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Student's Section

Social health problem of adolescent girls aged 15–19 years living in slums of Dibrugarh town, Assam

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ABSTRACT

Introduction: Adolescence in girls, a phase of transition period between childhood and womanhood, is the most eventful for mental, emotional and psychological well being.

Aims and objectives: To study the social health problem and its determinant among adolescent girls aged 15–19 years living in slums of Dibrugarh town, Assam.

Materials and methods: A community-based cross-sectional study was conducted among 300 adolescent girls aged 15–19 years residing in slums of Dibrugarh town, Assam during the period from June 2014 to May 2015.

Results: Mean age of adolescent girls was 16.57 ± 1.45 years. Majority were Hindu (67.7%), belonged to nuclear family (74.3%) and had socio-economic status IV (53%). 1.3% were illiterate and 8.4% were married. Overall thinness and stunting were prevalent among 39.4% and 33%, respectively. Stunting decreased significantly with increase in age and overall thinness decreased significantly with attainment of higher socio-economic status, higher educational status and nuclear family. In this study, depression was prevalent among 7% and mild anxiety among 12.7% of adolescent girls. Depression increased significantly with increase in age and with lower socio-economic class. Exposure of domestic violence was reported among 2.3% and it had significant association with socio-economic status.

Conclusions: These multi-dimensional problems of adolescent girls can be addressed through social empowerment of female and enlightenment such as female literacy and employment.

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1. Introduction

Adolescents (10–19 years) constitute about 22.8% of India's population, of which almost half are girls between 10 and 19 years.¹ Within the age group of 10–19 years, the profile of disease burden is significantly different for younger (10–14 years) and older adolescents (15–19 years). Outcome of sexual behaviour and mental health are prominent causes of disability and death in 15–19 years age group.² Though both adolescent girls and boys are equally susceptible to mental health problems while they undergo a complex process of transition, the problem gets compounded for girls particularly due to societal factors.³

Adolescent girls constitute a vulnerable group, especially in the developing countries where they are traditionally married off at an early age.⁴ In India, among 15–19 years adolescent girls, 25% in rural areas and 10% in urban areas were illiterate, 27% were married, 47% of currently married (aged 15–19 years) were chronic energy deficient and 21% experienced physical violence.¹ In general, adolescent girls are the worst sufferers because of their increased nutritional needs and low social power.⁴

Keeping in view the increasing health needs during this transitional period of life living in compromised situation in urban slum of Dibrugarh, the study has been undertaken to study the social health problem and its determinant among adolescent girls aged 15–19 years living in slums of Dibrugarh town, Assam.

2. Materials and methods

A community-based cross-sectional study was conducted among adolescent girls aged 15–19 years (both married and unmarried) residing in slums of Dibrugarh town, Assam during the period from June 2014 to May 2015.

3. Sample size

Considering the prevalence of thinness as 25.7% among adolescent girls in urban slums of Dibrugarh,⁵ taking 20% relative error and 95% Confidence Interval, the sample size was calculated to be 278, which was rounded up to 300.

4. Exclusion criteria

(1) Girls who were not willing to give consent, (2) Pregnant adolescent girls in 2nd and 3rd trimester and adolescent girls within puerperal period.

5. Sampling design

All 10 registered slums in Dibrugarh town were included in the study. Number of adolescent girls aged 15–19 years included from each slum was determined by using proportional allocation. In each of the slums, the first house was selected

randomly; thereafter, consecutive houses were visited until the required number of study subjects in each slum area was obtained. The same procedure was repeated in all the slums until the required sample size was achieved. All the study subjects present in each selected house were included in the study.

6. Ethical clearance

Ethical clearance was obtained from the Institutional Ethics Committee of Assam Medical College and Hospital, Dibrugarh. For 15–17 years adolescent girls, a written informed assent from the study participants and written informed consent from their guardians was obtained prior to the onset of the study. For 18–19 years adolescent girls, written informed consent was obtained from the study participants.

