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# Attitudes and Knowledge of Students on Sexuality in Three Secondary Schools

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**Keywords:** adolescents, contraception, education, sexually transmitted diseases, sexuality

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## Abstract

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**Introduction.** Sexuality of children and adolescents in Croatia is still considered a taboo, and sexually transmitted diseases are a significant global public health problem that is constantly growing. As a frequent consequence of irresponsible sexual behaviour and early sexual intercourse, we are faced with the problem of juvenile, most often unwanted, pregnancy. Contraceptives are used to prevent sexually transmitted diseases and unwanted pregnancies, and the most vulnerable group are the adolescents. The primary task is to educate the youth prior to them entering active sexual life.

**Aim.** To collect and analyse data on sexual habits, attitudes and knowledge of adolescents. To assess the need for additional education and preventive programmes.

**Methods.** 130 high school students, aged 17-19, participated in the survey. For testing purposes, a questionnaire was used. The questionnaire was conducted voluntarily and was completely anonymous, and a written consent was obtained from parents of juvenile participants.

**Results.** The adolescent subjects in this study showed insufficient knowledge of sexuality, namely the menstrual cycle, contraceptives and emergency contraception, and sexually transmitted diseases. They showed knowledge of things they could get acquainted with on a daily basis through the media and other information outlets.

**Conclusion.** According to the results obtained by the research, we can conclude that higher quality education of the youth is necessary, with the aim of expanding their knowledge of sexuality in order to prevent sexually transmitted diseases and the occurrence of unwanted juvenile pregnancies.

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## Introduction

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The concept of reproductive health is defined as a state of complete physical, mental and social well-being, and refers to the reproductive system at all stages of life (1). Quality reproductive health implies informing men and women about a satisfactory and safe sexual life and the ability of realizing offspring. Sexual and reproductive health affects the general well-being of society and the quality of life, and therefore they have an important public health significance, thus covering much wider subjects. Topics such as sexual, ethical and social problems are attracting increasing interest at the global level, and consequently such topics are increasingly and more frequently researched (2).

Poor reproductive health is most often associated with ignorance, i.e. poor quality education received from parents or through the educational system, and manifests itself through sexually transmitted diseases, unwanted pregnancies, sexual exploitation in the form of violence and abuse, and sometimes death. The aim of reproductive health protection is the birth of a healthy offspring, while the enrichment of life and personal relations, which are very important for reproductive health, is the aim of sexual health protection (3).

Adolescence is a phase of maturation through which young people prepare themselves for adulthood, and it encompasses the period between 13 and 19 years of age. During adolescence, emotional, psychosocial, physical and cognitive changes occur, as well as changes in the pattern of behaviour and determination of one's own lifestyle. The results of numerous studies confirm the correlation between risky behaviour of the youth, such as alcohol and drug consumption, smoking and promiscuous behaviour, with consequences for their psychophysical, reproductive and sexual health (4,5). Nowadays, adolescents are increasingly using unverified and unreliable sources of information, such as the Internet, which is why they often encounter incorrect information, which then leads to risky sexual behaviour. Entering early into sexual relations also leads to an increase in the number of sexual partners during life, which results in an increase in the risk of contracting sexually transmitted diseases. Sexually transmitted diseases

are diseases transmitted from an infected person to a healthy person via direct sexual contact, but they can still be transmitted via infected objects or in utero - from a mother to a child during childbirth. In addition, certain sexual diseases can be transmitted both anally and orally (6).

It is estimated that more than 400 million adults contract sexually transmitted diseases every year, and 60% of sexually transmitted diseases and infections occur in people under 25 years of age (7). According to the results of research conducted thus far, the most common average age of sexual intercourse in Croatia is 16 years for male adolescents, and 17 years for female adolescents (8,9). According to the data of the Croatian Institute of Public Health, 29 cases of syphilis, 229 cases of chlamydia and 13 cases of gonorrhoea were recorded in 2016 in Croatia (10).

