

CONTRACEPTION AWARENESS AMONG ADOLESCENTS AND THE ROLE OF FUTURE HEALTH PROFESSIONALS

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Abstract: Sexual health is the right of every individual to practice a responsible and safe sexual life without coercion, discrimination or violence. This right applies to all genders and ages, including adolescents, and emphasizes the importance of access to accurate health information and effective contraceptive methods. In the context of health education about sexual maturation and the relationship with contraception, a balanced approach to education is required during the personal development of adolescents and awareness of the need for reproductive health.

For the purposes of the study, students of the specialty "Midwifery" at Burgas State University "Prof. Dr. A. Zlatarov", together with a teacher, prepared a presentation providing information about sexual maturation and the importance of preventing sexually transmitted diseases and unwanted pregnancy through the use of contraceptive methods. An anonymous survey was also conducted among students aged 15 to 18 in schools in the villages of Tranak and Ruen, Burgas region; their teachers; students of the specialty "Midwifery" - second, third, fourth year of Burgas State University "Prof. Dr. A. Zlatarov". The subject of the study is to monitor the knowledge and awareness of students about methods of contraception and its importance for the sexual and reproductive health of adolescents.

The results show that according to student midwives and teachers, students are informed mostly from the Internet, since the Internet is easily accessible and provides a quick answer and, above all, offers anonymity.

The teachers' observations determine an average level of awareness among students about the risk of sexually transmitted infections (STIs) and unwanted pregnancy when not using a condom. According to the students, students show a low level of awareness about the risk of STIs and early pregnancy. For the students themselves (45.4%), there is a "high" risk of unwanted pregnancy when not using a condom, however, 25.9% are not aware that such a risk exists. 39% of students assess the risk of sexually transmitted infections when not using a condom, 26.2% are unaware of the existence of this risk. This confirms the need for health education programs on barrier methods of contraception (such as condoms) to prevent sexually transmitted infections and early pregnancy.

A significant part of 78.9% of students welcome the provision of additional training on contraception, presented by students majoring in Midwifery, following the "peer-to-peer" method.

Conclusion: Sexual and reproductive health is an essential and irrevocable aspect of human development and maturity throughout life, requiring access to information and care, awareness of risks and ways to prevent adverse consequences.

Keywords: sexual and reproductive health, contraception, sexual maturation, midwifery students.

Field: Medical sciences and Health

1. INTRODUCTION

Sexual health is defined as "a state of physical, emotional, mental and social well-being in relation to sexuality; it is not merely the absence of disease, dysfunction or infirmity" (WHO 2025a). Sexual and reproductive health (SRH) includes the ability to prevent unwanted pregnancy, unsafe abortion and sexually transmitted infections (STIs), including HIV, as well as to prevent all forms of sexual violence and coercion, and adolescents are the most vulnerable risk group in this regard.

According to the World Health Organization (WHO), adolescence covers the age group between 10 and 19 years, characterized as a period of physical, psychological and social maturation that marks the transition from childhood to adulthood. The maturation of the reproductive system is associated with the onset of manifestations of sexuality. During this period, adolescents' desire for self-affirmation and autonomy can lead to behavior that threatens their sexual and reproductive health.

The World Health Organization (WHO) defines comprehensive sexuality education as an opportunity for young people to receive accurate, age-appropriate information about sexuality, sexual and reproductive health, which are crucial for good health throughout life.

The availability and accessibility of contraceptives and contraceptive services are essential conditions for the promotion of sexual health at the age of sexual maturation and sexual activity.

Contraception means the use of various methods to prevent pregnancy during sexual activity,

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through the use of contraceptive pills, condoms and surgical procedures (WHO (2025b)). When used correctly and consistently, condoms offer one of the most effective methods of protection against sexually transmitted diseases, including HIV.

