

Awareness of Menstrual Cycle and HIV/Aids Among Adolescent Girls

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Abstract

Introduction: Adolescent girls are at a higher risk of developing HIV/AIDS and other STDs due to a lack of knowledge about their menstrual cycle and the hazards connected with it. This is why it is critical to promote knowledge about the menstrual cycle and HIV/AIDS among adolescent girls. By doing so, we can assist them understand the value of safe sex and make educated health decisions. **Aim:** Awareness of menstrual cycle and HIV/AIDS among adolescent girls. **Methodology:** The research population comprised of 450 girls in higher secondary school who had reached menarche. A predesigned questionnaire with questions regarding the menstrual cycle and HIV/AIDS awareness was employed. Data that was entered into Excel Spreadsheets 2010 was used to run a proportional analysis on the data. **Results:** According to the demographic data the majority of girls were between the ages of 10 and 19 years. Knowledge of the menstrual cycle and HIV/AIDS was determined to be merely good, with the potential for improvement. Mother was the primary source of knowledge about the menstrual cycle as well as HIV/AIDS. **Conclusion:** To eradicate many myths and taboos related with the menstrual cycle and make it a pleasant experience for adolescent girls, a comprehensive health education programme involving mothers is necessary. To raise knowledge of HIV/AIDS, information, education, and awareness programmes must be increased.

Keywords: Adolescent girls, HIV/AIDS, Menstrual Cycle, Menstruation

1. Introduction

Adolescence is a time of transition that is marked by a variety of changes, including those that are social, emotional, psychological, and physical.[2] Adolescent girls are at a higher risk of contracting HIV/AIDS and other STDs due to lack of awareness about their menstrual cycle and the risks associated with it. This is why it is important to raise awareness about the menstrual cycle and HIV/AIDS among adolescent girls. By doing so, we can help them understand the importance of practicing safe sex and make informed decisions when it comes to their health.

Menstruation is a phenomenon that only affects women. One of the most significant changes in girls' lives throughout adolescence is the beginning of menstruation. With a mean age of 13 years, the first menstruation (menarche) starts between the ages of 11 and 15 years. Menarche may be the most significant of all the developmental stages connected to the adolescent years. A woman's first menstrual cycle marks the attainment of a significant functional state and is a qualitative event of great significance in her life. [9]

HIV infection and the subsequent emergence of acquired immunodeficiency syndrome (AIDS) represent a serious threat to both contemporary medicine and civilization. There are approximately 33.2 million adults and children living with HIV/AIDS, according to UNAIDS.[1] In addition, raising awareness about the menstrual cycle and HIV/AIDS

among adolescent girls can also help reduce stigma and discrimination against them for having these conditions. With more education on these topics, girls can learn how to protect themselves from contracting HIV/AIDS or other STDs as well as how to manage their menstrual cycles in a healthy way.

Many sexual and reproductive health organizations, such as Planned Parenthood, the World Health Organization and the United Nations Population Fund, have helped educate girls about their menstrual cycles. Therefore, a health awareness program should be designed to educate adolescent girls about sexual and menstrual health so they can handle these challenges with dignity and confidence and enhance their quality of life. Considering this scenario, the current study was carried out to evaluate adolescent girls' knowledge of the menstrual cycle and HIV/AIDS.

2. Methodology

This was a cross-sectional observational, descriptive, community-based study that was done at a randomly selected government and private school in each block in Dehradun from February to July 2022. The school authorities were also consulted beforehand. The research population comprised of 450 girls in higher secondary school who had reached menarche. For data collection, a predesigned questionnaire with questions regarding the menstrual cycle and HIV/AIDS awareness was employed. The objective of the research was conveyed to all of the adolescent girls, along with

assurances of anonymity. Before administering the questionnaire, all of the girls in the research provided verbal consent. Every point on the questionnaire was explained to them, and all of their concerns were addressed. There was also a health education session regarding menstruation and sexually transmitted diseases. The data entry preferred tool was Microsoft Excel. Data that was entered into Excel Spreadsheets 2010 was used to run a proportional analysis on the data.

3. Results

The study included 450 girl participants in total.

According to the demographic data of the adolescent girls, the majority of girls (63%), as well as the minimum (1%) of girls, were between the ages of 10 and 19 years. Mothers of 137 (30%) girls had secondary educations, while mothers of two (1%) girls had postgraduate degrees. Fathers of 146 (32%) girls had secondary educations, while fathers of 13 (3% of) girls had postgraduate degrees. The majority of mothers of 426 (95%) girls worked at home, with only 1% government employment. The fathers of 173 (38%) girls worked in the private sector, whereas the fathers of 46 (10%) girls worked in the government sector [Table 1].

