# Effectiveness of the Sexually Transmitted Diseases Education Programme for Adolescents

Bahar Nur AKDOĞAN*, Canan ÖRÜKLÜ**

**Abstract**

**Aim:** This study was designed as a pre-test-post-test quasi-experimental type in order to evaluate the effectiveness of the training programme to increase the level of knowledge and awareness of nursing students about sexually transmitted diseases.

**Method:** The study was conducted on 245 students aged between 17-21 years studying in the nursing department of the Faculty of Health Sciences of a university. Data were collected using the Socio-Demographic Information Collection Form and the Knowledge Test on Sexually Transmitted Diseases prepared by the researchers by reviewing the literature. A pre-test consisting of the Socio-Demographic Information Form and the Knowledge Test on Sexually Transmitted Diseases (STDs Knowledge Test) was administered to students aged 17-21 years studying at the university. Then, students were given a 3-hour training on sexually transmitted diseases. After 1 month, the data collection phase was completed by applying the post-test to the students again in order to find out whether the training we gave was effective or not.

**Results:** While the mean STDs knowledge score of the students before the training was 13.76±0.24, it was found that the mean knowledge score increased to 17.22±0.13 after the training and there was a significant difference between them ($p< .05$). Before the training, students gave the highest correct answer to the question that there are things we can do to reduce the risk of contracting sexually transmitted diseases, while they gave the highest incorrect answer to the question that people who prefer sexual abstinence do not get sexually transmitted diseases for sure.

**Conclusion:** The knowledge levels of the students who received expert training on STDs after the training were higher than before the training. It was found that providing expert training is an effective method to increase students' knowledge levels and awareness of STDs.

**Keywords:** Adolescent, expert training, sexually transmitted diseases.

**Özgün Araştırma Makalesi (Original Research Article)**
**Geliş / Received:** 18.04.2025 **Kabul / Accepted:** 19.11.2025
*DOI: https://doi.org/10.38079/igusabder.1679112*
* Asst. Prof., Department of Nursing, Istanbul Gelisim University, Istanbul, Türkiye. E-mail: baharnurk@yahoo.com.tr
ORCID https://orcid.org/0000-0002-9150-476X
** Asst. Prof., Department of Nursing, Trakya University, Edirne, Türkiye. E-mail: cananoruklu@trakya.edu.tr
ORCID https://orcid.org/0000-0002-9545-5176

---

*ETHICAL STATEMENT: Before starting the study, approval (Date: 24.06.2022 number: 2022-11-23) was obtained from Istanbul Gelisim University Ethics Committee.*

**Geç Ergenler ve Genç Yetişkinlere Yönelik Cinsel Yolla Bulaşan Hastalıklar Eğitim Programının Etkililiği**

**Öz**

**Amaç:** Bu araştırma hemşirelik öğrencilerinin cinsel temasla bulaşan (CTBH) konusunda bilgi düzeylerinin ve farkındalıklarının arttırılmasına yönelik eğitim programının etkinliğini değerlendirmek amacıyla ön test-son test yarı deneysel tipte tasarlanmıştır.

**Yöntem:** Araştırma bir üniversitenin Sağlık Bilimleri Fakültesi hemşirelik bölümünde eğitim gören 17-21 yaşları arasında 245 öğrenci üzerinde yürütüldü. Veriler araştırmacılar tarafından literatür taranarak hazırlanan Sosyo-Demografik Bilgi Toplama Formu ve Cinsel Temasla Bulaşan Hastalıklar ile İlgili Bilgi Testi (CTBH Bilgi Testi) kullanılarak toplandı. Üniversitede öğrenim gören 17-21 yaş arası öğrenciler Sosyo-Demografik Bilgi Formu ve Cinsel Temasla Bulaşan Hastalıklar ile İlgili Bilgi Testi (CTBH Bilgi Testi)'nden oluşan ön test uygulandı. Ardından öğrencilere cinsel yolla bulaşan hastalıkları anlatan 3 saatlik eğitim verildi. 1 ay sonra vermiş olduğumuz eğitimin etkili olup olmadığını öğrenmek amacıyla öğrencilere tekrar son test uygulanarak veri toplama aşaması tamamlandı.