In this context, health education about sexual maturation and the relationship with contraception requires a balanced approach of education during the personal development of adolescents and awareness of the need for reproductive health. It is necessary to conduct educational programs that prepare them for the physiological and emotional changes during puberty, in relation to the strengthening of reproductive health; provide information about various methods of preventing unwanted pregnancy and sexually transmitted infections; develop skills for making informed decisions based on reliable information; build values and social awareness that lead to healthier life choices.

A worrying fact is the decreasing age of first sexual intercourse.

Early sexual initiation generally refers to the initiation of sexual activity before the age of 18. According to the 2021–2022 Health Behaviour in School-Age Children (HBSC) survey in 44 countries, very early sexual intercourse is defined as occurring at or before the age of 14 (Inchley et al., 2022).

A study conducted in Albania found very early very early sexual intercourse (≤ 14 years) in Albanian children aged 15 (Myzafer et al., 2025).

Sweden, the USA, Ireland, Greece, Portugal report a mean age of first sexual intercourse of 15.5 years. Early sexual activity is estimated as starting before 16 (Borneskog et al., 2021)

This necessitates the provision of appropriate preventive approaches to reduce the age of early sexual debut, as well as the associated adverse SRH consequences.

The World Health Organization (WHO) states that complications of pregnancy and childbirth are the leading cause of death among 15-19-year-old girls worldwide, followed by self-harm, road traffic injuries, diarrhea, and tuberculosis. To prevent early pregnancy and poor reproductive outcomes among adolescents. In this regard, it recommends reducing marriage before age 18; reducing pregnancy before age 20; increasing the use of contraception by adolescents at risk of unintended pregnancy; reducing forced sex among adolescents; reducing unsafe abortion among adolescents; and increasing the use of skilled prenatal, delivery, and postnatal care among adolescents.

Teenage pregnancy remains a major global health and social problem, with an estimated 21 million girls aged 15 to 19 in developing regions becoming pregnant each year, resulting in an estimated 12 million births. Sub-Saharan Africa and Latin America and the Caribbean have the highest rates of teenage pregnancy (WHO, 2025c).

The teenage birth rate in the United States remains higher, at 13.5 per 1,000 in 2023. Countries such as the United Kingdom (8.6), France (3.5), Canada (4.5), and Sweden (2.5) have lower teenage birth rates. In Bulgaria, the rate for 15-19 year-old girls in 2023 was 36.8 - significantly higher than in other developed European countries. The average teenage birth rate (adolescent fertility rate) in the European Union (EU) is 6.66 births per 1,000 women aged 15–19 in 2023 (<https://fred.stlouisfed.org/series/spadotfrteuu>; <https://www.congress.gov/crs-product/R45184>).

The results are influenced by socio-economic conditions and differences, behavioral factors – higher contraceptive use among adolescents in these countries (Scott, R. et al., 2020).

Unwanted pregnancies in adolescent girls carry medical and health risks such as the risk of eclampsia, preterm birth and increased neonatal morbidity and mortality. This is related not only to their physiological immaturity but also to limited access to health services, education and support.

Sexually transmitted infections (STIs) have a profound impact on health. If left untreated, they can lead to serious consequences, including neurological and cardiovascular diseases, infertility, ectopic pregnancy, stillbirth and an increased risk of human immunodeficiency virus (HIV). They are also associated with stigma, domestic violence and affect quality of life.

The World Health Organization (WHO) states that the incidence of STIs amounts to 376 million new cases of the four main curable STIs (chlamydia, gonorrhea, syphilis and trichomoniasis) (WHO, 2025d). The European Centre for Disease Prevention and Control (ECDC) also shows an increasing trend, with a total of 434,727 cases of chlamydia infection reported in 2023, with the highest incidence found in women aged 15 to 25. As for gonorrhoea, in 2023 there was a 31% increase in Europe compared to 2022, with a significant impact on adolescents and young people, the problem being compounded by the emergence of antimicrobial resistance. In 2023, 41,051 confirmed cases of syphilis were reported in EU countries, representing a 13% increase compared to 2022 (<https://www.ecdc.europa.eu/en/news-events/sti-cases-continue-rise-across-europe>).

