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A study on the morbidity pattern in adolescent school girls

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ABSTRACT

Background: The World Health Organization (WHO) has defined adolescence as the age group of 10-19 years According to World Health Organisation, adolescents constitute about one fifth of the world population, and in India they constitute about 21% of the total population. Adolescent girls are the worst sufferers of various forms of malnutrition because of their increased nutritional needs and low social power. If their nutritional needs are not met, they are likely to give birth to undernourished children, thus transmitting under nutrition to future generation. Objective was to study the various socio-demographic factors affecting the nutritional status in adolescent girls.

Methods: A school based cross-sectional study was carried out in Lucknow district. Adolescent girls of age groups 10-19 years were included in the study. Data was collected, compiled and tabulated using Microsoft Excel and analysed using SPSS 17.0 version for calculation of percentages.

Results: Rural background, low socioeconomic status, illiteracy, birth rate and order, income and number of members in a family have shown to be significant determinants of morbidity pattern in the adolescent girls.

Conclusions: Among the various morbidities eye problem was seen in maximum no of adolescent girls. Eye problem was present in 31% of adolescent girls followed by respiratory (12.8%) and ear (11.5%) disease. Skin disease was present in 3.1% of adolescent girls, which was more in rural girls than in urban girls, may be due to better hygienic practice in urban school girls.

Keywords: Morbidity, Adolescent, Gynaecological, School girls

INTRODUCTION

The world health organization (WHO) has defined adolescence as the age group of 10-19 years. ^{1,2} It is a period of rapid growth and development, physiologically, psychologically and socially. Adolescent constitute about one fifth of the world's population. ¹ In India they account for 21% (Approximately 230 million) of the total population. ¹ among which the adolescent girls comprise about 10.3% of the total population of India. ^{3,4} Twenty five percent of adult height, and up to fifty percent of adult weight are attained during adolescence. Adolescent

period is a growth stage of a girl's life, and also is a unique intervention point in the lifecycle for a number of reasons, It is the time when a girl is stepping from child to womanhood, which is accompanied with hormonal and physical changes marked by spurt in growth. Nutritional deficiency disorders (stunting, wasting), menstrual disorders, RTIs/ STIs/ HIV/ AIDS have been appeared as serious problem during this stage. The vicious cycle of under nutrition and its impact on health status of adolescent girls is increasingly being studied in terms of nutritional deficiencies. One of the major impacts of under nutrition and compromised health status of

adolescent girls is reflected by high prevalence of anaemia.

Objective

To study the various morbidity pattern in adolescent girls.

METHODS

A school based cross-sectional study was carried out for six months from January 2015 to June 2015. Multi-stage random sampling technique was used to select the requisite number of girls.

First stage: In the first stage, Lucknow district was divided into urban and rural areas. Then urban area was divided into six zones, from that four zones were randomly selected.

Second stage: In the second stage, from each zone one senior secondary school was selected randomly from the listed Government senior secondary schools.

Third stage: Rural Lucknow was divided into eight blocks of which two blocks were randomly selected. In the next step from each block; one senior secondary school was randomly selected from listed Government senior secondary schools. By using multistage random sampling technique, four schools were randomly selected in urban area and 224 adolescent girls were chosen from these schools. Similarly in rural area two schools were

randomly selected and from there 96 adolescent girls were chosen. (In Lucknow District 70% of the population lives in urban area and 30% of the population lives in rural area). The socio-demographic data of all the adolescent girl was recorded. Bio-social characteristic of adolescent girl were Age, Birth order, total family member, type of family, religion, caste, education status, education and occupation of parent's total family income, with the help of these per capita income was calculated. The socioeconomic status was determined using Modified B. G. Prasad classification 2013. The pre tested questionnaire included head to toe clinical examination; history of chronic illness in last 6 months and the symptoms of illness were recorded. Informed consent was taken from each adolescent and the purpose of the study was explained prior to administration of tool, confidentiality was assured. Health status of the adolescent girls was assessed by the morbidity pattern. Data was collected, compiled and tabulated using Microsoft Excel and analysed using SPSS 17.0 version for calculation of percentages.

Interview was started with general discussion to gain confidence and it slowly extended to the specific points.

RESULTS

A total 320 school going adolescent girls (224 urban and 96 rural) aged 10-19 years were interviewed. Our study revealed that the mean age of rural schools it was 14.3 years (S.D.±2.0).

