ORIGINAL ARTICLE

KNOWLEDGE AND INFORMATION ON PSYCHOLOGICAL, PHYSIOLOGICAL AND GYNAECOLOGICAL PROBLEMS AMONG ADOLESCENT SCHOOLGIRLS OF EASTERN INDIA

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ABSTRACT

BACKGROUND: Sex education aims to reduce the risks of potentially negative outcome from sexual behavior such as fear and stigma of menstruation, unwanted and unplanned pregnancies and sexually transmitted infections including HIV. Hence, this study was conducted to determine sex education knowledge level of school going adolescents in semi urban area of Midnapore, West Bengal, India.

METHODS: A cross-sectional study was conducted in two selected premier secondary school of girls in the Midnapore Town from September – October 2007. A total of 521 adolescent aged 10-19 years were selected randomly from two secondary schools of girls. However, schools were selected purposively. All information was collected by using open-ended pre-tested questionnaire.

RESULTS: Of the total subjects 94.2% of them were in the age of 13-16 years. Nearly, 94% respondents reported their age at menarche and maximum i.e. 54% respondents experienced in the age of 11 – 13 years. It was observed that 18%, 60.7% and 21.3% of the respondents had good knowledge, moderate or some knowledge and very poor knowledge of puberty, pubertal problems and their prevention. Thirty three percent said that they had faced one or some other kind of physical problems and out of them 60% indicated that they had visited to a doctor for their problems. The suffering of any gynecological problems had 2.48 (95% CI: 1.42 – 4.36) and 1.94 (95% CI: 1.01 – 3.73) times greater among subjects with little or some knowledge and minimum or no knowledge compare to subjects with good knowledge of sex education.

CONCLUSION: Thus, the results show that not only knowledge regarding sex education was poor among the subjects but also their knowledge regarding sexual infections including AIDS was not satisfactory. School based sex education programs are particularly good at providing information, skills development and attitude clarification in more formal way through lesson within the curriculum. Therefore, appropriate sex education program should be initiated from the adolescence to prevent health hazards.

KEYWORDS: Adolescent, Sex Education, AIDS/HIV awareness, Menarche, India.

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INTRODUCTION

India has one of the fastest growing youth populations in the world and adolescent girls of age 13 to 19 year constitute nearly to 66 million (1). Adolescence is a crucial period of life – a bridge between childhood and adulthood. It is a period of increased risk taking, these people are not only susceptible to behavioral problem but also vulnerable to sexually transmitted infections (STIs), and HIV. However, little attention is paid for these populations and majority of adolescents still do not have access to information and education on sexuality, reproduction, sexual and reproductive health and rights nor have access to preventive and curative services (2).

Sex education aims to reduce the risks of potentially negative outcome from sexual behavior such as fear and stigma of menstruation, unwanted and unplanned pregnancies and infection with STIs including HIV. Effective sex awareness program should start early before young people reach puberty more so before they have developed established patterns of behavior (3).

Several studies were conducted regarding sex education and reproductive health in different parts of India (4,5) and West Bengal (6,7). Since, India is a vast and diverse country many ethnic groups and communities are living here. The enormous diversity in social and cultural beliefs and practices has been well documented and emphasized (8). However, studies regarding sex education and reproductive health in Paschim Medinipore District are not available. From conservative viewpoint of Indian society, it is imperative to provide the right messages and information to this early adult population about knowledge, attitude-belief regarding sex and sexuality. Hence, this study was conducted to determine sex education knowledge level of school going adolescents in semi urban area of Midnapore, West Bengal, India.

MATERIAL AND METHODS

A cross-sectional study was conducted in two selected premier secondary school of girls in the Midnapore Town from September – October 2007. Knowledge regarding sex education and their common health problems were recorded using semi-structured and pretested questionnaire. All information was collected by face to face interview. The questionnaire was pretested on a pilot group of students and maximum emphasis was given to include all the students of standard IX and X.