Globally, 160,000 new HIV infections were reported in adolescents aged 10 to 19 years in 2021 (WHO, 2025e).

According to a report by the World Health Organization (WHO) Regional Office for Europe, almost

a third of adolescents (30%) reported not using a condom or birth control pills during their last sexual intercourse, a figure that has barely changed since 2018. This puts young people at significant risk of sexually transmitted infections (STIs) and unplanned pregnancy (WHO, 2025b).

This calls for supporting changes in the health behavior of adolescents in relation to building a positive attitude towards personal sexual and reproductive health and a healthy lifestyle.

In Bulgaria, early births of girls under 15 years of age pose significant social and health problems. Births by maternal age for 2023 in the 15-19 age group according to NSI data are 5625. 99 abortions were performed on persons under 15 years of age (0.6%), and from 15 to 19 years of age - 1,482 (9.6%) (Healthcare_2024).

There is no adopted National Program on Sexual and Reproductive Health (SRH) in Bulgaria and the activities aimed at SRH are included in several of the current strategic and program documents that the Ministry of Health implements - National Health Strategy, National Program for Improving Maternal and Child Health 2021-2030, National Program for Prevention and Control of HIV and Sexually Transmitted Infections 2021-2025, etc. (Plan for strengthening the role of health education in Bulgarian schools, 2023). By Decision No. 673 of the Council of Ministers of 29.09.2023, a Plan for Strengthening the Role of Health Education in Bulgarian Schools was adopted. It provides for the creation of an inter-institutional mechanism for planning and implementing activities on promotion, prevention and prophylaxis, as well as ... development of training modules and educational resources on various health topics and measures to attract community centers and youth organizations to promote health awareness, including through the application of the "Peers Educate Peers" approach (Annual report on the state of health of citizens in Bulgaria for 2023, 2024).

Regulation No. 1 of February 8, 2011, specifies the autonomous activities that a midwife can perform independently, in connection with contraceptive counseling:

- To carry out activities related to the prevention of STDs, HIV, AIDS
- Health promotion, prevention and prophylaxis of diseases
- To prepare and implement a program for training students
- To provide patients with free access to materials for the dissemination of health knowledge related to family planning and reproductive health;
- To participate in the training of individuals in the field of hygiene, individual and public health (Order no. 1 of 8 February 2011).

2. MATERIALS AND METHODS

For the need to inform about the methods of contraception and its importance for the sexual and reproductive health of adolescents, an anonymous survey was conducted in April among students aged 15 to 18 in schools in the villages of Tranak and Ruen, Burgas region; their teachers; students of the "Midwifery" specialty - second, third, fourth year of Burgas State University "Prof. Dr. A. Zlatarov". The students of the "Midwifery" specialty, together with a teacher, prepared a presentation providing information about sexual maturation and the importance of protecting against sexually transmitted diseases and unwanted pregnancy through the use of contraceptive methods. The observation and interview methods were used.

3. RESULTS

160 students were surveyed. Age distribution – most are in the age group of 15-16 years (64.20%), followed by 17-18 years (35.80%). Distributed by gender, the largest group is girls – (69.90%), and boys are (30.10%).

The surveyed teachers are 70, of which women predominate (87.70%), only (12.30%) of the men participated in the study. The distribution by experience is as follows: with over 10 years of experience are (45.50%); equally are the teachers with experience from 5 to 10 years and up to 5 years of experience, respectively 27.30%.

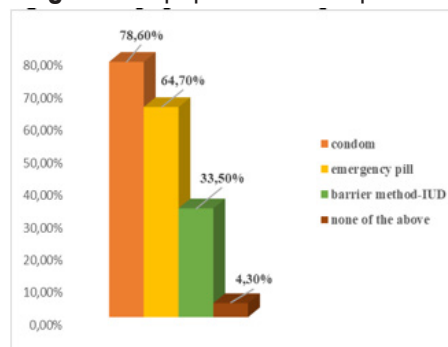
50 students from the specialty "Midwifery" from the Bulgarian State University "Prof. Dr. A. Zlatarov" were surveyed. fourth-year students 45.70%; followed by second year 30.40%; and third year 23.90%. Distributed by age: the largest group of students surveyed is young, aged 20-25 (78%); followed by other age groups: 31-35 - 13%; and over 35 - 9%.

