra M.Bose K. Anthropometric assessment of nutritional assessment of adolescent ,Kolkata,West Bengal,J.Hum E col 1998,18:213-6.
[10]. Census of India: Provisional population total (Paper 1 of 2001) Registrar and census commissioner for India, New Delhi 2001.
[11]. A. Saibaba, M.MohanRam,G.V.RamanaRao, Uma Devi, T.S. Syamala. Nutritional status of adolescent girls of urban slums and the impact of IEC on their nutritional knowledge and practices. Indian Journal of Community Medicine Vol. XXVII, No.4, Oct.-Dec.,2002. 151-156.
[12]. S. Choudhary, C. Mishra & K. Shukla : Correlates Of Nutritional Status Of Adolescent Girls In The Rural Area Of Varanasi. The Internet Journal of Nutrition and Wellness. 2009 Volume 7 Number 2.

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