Table: 1 Demographic information of Adolescent girls

Parameter	Division	Quantity	Percentage
Adolescent Age	10-19	285	63%
	7-16	119	26%
	8-12	43	10%
	9-20	3	1%
Mother's Education	Illiterate	89	20%
	Primary	128	28%
	Secondary	137	30%
	Sr. Secondary	52	12%
	Graduate	42	9%
Mother's Occupation	Post Graduate	2	1%
	Homemaker	426	95%
	Business	00	0%
	Government Job	6	1%
	Private Job	18	4%
Father's Education	Illiterate	59	13%
	Primary	116	26%
	Secondary	146	32%
	Sr. Secondary	76	17%
	Graduate	40	9%
Father's Occupation	Post Graduate	13	3%
	Farmer	156	35%
	Business	75	17%
	Government Job	46	10%
	Private Job	173	38%

According to adolescent girls' menstrual cycle awareness, 253 (58%) believed menstruation must have been a natural process, whereas just 4 (1%) thought it to be a physiologic process. Menarche age was reported as 12 years in 195 (43%) of the girls, whereas only 2 (1% of the girls) reported menarche age as 16 years. Prior to menarche, only 233 (52%) girls were aware of menstruation, and only

345 (77%) girls were aware of menstrual cycles. 425 (94%) of girls reported using pads during menstruation, whereas only 2 (1% of girls) used tampons. In addition, just 306 (68%) of girls believe their menstrual cycle is regular. Only 201 (45%) girls were aware of menstruation illnesses, whereas 268 (60%) were unaware of adolescent health and diseases [Table 2].

Table: 2 Menstrual Awareness

Parameter	Division	Quantity	Percentage
Menstruation	Physiologic process	18	4%
	Caused by hormones	77	18%
	Natural process	253	58%
	All of above	89	20%
Menarch Age	10	6	1%
	11	17	4%
	12	195	43%
	13	175	39%
	14	46	10%
	15	9	2%
Menstruation Awareness Prior to Menarche	16	2	1%
	Yes	233	52%
Meaning of Menstrual cycle	No	217	48%
	Yes	345	77%
Consumption during menstruation	No	105	23%
	Cloth	15	3%
	Menstrual cup	8	2%
	Tampon	2	1%
Menstrual cycle	Pad	425	94%
	Regular	306	68%
Adolescent health and diseases	Irregular	144	32%
	Yes	182	40%
Menstrual cycle diseases	No	268	60%
	Yes	201	45%
	No	249	55%

In our study, 241 (54%) of the girls were aware of RTI, STI, HIV, AIDS whereas 209 (46%) were not. 339 (75%) of the females were unaware about HIV/AIDS. Only 111 people (25%) had heard of HIV/AIDS. 286 people (64%) were unfamiliar with the phrase HIV. Only 164 (36%) of the girls were aware of HIV, but

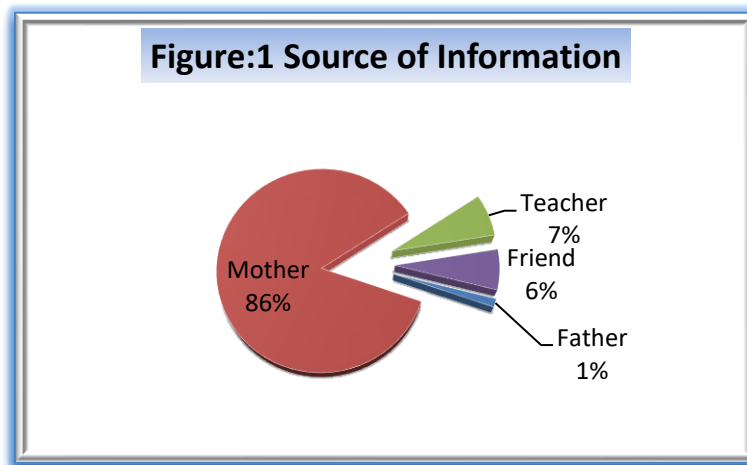
280 (62%) were aware of the phrase AIDS, and only 170 (38%) were not. 402 (89%) of girls were unaware of the AIDS-causing organisms, yet 338 (86%) believe that AIDS prevention is achievable, and 307 (68%) believe that tainted needles may transfer AIDS [Table 3].