Urban (n=224) Rural (n=96) **Total (n=320)** Age % (yrs) No. % No. % No. 10 8 3.6 5 5.2 13 4.1 11 23 7.8 30 9.4 10.0 74 33.0 198 30.9 25 26.0 26 7 7.3 33 12 11.8 10.5 23 7.6 6 5.7 7.0 13 17 14 19.2 23.4 43 22 65 20.5 22 370 57.8 39 54.9 22.4 121 15 123 17.4 62 64.6 18.9 16 41 18.3 18 18.8 118 18.4 17 30 6.7 6 3.1 36 5.6 18 15 54 3.3 12.1 7 18 3.6 9.4 22 72 3.4 11.3 19 2.0 5 2.6 14 2.2 14.2± $14.3 \pm$ $14.12 \pm$ Mean age±S.D. 2.1 2.0 2.1

Table 1: Distribution of adolescent school girls by age.

In our study, majority of adolescent girls were Hindus (72.7%), while Muslim girls were only (27.3%). About 41.9% of the adolescent girls in our study belonged to other backward classes.

Table 3 shows the system wise morbidity pattern in adolescent school girls. 36.6% girls of urban and 17.7% girls of rural school girls were having eye problem. 12.9% girls in urban and 12.5% girls in rural school were having respiratory tract infection. About 10.7% of urban

and 11.4% of rural adolescent girls were suffering with reproductive system morbidity. The morbidity related to eye was significantly associated with place of study (p value=0.004).

Table 4 shows that there was no association seen between reproductive tract illnesses and place of schools. A total of 8.1% girls had vaginal discharge in which urban was 6.6% and rural was 5.7%.

Table 2: Distribution of adolescent school girls according to their biosocial characteristics.

Bio-social	Urban (n=224)		Rural (n:	Rural (n=96)		Total (n=320)	
Characteristics	No.	%	No.	%	No.	%	
Religion							
Hindu	154	68.5	79	82.3	233	72.7	
Muslim	70	31.5	17	17.7	87	27.3	
Caste							
General	83	36.8	30	31.8	113	35.3	
OBC	91	40.4	43	45.3	134	41.9	
SC/ST	51	22.8	22	22.9	73	22.8	
Type of family							
Nuclear	190	85.0	71	74	261	81.7	
Joint	34	15.0	25	26	59	18.3	
Total family members							
Upto 5	103	45.8	41	43.2	144	45.0	
>5	121	54.2	55	56.8	176	55.0	
Birth order							
1-2	133	59.2	58	60.9	191	59.7	
3-4	72	31.9	26	27.6	98	30.6	
≥5	20	8.9	11	11.5	31	9.7	
Socio Economic Status	(SES)•						
I	10	4.5	0	0	10	3.1	
II	86	38.2	4	4.2	90	28.0	
III	74	32.8	53	55.2	127	39.5	
IV	55	24.6	39	40.6	94	29.4	
V	-	-	-	-	-	-	

[•]According to Modified B G Prasad classification for Socio Economic status 2013.

Table 3: Distribution of system wise morbidity pattern in adolescent school girls.

Systemic	Urban (N=224)		Rural	Rural (N=96)		(N=320)	Urban vs rural	
Morbidity	No.	%	No.	%	No.	%	p-value**	
Skin	5	2.2	5	5.2	10	3.1	0.297	
Eye	82	36.6	17	17.7	99	31	0.004	
Ear	26	11.6	11	11.4	37	11.5	1.000	
Respiratory	29	12.9	12	12.5	41	12.8	1.000	
Git	21	9.3	6	6.2	27	8.4	0.492	
Cardiovascular system	12	5.3	8	8.3	20	6.2	0.457	
Reproductive system	24	10.7	11	11.4	35	10.9	1.000	

Table 4: Distribution of adolescent school girls according to reproductive tract morbidity.

Reproductive tract	Urban (n=224)		Rural (n:	Rural (n=96)		n=320)	■ P value**
illnesses	No.	%	No.	%	No.	%	P value***
Lower abdominal pain	3	1.3	0	0	3	0.9	0.613
Vaginal discharge	15	6.6	11	5.7	26	8.1	0.238
Others	6	2.6	0	0	6	1.8	0.245

DISCUSSION

In the present study majority (57.8%) of girls were in the age group 14-16 years and 11.3% girls were in 17-19 years age group. In my study the mean age in rural schools was 14.3 years (S.D. \pm 2.0) with overall mean age of 14.12 years (S.D. \pm 2.1). However Baliga et al and

Guduri et al in their study reported that the mean age of rural adolescent girls was (12.9 ± 2.0) years and (12.67) years respectively which was less than our study.^{7,8}