**Bulgular:** Öğrencilerin eğitim öncesi CTBH bilgi puan ortalaması 13,76±0,24 iken, eğitim sonrası bilgi puanı ortalamasının 17,22±0,13'e yükseldiği ve aralarında anlamlı fark olduğu ($p< .05$) bulunmuştur. Eğitim öncesi öğrenciler cinsel yolla bulaşan hastalıklara yakalanma riskini azaltabilmek için yapılabilecek bir şeyler olduğuna dair soruya en yüksek doğru yanıtı verirken cinsel perhizi tercih eden insanların cinsel yolla bulaşan hastalıklara kesin olarak yakalanmayacaklarına dair soruya en yüksek yanlış yanıtı vermişlerdir.

**Sonuç:** Uzman eğitimi verilen öğrencilerin eğitim sonrası CTBH konusundaki bilgi düzeyleri eğitim öncesine göre daha yüksektir. Öğrencilerin CTBH'ye ilişkin bilgi düzeyleri ve farkındalıklarını arttırmada uzman eğitimi vermenin etkili bir yöntem olduğu bulunmuştur.

**Anahtar Sözcükler:** Adölesan, uzman eğitimi, cinsel temasla bulaşan hastalıklar.

## Introduction

The World Health Organization (WHO) defines adolescence as 10-19 years of age and youth as 15-24 years of age. According to WHO 2019 data, there are 1.2 billion adolescents in the world[1]. According to the results of the Türkiye Demographic and Health Survey 2018, adolescents (aged 10-19 years) constitute 16% of the country's population[2]. According to the data of the Turkish Statistical Institute (TÜİK) for 2022, 15.2% of the country's population consists of young people[3]. Adolescence is an important time when young people start to form habits related to eating, exercise, substance use, and sexual behavior. These habits can help protect their health or increase the risk of health problems now and in the future[1].

Sexually transmitted diseases (STDs) have become a world problem in all countries, especially in developing countries. An important consequence of early and unprotected sexual intercourse in adolescence is the contraction of sexually transmitted diseases[4]. As a result of studies, it has been determined that the most vulnerable group against STDs is young people aged 15-24 years[2,5]. Human immunodeficiency virus (HIV)/Acquired immunodeficiency syndrome (AIDS) are mostly seen in young people aged 15-24[6], and more than 70% of sexually active adults are exposed to HPV between the ages of 15-24[7]. In 25% of adolescents aged 14-17 years who experienced sexual intercourse, at least one STD was detected one year after the first sexual intercourse[8]. Young people's lack of adequate knowledge about STDs, limited access to reliable sources, and widespread misinformation make it difficult to combat these diseases effectively.

Schools are important for the social growth and development of children and teenagers. They also provide a good setting for activities that support adolescents' sexual and reproductive health[9]. In Türkiye, there are no compulsory courses on sexual health in the curricula of both the Ministry of National Education and Higher Education Institutions, including departments providing education in the field of health, and sexual health is given as an elective course. This situation has significantly reduced the rate of students obtaining accurate information on reproductive health and increased the risk of young people turning to wrong sexual choices[10].

Although the literature includes studies identifying knowledge gaps among nursing students regarding STDs, few have proposed educational interventions to address these deficiencies. This study was planned to increase the knowledge of university students about sexually transmitted diseases and to investigate the effectiveness of the education given on this subject.

## Material and Methods

### *Type and Purpose of the Study*

This quasi-experimental pretest–posttest study was conducted to evaluate the effectiveness of sexually transmitted diseases education among late adolescents and young adults aged 17–21 years

### *Research Location*

The research was conducted on 01.02.2023 and 01.06.2023 in a Foundation University located within the borders of Istanbul Province, with students aged between 17-21 years.

### *Population and Sample of the Study*

The population of the study was 450 students studying in the 1st, 2nd, 3rd and 4th grades at a Foundation University located within the borders of Istanbul Province. The sample consisted of 245 students aged 17–21 who were randomly selected and agreed to participate in the study.

### *Data Collection Tools*

***Socio-Demographic Information Collection Form:*** This form includes 10 questions prepared by the researchers based on a literature review, covering demographic information of the participants.