Table: 3 HIV/AIDS Awareness

Parameter	Division	Quantity	Percentage
Aware with RTI/STI	Yes	241	54%
	No	209	46%
Are you aware about HIV/AIDS	Yes	111	25%
	No	339	75%
Full form of HIV	Yes	164	36%
	No	286	64%
Full form of AIDS	Yes	280	62%
	No	170	38%
Aware with AIDS Causative Organism	Yes	48	11%
	No	402	89%
AIDS prevention possible	Yes	388	86%
	No	62	14%
Can contaminated syringes spread AIDS	Yes	307	68%
	No	143	32%
Can AIDS be passed from mother to child	Yes	126	28%
	No	324	72%

Adolescent girls receive their information about menstruation or HIV/AIDS from 86% of their

mothers, 7% of their teachers, 6% of their friends, and only 1% of their fathers[Figure 1].



4. Discussion

During this stage of development, the girl's first menstrual cycle and associated challenges are experienced, which is defined by feelings of fear and enthusiasm to learn more about this natural phenomenon. [1] Infection with HIV and thereby development of acquired immunodeficiency syndrome (AIDS) poses a significant challenge to modern medicine and humanity. According to UNAIDS, currently there are 33.2 million adults and children living with HIV/AIDS. [1]

The majority of the girls ranged in age from 10 to 19 years old. The study population in a related Chittagong research varied in age from 16 to 17 years. [2] Only 47 girls aged 15 to 17 were included in a different research from Makassar.[3] According to one research, the study population's age range was 10 to 19, with the majority of girls being between the ages of 14 and 16.[4] In one research, 76.35 girls

aged 15 to 19 were included.[7] In the current study, almost 20% of mothers and 13% of fathers were illiterate, whereas in a prior study, 66% of mothers and 4% of fathers were illiterate.[12] In our study, the highest age of menarche was about 12 years, which was comparable to the previous study.[4] Some studies suggest a menarche age of 12 to 15 years.[7, 9, 10] There is an urgent need to start early initiation and sensitization of young girls as early as 10 to 11 years of age, especially in resource-poor settings, as the age of menarche has showed a falling tendency in India.[9] Menstruation was perceived as a natural process by 58% of adolescent girls in the current study, whereas in another study, same impression was held by just 71% of females.[12] In one survey, almost 91% of girls thought menstruation was a natural physiological process.[9, 10] In a prior survey, just 44% of girls were aware that menstruation is a normal process, but after receiving health education, this percentage jumped to 95%.[11] This finding emphasizes the need of menstrual hygiene and

reproductive health education programmes in schools for adolescent girls. It was encouraging to learn that, in contrast to other research, only 23% of girls in the current study were unfamiliar of the menstrual cycle. All of these data support the idea that, in our culture, there are still a lot of myths about menstruation that can only be dispelled by broadening the country's coverage of adolescent reproductive health.

As observed in our study, the majority (94%) of the girls use sanitary pads during their periods, which is similar to earlier studies in which 84% utilized sanitary pads.[14] Wastes produced by a female throughout her reproductive years are called menstruation wastes. Menstruation, often known as menses, periods, or the monthly bleeding cycle, produces these wastes. The follicular phase, ovulation phase, and luteal phase are the three stages of the menstrual cycle. [1]In our survey, 77% of girls understand the menstrual cycle. Before menarche, 59.6% of girls aged 13 to 19 were aware of the menstrual cycle. [2] This is comparable to the current study's 52% Menstruation Awareness, before menarche in several researches. Sharma S et al discovered that 78% to 82% of girls had a normal menstrual cycle. [4, 9]In this research, only 68% of adolescent girls reported a regular menstrual cycle. However, studies have demonstrated that age and gender appropriate adolescent health education programmes can help teenagers' bridge knowledge gaps regarding their own bodies, reproduction, and contraception. [5]

According to research conducted among adolescents who attend school, between 70% and 99% of respondents supported sex education in the classroom.[6]According to our study, just 40% of adolescents are aware of health and disease issues, with 55% uninformed of menstrual health issues. According to studies, adolescents preferred receiving their knowledge from experts like teachers and doctors.[8, 17] Additionally, the mothers lack the knowledge and communication skills necessary to explain menstruation and proper hygiene to their daughters. Abnormal beliefs or assumptions about menstruation and the menstrual cycle will lead to erroneous menstrual habits.[10] To reach individuals who are most marginalized by health treatments, systemic policy actions spanning several types of marginalization are required.[13]To shape very young adolescents' attitudes and establish behaviors that are related with favorable SRH outcomes, which eventually impact their well-being in later life, it is essential to impart knowledge from a young age.[15] For adolescent girls, maintaining good menstrual hygiene is essential because it can shield them against numerous illnesses of the reproductive system.