In addition to sexually transmitted diseases as a frequent consequence of irresponsible sexual behaviour and early entering into sexual relations, there is also the problem of juvenile, most often unwanted, pregnancy as a consequence of non-use of contraceptives. In 2015 and 2016, the same number of births was recorded among mothers aged 15 or under, 4 in each year (11). In 2015, 86 abortions by juvenile pregnant women were recorded, two of them under the age of 15 (11).

The primary method of prevention of transmission and infection with sexually transmitted diseases and protection against unwanted pregnancies is the use of contraceptives. Contraception is a term coined from two words: "*contra*" - meaning against, and "*ception*" - a short form of word conception (12,18). The most common causes of lower rate of use of contraceptives among the adolescents are the lack of contraception when they require it, lack of motivation to use contraception, which in most cases is associated with insufficient knowledge and poor quality education on the importance of their use, and unexpected sexual contact, indicating the lack of readiness for sexual relations and premature entry of adolescents into such relations (13,19).

## Methods

The survey was conducted from 1 March to 1 June 2017 and included 130 students from 3<sup>rd</sup> and 4<sup>th</sup> grades of secondary schools. The participants were divided into three research groups from different parts and counties of Croatia. The survey was conducted at the Medical School in Split, Bjelovar Gymnasium, Bjelovar Commercial and Trade School, and Isidor Kršnjavi Secondary School in Našice.

For the purpose of this study, a standardised and validated "Questionnaire on Contraception and Sexual Health" was used, consisting of two parts (14). The first part of the questionnaire collected socio-demographic data of the respondents: age, place of residence (city or village), sex, grade and secondary school programme, grade average and satisfaction with the same, plans to continue their education at a university, the mother's and the father's education, and whether they have siblings. The second part investigated the participants' knowledge on menstrual cycles, contraception, emergency contraception, sexually transmitted diseases, and ways of obtaining information (15).

Overall, 76 (58.5%) students from the gymnasium, 12 (9.2%) students from the commercial school and 42 (32.3%) students from the medical school participated in the survey. A total number of female subjects was 89 (68.5%), while 41 subjects were male (31.5%).

Microsoft Excel 2010 was used to analyse the data.

## Ethics

The study was conducted according to the principles of the Declaration of Helsinki and recommendations for good clinical practice, with the approval of the Ethics Committee of the schools in which the study was conducted.

## Results

**Table 1. In which part of the menstrual cycle do girls have the highest risk of pregnancy?**

Answers offered	Number of responses	Percentage
During the menstrual cycle	0	0
In the middle of the cycle	95	73.1
Just before the menstrual cycle starts	26	22.3
I do not know	6	4.6
Total	100	100