***Knowledge Test on Sexually Transmitted Diseases (STDs Knowledge Test):*** The Sexually Transmitted Diseases Knowledge Test, whose original name is Sexually Transmitted Infection (STI)/HIV Pretest, is used to evaluate the knowledge levels of students before and after education within the scope of sexual health education given in schools in Canada (CALM). The test was adapted into Turkish by Siyez in 2009. In the



Istanbul Gelisim University Journal of Health Sciences (IGUSABDER) is indexed by TUBITAK ULAKBIM TR Index.
Web site: https://dergipark.org.tr/en/pub/igusabder
Contact: igusabder@gelisim.edu.tr

STDs Knowledge Test, there are 36 questions in which students' knowledge levels about STDs are evaluated. The questions are answered as “True”, “False”, and “I don't know”[11]. In the STDs Knowledge Test, each correct answer is awarded 1 point, and the total score is calculated accordingly. The highest score that can be obtained from the STDs Knowledge Test is 36. While the reliability coefficient of the questionnaire was 0.82 for the sample group adapted to Turkish, it was found to be 0.81 in our study.

### *Data Collection*

Data were collected using the Socio-Demographic Information Collection Form and the Knowledge Test on Sexually Transmitted Diseases prepared by the researchers by reviewing the literature. A pre-test consisting of the Socio-Demographic Information Form and the Knowledge Test on Sexually Transmitted Diseases was administered to students aged 17-21 years studying at the university. Then, students were given a 3-hour training on sexually transmitted diseases. After 1 month, the data collection phase was completed by applying the post-test to the students again in order to find out whether the training we gave was effective or not.

### *Development of Training Content*

In the preparation process of the training content, the objectives for informing about STDs were determined and the content was developed in accordance with these objectives. For this purpose, the literature on STDs was reviewed by the researchers and the training content was created. The titles of the training content are as follows.

- What are sexually transmitted Diseases (STDs)?
- Who is at risk?
- Which problems does STDs cause?
- What are sexually transmitted Diseases?
- How is STDs transmitted?
- What are the symptoms of STDs?
- What should be paid attention to STDs?
- How to protect yourself from STDs?

### *Analysing the Data*

Data obtained from the study were analyzed using SPSS for Windows Version 22.0 (IBM Corporation, Armonk, NY, USA). Descriptive statistics were presented as numbers, percentages, means, and standard deviations. Since the pre-training and post-training total scores of the Sexually Transmitted Diseases (STD) Knowledge Test did not show a normal distribution, these scores were compared using the Wilcoxon signed-rank test.

The comparison of correct responses to each item of the STD Knowledge Test before and after the training was performed using the McNemar test. In all analyses, the level of statistical significance was set at $p < .05$.

### *Ethical Aspects of the Research*

Before starting the study, approval (date: 24.06.2022 number: 2022-11-23) was obtained from Istanbul Gelisim University Ethics Committee. The students participating in the study were informed about the purpose, type, method of application, how and where the data would be used, and their verbal and written consents were obtained.

## Results

When the demographic characteristics of the students were analysed, 70.2% (172) were female, 29.8% (73) were male, 11.8% (29) were 17, 31.8% (78) were 18, 17.1% (42) were 19, 23.7% (58) were 20 and 15.5% (38) were 21 years old. 32,2% (79), 20,8% (51), 20,4% (50), 20,4% (50) and 26,5% (65) of the students were first, second, third and fourth year students, respectively. Of the students, 98.4% (241) were single. 51.1% (130) students lived with their families, 6.5% (16) students lived with their friends, 11.4% (28) students lived alone and 29.0% (71) students lived in dormitories. In addition, 84.9% (208), 12.2% (30) and 2.9% (7) of the students participating in the study had medium, low and high socioeconomic status, respectively. Findings related to this information are given in Table 1.

**Table 1.** Socio-demographic characteristics of students (n=245)

| **Socio-Demographic Characteristics** | | n | % |
|---|---|---|---|
| **Gender** | Female | 172 | 70.2 |
| | Male | 73 | 29.8 |
| **Age** | 17 | 29 | 11.8 |
| | 18 | 78 | 31.8 |
| | 19 | 42 | 17.1 |
| | 20 | 58 | 23.7 |
| | 21 | 38 | 15.5 |
| **Class** | 1 | 79 | 32.2 |
| | 2 | 51 | 20.8 |
| | 3 | 50 | 20.4 |
| | 4 | 65 | 26.5 |
| **Marital Status** | Married | 4 | 1.6 |
| | Single | 241 | 98.4 |
| **Where she lives** | With her family | 130 | 53.1 |
| | At home with friends | 16 | 6.5 |
| | At home alone | 28 | 11.4 |
| | At home | 71 | 29.0 |
| **Socio Economic Condition** | Low | 30 | 12.2 |
| | Medium | 208 | 84.9 |
| | High | 7 | 2,9 |