In our study, majority of adolescent girls were Hindus (72.7%), while Muslim girls were only (27.3%). Overall 41.9% adolescent girls belonged to other backward

classes (OBC). As per NFHS-3, 82.6% of households in Uttar Pradesh were Hindus and 16.3% Muslims. Overall 41.9% adolescent girls belonged to other backward classes (OBC). Overall 41.9% adolescent girls belonged to other backward classes (OBC) in my study; However Tripathi et al reported a higher proportion (53.2%) of general class. The reason for predominance of other backward class school girls in my study may be because of the scholarship being offered to this group. 10

Our study revealed that skin disease was observed a total in 3.1% with 2.2 and 5.2% of girls in urban and rural schools respectively. The adolescent girls of urban schools were very much conscious about their skin and were more particular regarding personal hygiene care practices than compared to rural school girls which was different to that of Sachan et al who reported that skin disease in 3.2% of girls in both the urban and rural schools.¹¹

In our study, the eye morbidity was observed in 31% of adolescent girls. These results are almost similar to Sachan et al (11.7%) and Yerpude et al (12.5%). 11,12 Our study revealed that eye morbidity was more (36.6%) in urban girls when compared with rural school girls (17.7%), which was concomitant to the observation by Sachan et al who reported eye morbidity in 12.4% and 9.8% girls in urban and rural schools respectively. 13 The reason behind this may be that the girls of urban schools are more fond of watching television as compared to the girls of rural schools.

In the present study among the systemic morbidity, eye morbidity was observed in (31%), followed by respiratory (12.8%) and ear (11.5%). Almost similar finding was seen in a study conducted by Yerpude et al who reported the prevalence of ophthalmic problems (12.5%), and respiratory infection (8.33%). ¹² In contrast Wasnik et al, reported eye morbidity in 4% girls, respiratory tract infection in 2.4% girls and ear problem among 2.1% of the girls. ¹⁴ These differences in the later study may be due to better personal hygiene practices adopted by girls in their study.

CONCLUSION

Majority (57.8%) of girls were in the age group of 14-16 years. The overall mean age was 14.12 years. About 72.7% adolescent girls were Hindus which is almost similar to the finding of NFHS-3, of Uttar Pradesh. The highest percentage of girls belonged to other backward classes (OBC) may be due to the scholarship which is offered to the group. Among the various morbidities eye problem was seen in maximum no of adolescent girls. Eye problem was present in 31% of adolescent girls followed by respiratory (12.8%) and ear (11.5%) disease. Skin disease was present in 3.1% of adolescent girls, which was more in rural girls than in urban girls, may be due to better hygienic practice in urban school girls.

Health care seeking behaviour during reproductive illness was found to be very poor. Almost all girls reported 'no need of treatment' as a reason for not seeking health care. Health education sessions regarding reproductive health and its morbidities should be conducted in schools and colleges and in communities.

The study shows a high prevalence of gynecological morbidity among adolescent girls. A total of 8.1% girls had vaginal discharge, majority of the girls do not seek health care till it becomes serious. The continued high prevalence of gynecological morbidity is influenced by the prevailing cultural and traditional relationships regarding health care practices. Financial constraint is also an important determinant of health seeking behaviour. Most of the adolescent girls reported that they did not seek reproductive health services due to lack of money. In addition, limited mobility of adolescent girl and the need for male relatives or father's accompaniment also delays seeking treatment. Due to the lack of knowledge on reproductive health issues, adolescent girls are less open and frank in discussing their reproductive health problems compared with older women. They were also embarrassed to seek treatment and did not discuss about their problems with anyone at home. Health personnel also tended to attribute the girls non-utilization of reproductive health services to social stigma attached to these problems.

Adolescent girls are the mothers of tomorrow, and no edifice can be built on a foundation that is weak, and if we could not give a safe and secure today to the mother of tomorrow, it will be futile to expect the future generation to be mentally and physically healthy. ¹³ Hence our recommendation will be following.

- a) Health education is important for improving the health status of adolescent girls and this should be imparted in all the schools either by taking help of local medical officer or a teacher of the school itself.
- b) Adolescent girls are the beneficiaries of various nutrition related programmes like Kishori shakti Yojana, WIFS (Weakly Iron and Folic Acid supplementation) and RMNCH+A (Reproductive, Maternal, Newborn, child and Adolescent health) programme.

ARSH (Adolescent Reproductive and Sexual Health) is Education regarding reproductive health with more focus on menstrual hygiene and it should be made a part of school curriculum

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Institutional Ethics Committee

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