In aspects of HIV/AIDS awareness, just 54% of girls are aware of the sexual and reproductive tract infection, which is consistent with past research. [2]Only 25% of the girls were aware of HIV/AIDS, 36% knew the full form of HIV, and around 62% knew

the full form of AIDS, which was consistent to earlier research. [16, 19] Similar to a prior survey, just 1% of the girls were familiar with the causes of AIDS.[14]86% of girls knew that AIDS could be prevented, which was also the case in some prior research. [18, 20]This may occur as a result of different multi-media AIDS awareness efforts. According to prior research, 28% of mother-to-child transmission and 68% of contaminated syringe transmission were the two main ways that AIDS was spread among females. [5] But a few studies have also revealed a lack of knowledge about AIDS transmission methods, not just in our nation but also in other nations. [1,2,4]This is quite concerning since adolescents are a particularly vulnerable age group, and understanding the proper methods of transmission can shield them from this life threatening illness. In a Sikkim research, awareness of AIDS transmission mechanisms considerably enhanced after the study population received health education. [8]According to earlier research, the mother was the primary source of knowledge about menstruation, followed by peers and the media.[1 5, 6, 9, 11] This shows how vital it is for mothers to freely discuss this subject with their daughters so that an informed adolescent may further pass on her knowledge to her children when she becomes a mother. Mothers are an important channel for health education on the menstrual cycle and disease. Since this subject may not be freely discussed in the family in some cultures, multimedia also serves as an essential conduit for the distribution of health education. In the current study, mother was once again the primary source of information on HIV/AIDS, in stark contrast to past studies where media was the primary source of information.[2,4,8]One of our study's most heartening findings is that mothers are freely talking to their daughters about HIV/AIDS, especially adolescent girls.

5. Conclusion

Adolescent girls in India are facing the challenge of inadequate awareness about menstrual cycle and HIV/AIDS. This lack of knowledge puts them at risk of suffering from a variety of health complications. It is important to create awareness among adolescent girls about the importance of their menstrual cycle and the risks associated with HIV/AIDS. This awareness can be achieved through educational initiatives, such as providing information on healthy practices, proper hygiene, and safe sex practices. Additionally, it is essential to provide support networks for adolescent girls so that they can access accurate information and seek help if needed. With the right education and support, adolescent girls in India can become more aware of their menstrual cycle and HIV/AIDS risks, allowing them to lead healthier lives. The menstrual cycle is an important part of an adolescent girl's life because it can affect her both physically and mentally. The menstrual cycle consists of four phases: menstruation,

ovulation, the luteal phase and the follicular phase. In menstruation, the lower uterine segment is shed along with its lining. The shedding of this tissue could cause cramps and a heavy flow. This too can have negative effects on the mind during teenage years when a young woman is experiencing their first time getting their period. A lack of education about these processes can lead to some adolescents being uncomfortable or embarrassed during the process. Mothers must actively participate in health education programs in order to break down barriers and freely address this matter with their adolescent daughters, giving them confidence in dealing with this transition period. Furthermore, teachers must be adequately trained to provide well-directed, continuous reproductive health education knowledge to adolescent girls in schools, increasing their awareness of menstrual practices, sexuality, and puberty-related concerns, and dispelling traditional beliefs and myths about menstruation.

6. Limitations

As these observations are based on self-reported outcomes, our study's limitation is that there may have been some over reporting. It's possible that the study's participants provided alternative answers to some questions in order to please the interviewer. In addition, considering the enormity of the issue, the sample size used was quite tiny.

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Conflicts of Interest

There are no conflicts of interest

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Human Participant Compliance Statement

Before the interview, the adolescent girls and the school administration gave their verbal consent after being fully briefed.

References

Maqbool, M., Khan, M., Mohammad, M., Adesina, M. A., & Fekadu, G. (2019). Awareness about reproductive health in adolescents and youth: a review. *Journal of Applied Pharmaceutical Sciences and Research*, 1-5.

Zakaria, M., Karim, F., Mazumder, S., Cheng, F., & Xu, J. (2020). Knowledge on, attitude towards, and practice of sexual and reproductive health among older adolescent girls in Bangladesh: An institution-based cross-sectional study. *International Journal of Environmental Research and Public Health*, 17(21),

7720.

Muslimin, K. D., Baso, Y. S., Hidayanty, H., Syarif, S., Aminuddin, A., & Bahar, B. (2022). The Effect of HIV/AIDS Education Prevention Using Web-based She Smart on Knowledge, Attitudes, and Practice in Adolescent Girls. *International Journal of Health and Medical Sciences*, 5(1), 31-36.