A significant proportion of students indicated that they receive information about contraception from teachers (52%), while students and teachers are of the opinion that students get information from the Internet, since the Internet is easily accessible and provides a quick answer and, above all, offers

anonymity. According to students and teachers, students get information from the Internet, since the Internet is easily accessible and provides a quick answer and, above all, offers anonymity.

Regarding contraceptive methods, the study found that 78.60% of students know the method of contraception using a condom, because the mechanism of action is relatively easy to understand. In second place, they indicate the "Emergency Pill" (64.70%) - emergency contraception is an emergency procedure to prevent unwanted pregnancy after unprotected sexual intercourse. An IUD or intrauterine device (IUD) is indicated in third place by 33.50% of students (Fig. 1).

Fig. 1 Most popular contraceptive methods



Source: author's research

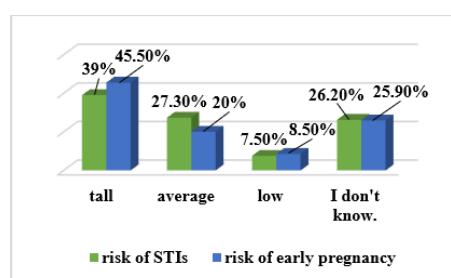
The "Golden Rule" of the World Health Organization (WHO) states that, "services suitable for young people should be effective, safe, accessible, appropriate, comprehensive" (Boeva, T., 2024). As the most significant barrier to the use of contraceptives, students in our study indicated the feeling of inconvenience and embarrassment (41.50%) when they have to buy a condom. Our study found that young people in France since 2022 have had access to condoms completely free of charge in a pharmacy network, which motivates adolescents to use them (<https://clinica.bg/22905-bezplatni-prezervativi-vyv-franciq-zamladejite>).

For 37.70% of students, the barrier is ignorance of proper use – i.e. lack of medical information about contraception. Religious views are indicated by 17.70%, which means that this information should be tailored to the age and maturity of the students, as well as cultural and religious norms.

For 45.4% of students, there is a "high" risk of early pregnancy if a condom is not used during sexual intercourse, but 25.9% are not aware that such a risk exists.

39% of students assess the risk of sexually transmitted infections if a condom is not used during sexual intercourse, while 26.2% are unaware of the existence of this risk (Fig. 2).

Fig. 2 Assessment of the risk of STDs and early pregnancy when not using a condom during sexual intercourse, according to students

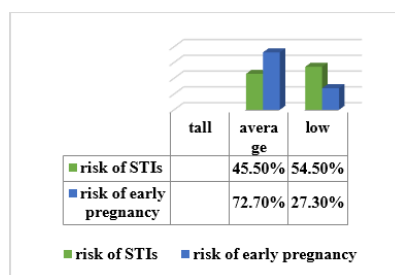


Source: author's research

It was important for us to understand the opinion of teachers and future midwives about the level of awareness of students about the risk of STIs and early pregnancy when not using a condom.

The teachers' observations determined an average level of awareness of students about the risk of STIs (45.50%); early pregnancy (54.50%) when not using a condom (Fig. 3).

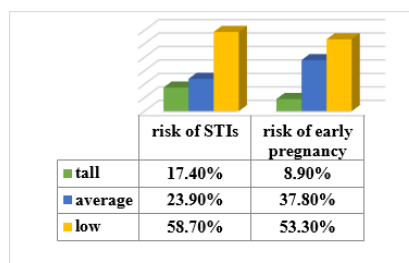
Fig. 3 Level of awareness of the risk of STIs and early pregnancy when not using a condom, according to teachers



Source: author's research

According to the students, students show a low level of awareness about the risk of STIs (58.70%); early pregnancy (53.30%) (Fig. 4).