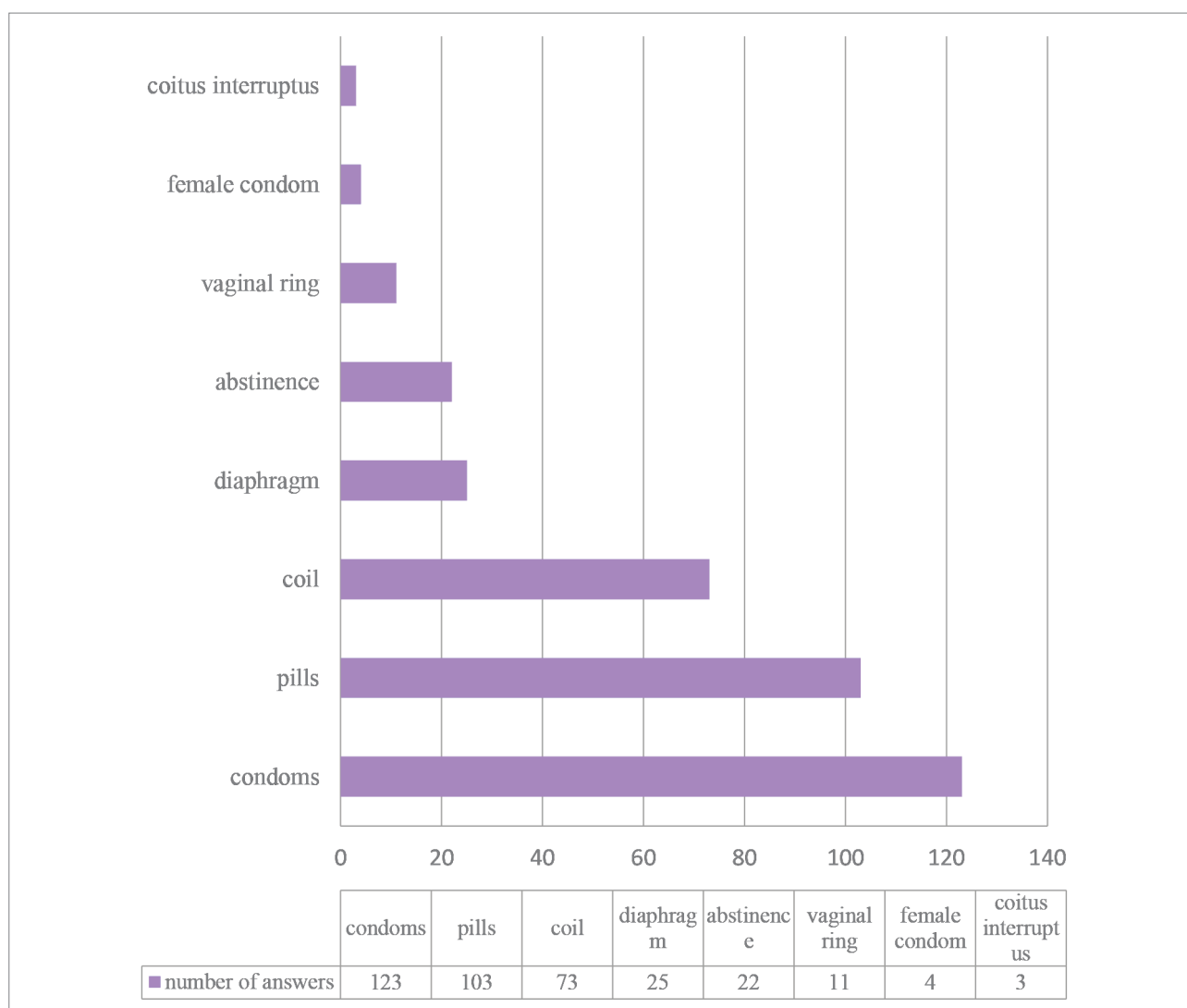
In Table 1, 95 (73.1%) respondents provided the correct answer, i.e. that girls have the highest risk of pregnancy in the middle of their menstrual cycle.

When asked: "Can a girl become pregnant during her first sexual intercourse?", no respondents claimed they did not know the answer to the question, and 123 (94.6%) respondents provided the correct answer, while 7 (5.4%) respondents answered that a girl cannot become pregnant during her first sexual intercourse. Out of 130 respondents, 92 (70.8%) provided the correct answer when asked: "Can individuals younger than 16 legally obtain contraceptives?"

In the third question regarding contraception, respondents were asked about contraception methods they are familiar with, and Graph 1 provides the distribution of their answers.

Graph 2 presents the distribution of answers to the question: "Which contraception methods are the most reliable for the youth?" The subjects had the option of selecting three answers, and the most frequent responses were condoms and birth control pills.

When asked about emergency contraception, the respondents were asked to select which of the proposed emergency contraceptives they had heard about, and 117 (90%) of the respondents knew about the hormonal pill taken after sexual intercourse, also known as the "morning after pill".