7. Study tool

Data were collected by interviewing the study participants using a pre-designed and pre-tested proforma and were examined for anthropometric parameters and general examination using standardized technique. The adolescent girls were interviewed about any illness in the present or within past 3 months prior to the interview. To assess nutritional status, height for age and body mass index for age were calculated using WHO Growth reference 2007.^{6,7} Depression and Anxiety were assessed by using 6-ITEM Kutcher Adolescent Depression Scale⁸ and the Generalized Anxiety Disorder 7-Item Scale,⁹ respectively. Definition of domestic violence was taken as maltreatment of the adolescent females by the husbands, parents or other family members including minor to major physical harassment. The reference period for exposure of domestic violence was considered as last 1 year from the date of interview.

8. Statistical analysis

Statistical analysis was done using Chi-square test and Fischer's exact test.

9. Results

Majority (32.3%) of adolescent girls aged 15 years with mean age 16.57 ± 1.45 years. Majority of them were Hindu (67.7%), belonged to nuclear family (74.3%) and socio-economic status IV (53%) according to modified BG Prasad's classification 2014. 38% were Middle school educated followed by Primary school (33.7%) while 1.3% were illiterate. In the present study, 8.4% were married and among them, majority (68%) got married before 18 years of age. Of married adolescent girls, 20% were pregnant and all were registered for antenatal care (ANC), either in government or private hospital.

Out of 300 adolescent girls, 74.3% were studying, 24.4% were school dropouts and 1.3% never attended school. Majority (45.3%) reported financial hardship followed by marriage

Table 1 – Socio-demographic profile of adolescent girls.

Socio-demographic variable	Number	Percentages
Age (in years)		
15	97	32.3
16	69	23
17	47	15.7
18	39	13
19	48	16
Religion		
Hindu	203	67.7
Muslim	97	32.3
Type of family		
Nuclear	223	74.3
Joint	77	25.7
Socio-economic status		
Class I	0	0
Class II	17	5.7
Class III	60	20
Class IV	159	53
Class V	64	21.3
Educational status		
Illiterate	4	1.3
Literate but below primary school	23	7.7
Primary school	101	33.7
Middle school	114	38
High school	44	14.6
Higher secondary school	14	4.7
Marital status		
Unmarried	275	91.6
Married	25	8.4
School enrolment status		
Currently studying	223	74.3
Never went to school	4	1.3
School drop out	73	24.4

(34.2%), lack of interest in study (16.4%), deafness (2.7%) and migration (1.4%) as the reasons for school dropout (Table 1).

In the present study, energy intake was found to be inadequate among 55.70% and adequate among 44.30% of adolescent girls as assessed by 24-h recall method. About 67% were normal and 33% were stunted according to height for age. Stunting was found to decrease significantly with increase in age. Stunting had no association with type of family, socio-economic status and educational status.

Thinness, severe thinness and overweight were prevalent among 34.4%, 5% and 7.3% of adolescent girls, respectively, according to body mass index for age. Prevalence of overall thinness decreased with increase in age but statistically not significant. Overall thinness decreased with attainment of higher socio-economic status, higher educational status and nuclear family, which was statistically significant.

One or more general morbidity was prevalent among 62% of adolescent girls. Majority (each 36.3%) had pallor and pediculosis, followed by dental caries (32.7%), cough and cold (31%), angular stomatitis (28.3%), skin problem (26.7%), loss of appetite (12.3%), pain abdomen (8.7%), inflamed tonsil (4.7%), loose motion (4.3%) and passage of worm in stool (1.7%) on multiple response technique. Prevalence of general morbidity was not found to be significantly associated with age, type of family, socio-economic status and educational status (Table 2).

In this study, depression was prevalent among 7% and mild anxiety among 12.7% of adolescent girls. Depression increased

significantly with increase in age and with lower socio-economic class (class IV and V). No association of depression with type of family and educational status was found. Anxiety had no significant association with age, type of family and socio-economic status. Prevalence of anxiety was found to be highest among illiterate and lowest among high school educated which was statistically significant.