Fig. 4 Level of awareness of the risk of STDs and early pregnancy when not using a condom, according to students

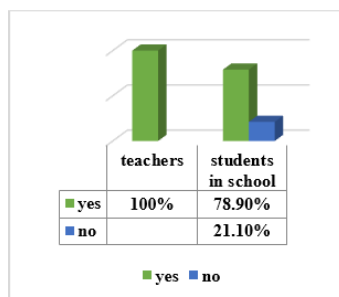


Source: author's research

At the Higher Medical University, students gain more in-depth knowledge about sexual health, study sexually transmitted diseases and their consequences, and the risks of teenage pregnancy. Their opinions are based on past experience and current observations, with which they can be useful to adolescent students.

After the presentation of scientific information on the health topic, it was extremely important for us to find out whether teachers and students agree that students of the "Midwifery" specialty should provide additional training on contraception. Results: 100% of teachers support the initiative; 78.90% of students (Fig. 5).

Fig. 5 Opinion of teachers and students about the possibility of students of the "Midwifery" specialty to conduct health education



Source: author's research

4. DISCUSSIONS

Teachers who teach "Biology and Health Education" are the first to "talk" about sexual health topics. But schoolchildren still use Internet information, which means that they do not receive sufficiently comprehensive or timely information about contraception at school or from their families. Condoms are a barrier method of contraception and prevent sperm from passing to the uterus during coitus. They are extremely practical and effective, and in addition to their contraceptive effect, they protect against sexually transmitted infections. Their efficacy when used correctly is 85-98% and they protect against STIs. Emergency hormonal contraception does not cause abortion. Typical side effects are nausea, vomiting, irregular uterine bleeding, headache, fatigue, dizziness. The question of whether emergency contraception should be provided without a prescription or contraceptive counseling, as is the case in our country, is controversial. The spiral (IUD) is an effective method of reversible contraception. However, the use of the spiral (IUD) by nulliparous women is inappropriate. "Emergency pill" and the IUD protect against pregnancy, but not against STIs.

It is unacceptable that despite the wide availability and free access to various contraceptive methods, adolescents feel uncomfortable and anxious about seeking a contraceptive. This is indicative of the lack of access to quality primary health services and knowledge about safe sex and the prevention of unwanted pregnancy and sexually transmitted diseases. Systematic training is required to build responsible and sustainable behavior regarding sexual and reproductive health (SRH). Moreover, our study found that information about contraception is provided to school students only in the Biology and Health Education classes in grade 8, when they are 15-16 years old. In addition, adolescents are characterized by a sense of invulnerability and an underestimation of the likelihood of contracting an STI or getting pregnant early.

5. CONCLUSIONS

The study found that school is a suitable environment for providing knowledge about contraception in order to reduce the use of the Internet as an alternative for information.

Adolescents know about contraceptive methods, but they need to be familiar with the advantages and disadvantages of some contraceptive methods. Health awareness and health counseling are needed on the importance of timely access to SRH care

Students report inconvenience in purchasing condoms, which could be eliminated if the topic is systematically discussed and the example of other countries for providing them free of charge is followed. And organizing health education initiatives with the participation of future midwives would facilitate access to contraceptives, which would reduce the stigma surrounding their use in order to increase the health and sexual culture of adolescents. I.e. the role model of training "peers educate peers" is a possible applicable method - a factor facilitating contraceptive services.

Sexual and reproductive health is an important and indispensable aspect of human development and maturity throughout life, requiring access to information and care, awareness of risks and ways to prevent adverse consequences. The study highlights the importance of increasing awareness among adolescents about the relationship between sexual and reproductive health and the use of contraception. Universities and educational institutions should focus efforts on using methods to improve the ways of providing health educational support to adolescents during the period of sexual maturation. The participation of future midwives in health educational initiatives is essential to promote professional development, and students would build trust in health professionals.

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