Sharma, S., & Sharma, P. (2019). Reproductive health problems and their awareness among adolescent girls: a clinical study. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 8(10), 3870-3874.

Phulambrikar, R. M., Kharde, A. L., Mahavarakar, V. N., Phalke, D. B., & Phalke, V. D. (2019). Effectiveness of interventional reproductive and sexual health education among school going adolescent girls in rural area. *Indian Journal of Community Medicine: Official Publication of Indian Association of Preventive & Social Medicine*, 44(4), 378.

Parida, S. P., Gajjala, A., & Giri, P. P. (2021). Empowering adolescent girls, is sexual and reproductive health education a solution?. *Journal of Family Medicine and Primary Care*, 10(1), 66.

Akther, N., Begum, M., Tasmin, T., Imtiaz, K. S., Alam, A. N., Begum, A., & Begum, N. (2020). Awareness about Reproductive Health Issues among the Adolescent Girls in a Rural Area of Bangladesh. *Bangladesh Journal of Medical Science*, 19(3), 567-574.

Mukhopadhyay, S., & Mishra, S. K. (2021). Knowledge and practices about sexual health and its socioeconomic correlates among adolescent girls in Sikkim, India. *The Oriental Anthropologist*, 21(1), 49-66.

Yasmeen, T., Kumar, S., Sinha, S., & Haque, M. A. (2019). Perceptions regarding menstruation and practices during menstrual cycles among school going adolescent girls in urban field practice area of Igims, Patna India. *Int J Med Sci Diagn Res*, 3.

Jyothi, B., & Hurakadli, K. (2019). Knowledge, practice and attitude of menstrual hygiene among school going adolescent girls: An interventional study in an urban school of Bagalkot city. *Med. Innov*, 8, 16-20.

Gupta, N., Varun, N., Anwar, A., & Nigam, A. (2020). Determinants of STI's and contraceptive awareness among Indian adolescents: a hospital-based study. *The New Indian Journal of OBGYN*, 8(1), 130-134.

Upadhyay, C., Nayak, B., & Desai, G. (2018). Knowledge and attitude of menstruation hygiene, contraception and sexual transmitted disease among schoolgirls of Lunawada, Mahisagar, Gujarat, India. *International Journal of Reproduction, Contraception, Obstetrics and Gynecology*, 7(4), 1543-1548.

George, A. S., Amin, A., de Abreu Lopes, C. M., & Ravindran, T. S. (2020). Structural determinants of gender inequality: why they matter for adolescent girls' sexual and reproductive health. *bmj*, 368.

Mamilla, S., & Goundla, S. (2019). Knowledge about menstrual hygiene, sexual health, and contraception

in educated late adolescent age girls. *Journal of Family Medicine and Primary Care*, 8(2), 610-613.

Lee, S. H., & Yeo, K. J. (2022). Sexual and reproductive health knowledge among primary school students in Malaysia. *Journal of Education and Health Promotion*, 11.

Brown, K., Williams, D. B., Kinchen, S., Saito, S., Radin, E., Patel, H., ... & Voetsch, A. C. (2018). Status of HIV epidemic control among adolescent girls and young women aged 15–24 years—seven African countries, 2015–2017. *Morbidity and Mortality Weekly Report*, 67(1), 29.

Irungu, E., Khoza, N., & Velloza, J. (2021). Multi-level interventions to promote oral pre-exposure prophylaxis use among adolescent girls and young women: a review of recent research. *Current HIV/AIDS Reports*, 1-10.

Wado, Y. D., Bangha, M., Kabiru, C. W., & Feyissa, G. T. (2020). Nature of, and responses to key sexual and reproductive health challenges for adolescents in urban slums in sub-Saharan Africa: a scoping review. *Reproductive Health*, 17(1), 1-14.

Ziraba, A., Orindi, B., Muuo, S., Floyd, S., Birdthistle, I. J., Mumah, J., ... & Kabiru, C. W. (2018). Understanding HIV risks among adolescent girls and young women in informal settlements of Nairobi, Kenya: Lessons for DREAMS. *PLoS one*, 13(5), e0197479.

Akuiyibo, S., Anyanti, J., Idogho, O., Piot, S., Amoo, B., Nwankwo, N., & Anosike, N. (2021). Impact of peer education on sexual health knowledge among adolescents and young persons in two North Western states of Nigeria. *Reproductive Health*, 18(1), 1-8.