Exposure of domestic violence was reported among 2.3% of adolescent girls. Among victims, all were married and husbands were the perpetrators. 85.7% and 14.3% reported financial hardship and Infidelity respectively as the reasons of domestic violence. In the present study, exposure of domestic violence was found significantly in higher age group (18 and 19 years). No statistical association was observed between domestic violence and type of family but it had significant association with socio-economic status, the prevalence being highest among socio-economic status (class III) followed by socio-economic status V. Exposure of domestic violence was found to increase with lowering of educational status and this was found significant (Table 3).

10. Discussion

In the present study, 33% of adolescent girls were stunted which indicates chronic energy deficiency. Prevalence of stunting was found to decrease significantly with increase in age. Stunting had no associations with type of family, socio-economic status and educational status. Shivaramakrishna et al.¹⁰ in their study found that 32.17% of adolescent girls were stunted and as age increased the proportion of stunting decreased rapidly which is similar to the present study findings. Baliga et al.¹¹ in their study found that 40.84% adolescent girls aged between 15 and 19 years were stunted which is higher than our study finding.

Overall thinness was prevalent among 39.4% and found to decrease with increase in age but statistically not significant. Prevalence of overall thinness decreased significantly with attainment of higher socio-economic status, higher educational status and nuclear family. Baliga et al.¹¹ in their study found that 39.43% adolescent girls between the age 15 and 19 years were thin which is similar to our study findings. A study conducted by Shivaramakrishna et al.¹⁰ also showed that the prevalence of wasting decreases with the age but this was not significant.

62% of adolescent girls had one or more general morbidity. Prevalence of general morbidity was not associated significantly with age, type of family, socio-economic status and educational status. A study done by Sachan et al.¹² found that around 64.8% had morbidity which is almost similar to present study finding.

In this study, depression was prevalent among 7% and mild anxiety among 12.7% of adolescent girls which merits attention. Mojs et al.¹³ in their study reported prevalence of depression in 6% of students which is almost similar to our study finding, and Deb et al.¹⁴ showed that anxiety was prevalent in 17.9% of girls which is almost similar to our study findings.

Depression increased significantly with increase in age and with lower socio-economic class (class IV and V) and there was

Table 2 – Association of stunting, overall thinness and general morbidity with age, type of family, socio-economic status and educational status.

Variables	Total	Stunted (n = 99)	Overall thinness ^a (n = 118)	General morbidity (n = 186)
Age				
15	97	42 (43.3%)	46 (47.4%)	66 (68%)
16	69	29 (42%)	30 (43.5%)	44 (63.8%)
17	47	15 (31.9%)	17 (36.2%)	25 (53.2%)
18	39	6 (15.4%)	11 (28.1%)	24 (61.5%)
19	48	7 (14.6%)	14 (29.2%)	27 (56.3%)
p value		0.000 [*]	0.095	0.431
Type of family				
Nuclear	223	77 (34.5%)	82 (36.7%)	141 (63.2%)
Joint	77	22 (28.6%)	36 (46.8%)	45 (58.4%)
p value		0.338	0.003 [*]	0.456
Socio-economic status				
Class II	17	7 (41.2%)	6 (35.3%)	11 (64.7%)
Class III	60	19 (31.7%)	17 (28.4%)	35 (58.3%)
Class IV	159	57 (35.8%)	65 (40.9%)	97 (61%)
Class V	64	16 (25%)	30 (46.9%)	43 (67.2%)
p value		0.392	0.022 [*]	0.755
Educational status				
Illiterate	4	1 (25%)	0 (0%)	2 (50%)
Literate but below primary school	23	11 (47.8%)	14 (60.9%)	13 (56.5%)
Primary class	101	32 (31.7%)	39 (38.6%)	63 (62.4%)
Middle class	114	37 (32.5%)	49 (42.9%)	75 (65.8%)
High school	44	16 (36.4%)	11 (25%)	23 (52.3%)
Higher secondary school	14	2 (14.3%)	5 (35.7%)	10 (71.4%)
p value		0.423	0.001 [*]	0.618

^{*} p value is significant ($p < 0.05$).

^a Overall thinness includes thinness and severe thinness.

Table 3 – Association of depression, anxiety and domestic violence with age, type of family, socio-economic status and educational status.