Graph 1. **What contraception methods are you familiar with?**

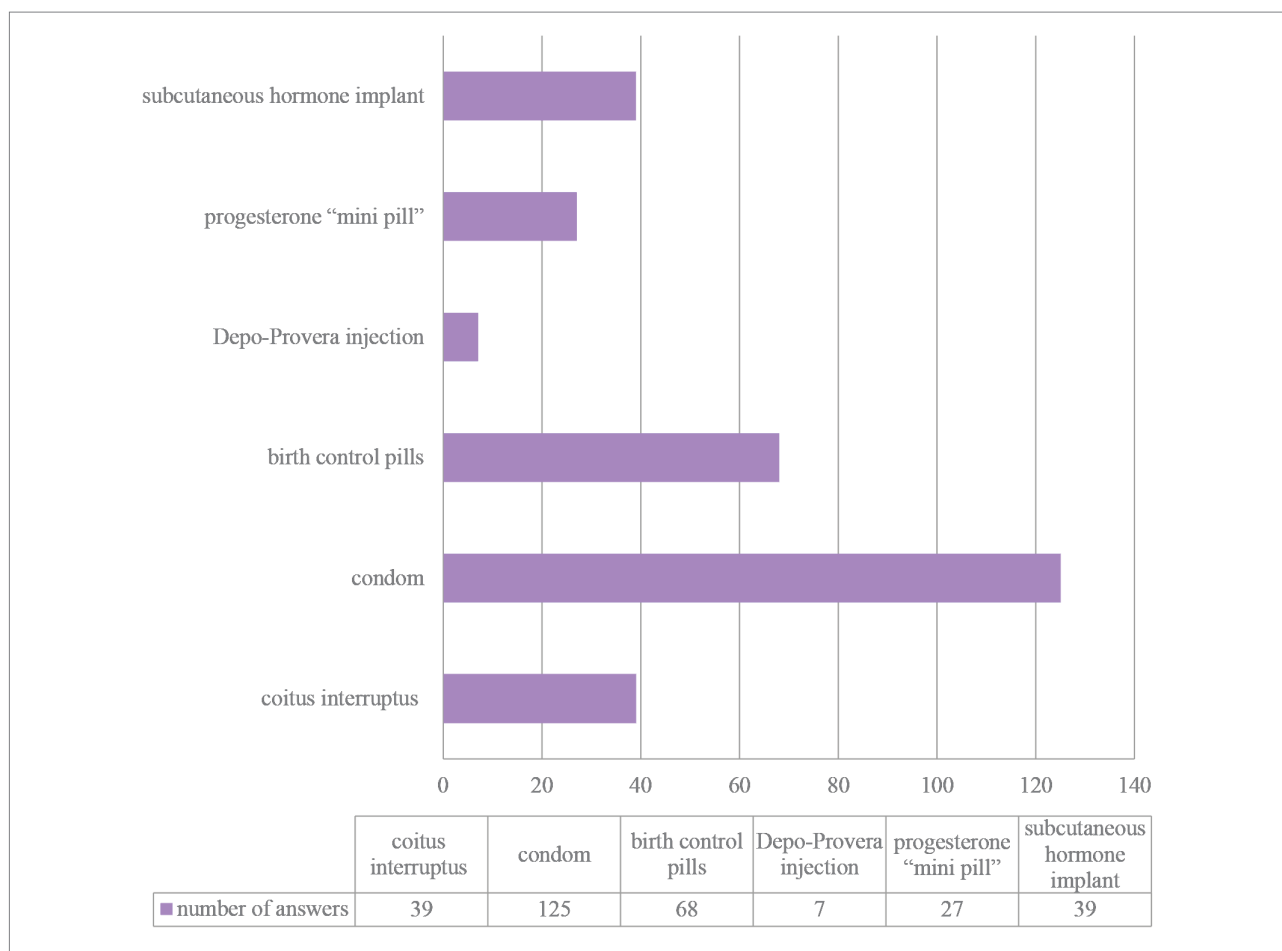
**Table 2. If you had unprotected sexual intercourse, in which time window should you take a contraceptive pill?**

Answers offered	Number of responses	Percentage
Up to 12 hours after	31	23.8
Up to 24 hours after	35	26.9
Up to 48 hours after	7	5.4
Up to 72 hours after	30	23.1
Up to 1 week after	0	0
I do not know	27	20.8
Total	130	100

Table 2 shows that 30 (23.1%) respondents answered correctly - up to 72 hours.

The majority of respondents, 97 (74.6%), chose a pharmacy as the place where an emergency contraceptive can be obtained, although emergency contraception can be obtained even from a general practitioner, at a medical clinic, and at a family planning clinic.

In Table 3, the majority of respondents, i.e. 80 (61.5%), answered they did not know the correct answer, and only 7 (5.4%) respondents offered the correct answer - the period of up to 5 days.