Considering the WHO definition of adolescents, the age group of 10-19 years was chosen. The questionnaire containing 20 questions was specially developed for the present study. All unknown terminologies were described and explained before interview of the study subjects. These are menarche, puberty, HIV, AIDS, sexual intercourse, primary amennorrhea, diabetes mellitus, hyper/ hypothyroidism, poly-cystic ovary (PCO), Benign/Malignant Neoplasia, dysmenorrhea, irregular menstruation, early/ late menstruation, white discharge. Cross checks were undertaken by a supervisor and an investigator on 10 subjects. The results were found to be non-contradictory and acceptable. Subjects were excluded from the study if they reported as having primary amennorrhea, diabetes mellitus, hyper/ hypothyroidism, poly-cystic ovary (PCO), Benign/Malignant Neoplasia of genital tract.

The estimated sample size was computed using single population proportion by the formula ($n=z^2pq/d^2$) and sex education knowledge prevalence was considered 50% at 95% confidence interval. To strengthen the study design, we added 30% more subjects. Therefore, the estimated sample size would be 520 individuals. A total of 521 adolescents were interviewed from two schools in semi-urban area with equal proportion of respondents. We explained the purpose of the study to the identified subjects of both schools while maintaining strict confidentiality. Prior permission was obtained from the Institutional ethics committee and selected schools authorities.

The knowledge regarding adolescent and the changes also had been assessed by the scoring system. If the respondent did not know or just knew what puberty is, then she had minimum or no knowledge. If she knew some changes and some problems occurring in the girls in this age,

she had little or some knowledge and if she picked all the changes and the problems in this period correctly she had good knowledge regarding sex education and reproductive health.

Proportion test was employed to test for the statistical difference. Odds ratio and 95% confidence interval (CI) was employed to measure the risk of gynecological problem between subjects with little or some knowledge and minimum or no knowledge compare to subjects with good knowledge of sex education. All statistical analysis was undertaken using SPSS software version 7.5. A probability value of less than 0.05 was considered as statistically significant.

RESULTS

Of the total subjects 94.2% of them were in the age of 13-16 years. It was observed that 94% respondents reported their age at menarche correctly and nearly 54% respondents experienced in the age of 11 – 13 years (fig 1).

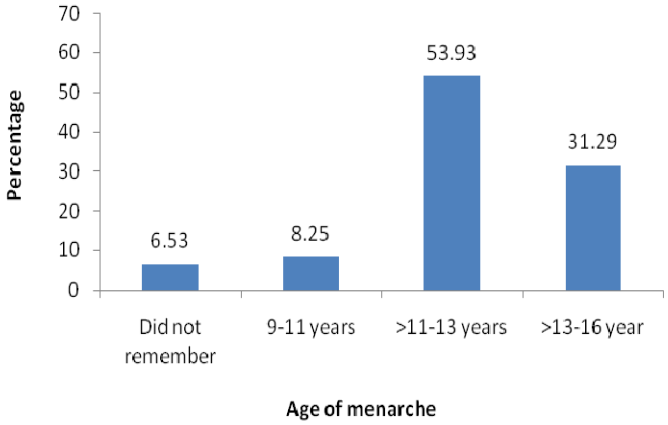

Figure 1. Distribution of respondents' age of menarche, Midnapore, 2007.

Regarding knowledge about puberty, puberty related problems and their prevention, it was observed that 18.04%, 60.65% and 21.31% respondents, respectively had good knowledge, moderate or some knowledge and very poor knowledge of puberty, pubertal problems and their prevention. Strangely enough, the source of their knowledge was significantly more (36.3%) from friends/classmates than parents (24.6%), teachers (18.0%), media (14.8%) and others (6.3%), respectively (Table 1).

Table 1. Distribution of respondents' source of Knowledge regarding puberty and adolescence, Midnapore, 2007.

Group	Sources of pubertal knowledge	Frequency	Percentage (%)	Significantly difference with group number*
1	Friends/classmates	189	36.3	2, 3, 4, 5
2	Parents	128	24.6	1, 3, 4, 5
3	Teachers	94	18.0	1, 2, 4, 5
4	Media	77	14.8	1, 2, 3, 5
5	Others	33	6.3	1, 2, 3, 4

*Result of proportion test.