Variables	Total	Depressed (n = 21)	Mild anxiety (n = 38)	Domestic violence (n = 7)
Age				
15 years	97	1 (1%)	15 (15.4%)	0 (0%)
16 years	69	1 (1.5%)	10 (14.5%)	0 (0%)
17 years	47	2 (4.3%)	3 (6.4%)	0 (0%)
18 years	39	6 (15.4%)	2 (5.1%)	1 (2.6%)
19 years	48	11 (22.9%)	8 (16.7%)	6 (12.5%)
p value		0.000 [*]	0.261	0.000 [*]
Type of family				
Nuclear	223	18 (8%)	29 (13%)	5 (2.2%)
Joint	77	3 (3.9%)	9 (11.7%)	2 (2.6%)
p value		0.216	0.765	0.859
Socio-economic status				
Class II	17	0 (0%)	2 (11.8%)	0 (0%)
Class III	60	1 (1.7%)	11 (18.3%)	4 (6.7%)
Class IV	159	11 (6.9%)	18 (11.3%)	1 (0.6%)
Class V	64	9 (14.1%)	7 (1.1%)	2 (3.2%)
p value		0.032 [*]	0.534	0.043
Educational status				
Illiterate	4	1 (25%)	4 (100%)	4 (100%)
Literate but below primary school	23	3 (13%)	2 (8.7%)	2 (8.7%)
Primary class	101	6 (5.9%)	10 (9.9%)	1 (1%)
Middle class	114	9 (7.9%)	18 (15.8%)	0 (0%)
High school	44	1 (2.3%)	2 (4.5%)	0 (0%)
Higher secondary school	14	1 (7.1%)	2 (14.3%)	0 (0%)
p value		0.403	0.000 [*]	0.000 [*]

^{*} p value is significant ($p < 0.05$).

no association with type of family and educational status. Anxiety had no significant association with age, type of family and socio-economic status. Prevalence of anxiety was found to be highest among illiterate and lowest among high school educated which was statistically significant. Vashisht et al.¹⁵ also reported that prevalence of depression increased with increase in age and lower socio-economic status. Mojs et al.¹³ in their study reported that more number of students depressed who belong to lower income group which is similar to our study finding.

In the present study, exposure of domestic violence was reported among 2.3% of adolescent girls. Among victims, all were married and husbands were the perpetrators. 85.7% and 14.3% reported financial hardship and infidelity, respectively, as the reason of domestic violence. According to NFHS3¹ and a study done by Madhutandra,¹⁶ prevalence of physical violence was 21% and 23.4%, respectively, which is higher than our study finding, the reason likely being culture of silence of present study participants. Madhutandra¹⁶ in his study also observed that husbands were the perpetrators in case of most of the females (72.73%) and economic factors were reported as the most prevalent causes of violence.

In the present study, prevalence of domestic violence was found only in higher age group (18 and 19 years) and it was found significant. Domestic violence was not associated significantly with type of family but had significant association with socio-economic status, the prevalence being highest among socio-economic status (class III) followed by socio-economic status V. Exposure of domestic violence was found to increase with lowering of educational status and this was found significant. Madhutandra¹⁶ in his study observed that prevalence was highest among the females who were illiterates (46.15%), followed by just literates/below primary schooling (20%) which is similar to our study findings but they found no association with per capita monthly income of the family.

11. Conclusion

Social health problem of adolescent girls is an area of concern. Low educational status and lower socio-economic status have been found as the major determinants contributing to the poor health status of the adolescent girls.

These multi-dimensional problems of adolescent girls can be addressed through social empowerment of female and enlightenment like female literacy, employment and by adopting gender equitable policies, which may enable them to fight for rights and rebuild their life with dignity. This requires an inter-sectoral approach. Existing programmes such as SABLA and Kishori Shakti Yojana, which are directed towards adolescent health, should be strengthened with focus on social determinants.

There is also need for screening of depression and anxiety among adolescent girls at school and community level to identify girls who need further intervention.

Conflicts of interest

The authors have none to declare.

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