Graph 2. Which contraception methods are the most reliable for the youth

**Table 3. If you had unprotected sexual intercourse, in which time window should a physician insert a coil?**

Answers offered	Number of responses	Percentage
Up to 24 hours after	32	24.6
Up to 72 hours after	11	8.5
Up to 5 days after	7	5.4
Up to 7 days after	0	0
I do not know	80	61.5
Total	130	100

infectious diseases are itching of the sexual organs and abnormal vaginal bleeding, while abdominal pain is the least recognized symptom caused by sexually transmitted infectious diseases. Respondents listed infertility as the most common long-term consequence of sexually transmitted infectious diseases, while spontaneous abortion was the least recognized long-term consequence of these diseases.

When asked: "Choose which of the following methods of contraception also protect against sexually transmitted diseases?", the majority of respondents, 103 (79.2%), provided the correct answer - a condom.

HIV, syphilis, chlamydia and hepatitis B and C are the most frequently chosen answers regarding sexually transmitted infectious diseases, while trichomoniasis is the least frequently recognised sexually transmitted infectious disease. Symptoms that are commonly recognised as caused by sexually transmitted

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## Discussion

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Respondents showed a high level of knowledge of the menstrual cycle and most of them offered correct answers to the questions about the menstrual cycle. A particularly large percentage of correct answers was provided for the first question: "In which part of the menstrual cycle do girls have the highest risk of pregnancy?" 73.1% of respondents provided the correct answer, which is 10% more than in the identical 2011 survey, which also investigated students' knowledge on sexual health (3). In addition, in the same study, the percentage of correct answers to the question "Can a girl become pregnant during menstrual bleeding?" was 53.4%, and in this study 66.2% of respondents answered the same question correctly. Taking into account the two questions about menstrual periods and answers in both studies, we can conclude that the knowledge about the menstrual cycle among the adolescents is on a positive increase, but is still low because one third of the adolescents, i.e. 33.8%, lack satisfactory basic knowledge.

Although the percentage of correct answers to the third question "Can a girl become pregnant during her first sexual intercourse?" is significantly high, i.e. the respondents showed excellent knowledge on this issue, the adolescents do not really apply that knowledge in practice because, according to the study "Live Healthy Youth", more than half of the adolescents, i.e. 57.4%, confirmed that they did not use any contraceptives during their first sexual intercourse (16).

Since contraceptives have the purpose of preventing sexually transmitted diseases, most often among adolescents, it was expected that the respondents would have good knowledge of this topic, and they have shown this to be true since they most often listed condoms and birth control pills as methods of contraception they are familiar with. Taking into account the study conducted among students entitled "Live Healthy Youth" in which 69.2% of the youth stated that they use condoms as a mean of contraception, we can conclude that a condom is certainly the most popular and most commonly used contraceptive since almost everyone knows about it, and more than two thirds of adolescents use it. In addition, the most frequently chosen answer to the question of the most reliable methods of contraception was a condom, which

again confirms that condoms are the most known and popular type of contraception among the youth, and the same results were obtained by a study conducted among adolescents in Germany (17).

The participants in this study showed poor knowledge of emergency contraception methods. Although 90% of the youth had heard about the hormonal pill after sexual intercourse, popularly known as "the morning after pill", only 23.1% of respondents knew that the emergency contraceptive pill should be taken up to 72 hours after sexual intercourse, which would mean that 76.9% of respondents did not know the correct answer to this question.

When asked which sexually transmitted diseases the participants had heard of, of nine listed sexually transmitted infectious diseases mentioned in this study the respondents most often selected syphilis, chlamydia and HIV/AIDS. Syphilis and HIV/AIDS are among the world's most well-known sexually transmitted infectious diseases, so it is not surprising that most of the respondents selected them. According to the Croatian Institute of Public Health, only 29 cases of syphilis and 77 new HIV/AIDS cases were recorded in Croatia in 2016 (10). Because of their global presence, these two diseases will always find their place at the top of every scale associated with sexually transmitted infectious diseases. Chlamydia is more frequent in Croatia than either syphilis or HIV/AIDS. Although in constant decline, the number of recorded cases of chlamydia in Croatia during 2016 was 229 (10). A very high incidence of that disease shows that chlamydia is one of the most well-known sexually transmitted diseases among the respondents. In the last question of the questionnaire, 79.2% of respondents provided a correct answer in saying that a condom is a method of contraception that also protects against sexually transmitted diseases.