It was observed that, 273 (52.4%) girls said they did not experience any physical problem during adolescence. One hundred seventy (32.6%) indicated they had face one or some kind of

physical problem where as 15% did not provide any response. Among the various pubertal physical problems: dysmenorrhea, irregular menstruation, early / late menstruation, white discharges were commonly mentioned. Among those who indicated that they had faced physical problems, 102 (60%) respondents said they had visited a doctor for their problems where as the remaining did not do so.

Figure 2 shows that only 18 (19.2%) girls having satisfactory adolescent awareness faced some kind of gynecological complain physically whereas 117 (37.0%) of the girls having little or some knowledge and 35 (31.5%) of those with minimum or no knowledge have developed one or other kind of physical complication. So, suffering of any gynecological problems had 2.48 (95% CI: 1.42 – 4.36) and 1.94 (95% CI: 1.01 – 3.73) times greater among respondents with little or some knowledge and minimum or no knowledge compare to respondents with good knowledge of sex education.

Figure 2. Relationship between adolescents' sex awareness & prevalence of pathophysiologic gynecological problem**,** Midnapore, 2007.

In this study 393 (75.4%) girls (almost three out of every four adolescents) did not know the reason behind these problems where as only 3.3 % thought they knew the reasons behind these problems while 111 (21.3%) girls did not provide response. More importantly, about 23 adolescents said that they often suffered from mental depression due to various reasons whereas 375 (72.0%) respondents did not report any such depressive disorders and 5.2% respondent did not give any answer regarding mental depression. When asked about addiction, 486 (93.3%) respondents said they did not have any addiction, only 4 (0.8%) of them refrained from giving an answer. However, 6 % of the respondents accepted that they had some addiction of one or some other kind.

The knowledge of these girls regarding sexual intercourse and its effects was important from the study point of view as most i.e. 358 (68.7%) respondents did not give any answer regarding it. Nearly 29% said pregnancy while 2.5% said sexual transmitted infections (STIs) is the outcome of sexual intercourse. Interestingly, only 3 (0.6%) said they had an experience of sexual intercourse while 469 (90.2%) said that they did not had such an experience. Oddly, 49 (9.4%) respondents refrained from giving any answer.

On the other hand, a considerable number of the girls (19.6%) did not have any idea about the mode of transmission of HIV/AIDS where only 21 (4%) of them named all the modes of transmission correctly among the most widely known modes of transmission i.e. using the same injection needle and unprotected sexual intercourse.

When asked about other sexually transmitted diseases, 34 (6.5%) of the respondents said they knew about the diseases but only 4 (0.8%) of them could name a single STIs other than (AIDS). Furthermore, 505 (96.9%) of the respondents could not name any STIs and 12 (2.3%) respondents thought some common diseases like tuberculosis, pneumonia etc. are STIs. Regarding treatment of STIs, 94 (18%) respondents thought there is no treatment for STIs and 385 (74%) did not have any ideas about it although 42 (8.1%) respondents thought there was a treatment for these diseases. More importantly, most of the adolescent girls acquired information form media and friends/classmates (Table 2). The involvement of teachers in providing information regarding the transmission of AIDS at school appears to be very poor.

Table 2. Distribution of respondents' source of information regarding transmission modes of AIDS**,** Midnapore, 2007.

Group	Sources knowledge of transmission of AIDS	Frequency	Percentage (%)	Significantly difference with group number*
1	Media	196	37.6	2, 3, 4, 5
2	Friends/classmates	156	29.9	1, 3, 4, 5
3	Others	85	16.3	1, 2, 4, 5
4	Parents	42	8.1	1, 2, 3
5	Teachers	42	8.1	1, 2, 3

DISCUSSION

From the results gathered by analyzing the data obtained we can come to a few conclusions. Firstly, if we come to the results of the questions regarding assessment of pubertal status we observed that most girls have had their menarche at the mean age of 12 years which is not similar to a study by Kotecha et al (9) in rural part of Western India. However it matches the study by Mittal and Goel (10) done in the urban girls of Haryana. Thus, urbanization appears to have an influential factor for early menarche.

An important finding was the girls' knowledge status of puberty, pubertal problems and their prevention where majority of them (60.7%) did not have adequate knowledge and 21.3% of the girls did not have any sort of knowledge at all and this reflects a similar picture in a study done in rural girls of Himachal Pradesh by Sharma et al (1). They observed that very few girls knew about their reproductive organs (27.6%) and secondary sexual characteristics (4.4%).

Furthermore, the subjects who had some knowledge said 'friends' (36.3%) were the main source of knowledge which is similar with the study by Mittal and Goel (10). In rural as well as urban areas, the picture is very consistent in that context neither parents nor are the teachers the source of much information. Erroneous information was incorporated because friends of similar age were the main source of knowledge. The overall status indicated that not only the girls but also parents and teachers were of need of awareness campaign pointing to this topic.

Nearly 33%, 1 out of 3 girls said that they had faced one or another physical complication at puberty which is little bit different as compared to the study by Nair et al (11) at rural areas of East Delhi where 63.8% girls complained only dysmenorrhea. However, these problems may have underlying pathology of genital tract, which if not treated properly in time may end up causing serious complications and endanger the future reproductive life.

Nearly one (22.8%) out of every four respondents said that they felt mental depression due to various reasons but it is not similar with the sub Himalayan adolescent group study by Saha et al (12), where they stated psychiatric problem ranged from 0.15% - 0.29% among tea garden teenagers to urban school going girls done in 2000-2001 (12). This reflected the changes in attitude over time.

It was observed that 93.3% of the girls declared that they did not have any addiction. The others were addicted to tobacco smoking, tobacco chewing, oral drug abuse, alcohol abuse or even intravenous drug abuse. They were at the greater from leading of a normal healthy life. Similar results have been obtained by Bielskutė et al in a study from Lithuania (13).

More importantly, only 34.36% of the girls knew pregnancy could occur as a result of sexual intercourse, which indicates lack of knowledge among them. Moreover, small number of the subjects (18%) believes that some infectious diseases can spread through sexual intercourse. In an earlier study, it has been reported that 77% non-medical adolescent population of Saudi Arabia knew how to protect themselves from STIs (14).

Overall, 3 girls accepted that they had an experience of sexual intercourse whereas 49 girls (9.4%) did not want to say either yes or no that led to confusion in assessing the high-risk behavior of the study group.

Knowledge regarding AIDS was not so poor but 8 out of 478 girls who knew about AIDS thought it to be a bacterial infection whereas the rest 90.2% knew that it was just a viral disease. According to NFHS III, 64.3% of adolescent girl of age 15-19 years in the rural area have heard about AIDS (15). Overall, 57.4% knew that using same injection needle for more than one times causes AIDS, and even less (49.1%) knew that it can occur through unprotected intercourse. A study in Bangladeshi adolescent population randomly selected from rural and urban areas showed 30.5% respondent knew HIV can be transmitted through sexual intercourse while 14.3% believed that infected syringe is a source of HIV infection (16). Only 4% knew all the modes of transmission of HIV which indicated a strong support for the need of Sex Education. In this case, media (37.7%) was the most popular source of information.

Thus, the result showed that not only the knowledge regarding adolescence was poor among the subjects but also knowledge regarding sexual infection and AIDS was not satisfactory. Moreover, it is seen that in cases of psychological problems like mental depression and physical problem like dysmenorrhea, delayed period or leucorrhoea had high prevalence in these girls. This leads us to opine that these problems might well have direct or indirect co-relationship with the low level of sex education awareness.

There was good evidence that positive parent-child communication about sexual matters can led to greater condom use among young men and low rate of teenage conception among young women (17). But in this study, one can see another gray area that there was inadequate Information education communication was seen from the parents or teachers.

Not only the parents, also teacher can contribute and provide awareness information if the sex education is school based. School based sex education program are particularly good to provide information, opportunities for skills development and attitude clarification in more formal way through lesson within the curriculum. In India there is a huge debate on the curriculum of sex education and its time of introduction. Attempting to use sex education as a compulsory part of the curriculum at the adolescent age had often been met with harsh criticism by political leaders, who claim that sex education is against the Indian culture. Concluding our article we raise a question to the policy makers that in this way how long we mislead our children?

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