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## Conclusion

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On the basis of this study we can conclude that the adolescents do not show satisfactory knowledge in the field of basic information on reproductive health. It is precisely on this basis that we can assume that the methods and/or quality of education are inadequate and that they should be analysed in detail, as well as that systematic education of the youth should be carried out accordingly. Regardless of the constant emphasis on issues related to sexuality and reproductive health, the knowledge of the

youth and the quality of reproductive health are not improving, and as a result it is difficult to prevent or reduce the incidence of sexually transmitted infectious diseases and reduce the number of unwanted pregnancies in adolescence. One of the main causes of bad reproductive health is ignorance, which begins with education at home, and continues through the educational system. In addition, we have observed that a large number of adolescents most often give in under pressure from peers and/or the environment, ignoring in such moments their own conscience as well as knowledge, which is of great importance to them in such moments.

The adolescents who participated in this study showed insufficient knowledge on sexuality, namely menstrual cycles, contraception and emergency contraception, and sexually transmitted diseases. Their knowledge was sufficient regarding general matters, which they mostly encounter from childhood through the media and other information outlets, but when the questions probed deeper into the topics of the study, the respondents' knowledge was shown to be proportionally lower. Furthermore, the consequence of such ignorance is superficial education on sexually transmitted infectious diseases and contraceptive methods, which later leads to irresponsible sexual behaviour, and consequently to the spread and increase of the number of infected with sexually transmitted infectious diseases and the incidence of unwanted juvenile pregnancies.

Timely and quality education of the youth through adjusted health education programmes and methods is the cornerstone for the development of knowledge and correct attitudes that will contribute primarily to the preservation of reproductive health and then to its improvement as well.

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## STAVOVI I ZNANJA UČENIKA O SPOLNOSTI U TRI SREDNJE ŠKOLE

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### Sažetak

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**Uvod.** Spolnost djece i adolescenata u Hrvatskoj se još uvijek smatra tabu-temom, a upravo su spolno prenosive bolesti znatan globalni javnozdravstveni problem koji je u konstantnom porastu. Kao česta posljedica neodgovornoga spolnog ponašanja i prijevremenog stupanja u spolne odnose, javlja se i problem maloljetničke, najčešće neželjene trudnoće. Kontracepcijska sredstva služe za prevenciju spolno prenosivih bolesti i neželjenih trudnoća, a najugroženija skupina upravo su adolescenti. Primarna je zadaća edukacija mladih prije njihova ulaska u aktivni spolni život.

**Cilj.** Prikupljati i analizirati podatke o seksualnim navikama, stavovima i znanju adolescenata. Procijeniti potrebu za dodatnom edukacijom i preventivnim programima.

**Metode.** U istraživanju sudjelovalo je 130 učenika srednjih škola u dobi od 17 do 19 godina. U svrhu ispitivanja upotrijebljen je anketni upitnik. Anketa se ispunjavala dobrovoljno te je bila u potpunosti anonimna, a za maloljetne ispitanike dobiven je pismeni pristanak roditelja.

**Rezultati.** Adolescenti koji su bili ispitanici u ovome istraživanju pokazali su nedovoljno znanje o spolnosti, točnije o menstrualnom ciklusu, kontracepciji i hitnoj kontracepciji te o spolno prenosivim bolestima. Znanje su pokazivali o općim stvarima, koje uglavnom svakodnevno susreću kroz medijske i ostale sadržaje.

**Zaključak.** Prema dobivenim rezultatima istraživanja možemo zaključiti da je potrebna kvalitetnija edukacija mladih u cilju proširenja znanja o spolnosti u svrhu prevencije spolno prenosivih bolesti i pojave neželjenih maloljetničkih trudnoća.

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**Ključne riječi:** adolescenti, kontracepcija, obrazovanje, spolno prenosive bolesti, seksualnost

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