Istanbul Gelisim University Journal of Health Sciences (IGUSABDER) is indexed by TUBITAK ULAKBIM TR Index.
Web site: https://dergipark.org.tr/en/pub/igusabder
Contact: igusabder@gelisim.edu.tr

The correct response percentages of the students regarding the STDs Knowledge Test are presented in Table 2. Before the training, the majority of the students (more than 95%) accepted that the risk of contracting a sexually transmitted disease would increase if you had more than one partner, that it was necessary to see a doctor when the symptoms of sexually transmitted diseases disappeared, and that there were things that could be done to reduce the risk of contracting sexually transmitted diseases. Again, more than 80% of the students agreed that "it is possible to get a sexually transmitted disease when having sexual intercourse for the first time", "we cannot always tell whether a person has a sexually transmitted disease by looking at his/her genital organs", "clean and meticulous people can also get a sexually transmitted disease", "not only homosexual men get HIV/AIDS", "if you have more than one partner, the risk of getting a sexually transmitted disease increases", "getting a tattoo or piercing may not always be safe" and "sexually active people women should go to the doctor regularly and have a smear".

No statistically significant difference was found in the rates of correct responses to the statements "When the symptoms of sexually transmitted diseases disappear, you do not need to visit a doctor", "There are things that can be done to reduce the risk of contracting sexually transmitted diseases", "Clean and meticulous people do not contract sexually transmitted diseases", "Having more than one sexual partner increases the risk of sexually transmitted diseases", and "Sexually transmitted diseases are transmitted only through sexual intercourse" after the training compared with before the training ($p > .05$).

In all questions except these questions, the rate of correct answers was found to be significantly ($p < .05$) higher than before the training. If we look at the questions with the highest percentage of correct answers; While 26.1% of participants correctly answered before the training that sexually transmitted diseases can cause the baby to be born visually impaired, 86.5% of participants correctly answered after the training was given. While 4.1% of participants answered correctly before the training that sexual abstinence does not guarantee protection from sexually transmitted diseases, 56.3% of participants answered correctly after the training. While 44.1% of participants correctly answered before the training that sexually transmitted diseases can cause infertility if left untreated, 82.9% people answered correctly after the training.

**Table 2.** Percentages of correct answers to the knowledge test on sexually transmitted diseases

| **Statements** | **Pre-training** | **After training** | $^{*}\chi^2$ | **p** |
|---|---|---|---|---|
| | **n(%)** | **n(%)** | | |
| You can catch a sexually transmitted disease or HIV/AIDS from the doorknob, toilet bowl or tap. | 116(47.3) | 157(64.1) | 2.215 | **.028** |
| Statistics show that the majority of people infected with sexually transmitted diseases are teenagers or young adults. | 174(71) | 235(95.9) | 8.544 | **.000** |

| | | | | |
|---|---|---|---|---|
| Only syphilis and gonorrhoea are among the most serious sexually transmitted diseases. | 137(55.9) | 214(87.3) | 6.465 | **.000** |
| Symptoms of sexually transmitted diseases may not always be recognised. | 200(81.6) | 210(85.7) | 3.001 | **.003** |
| When the symptom of sexually transmitted diseases disappears, you do not need to see a doctor. | 234(95.5) | 241(98.4) | 1.214 | .226 |
| You can only get one sexually transmitted disease in a certain period of time | 141(57.6) | 207(84.5) | 4.521 | **.000** |
| There are things you can do to reduce the risk of contracting sexually transmitted diseases. | 236(96.3) | 236(96.3) | .544 | .587 |
| In order to be treated for a sexually transmitted disease, you must be 18 years of age or older. | 147(60) | 220(89.8) | 7.313 | **.000** |
| If you have had a sexually transmitted disease once, you cannot get the same disease again. | 188(76.7) | 206(84.1) | 3.764 | **.000** |
| The first time you have sexual intercourse, you will not get a sexually transmitted disease. | 211(86.1) | 234(95.5) | 3.592 | **.000** |
| If you are being treated for a sexually transmitted disease, you must report the names of your sexual partners. | 174(71.0) | 204(83.3) | 2.850 | **.005** |
| You do not need your parents' permission to be treated for a sexually transmitted disease. | 122(48.8) | 194(79.2) | 9.039 | **.000** |
| You can always tell whether a person has a sexually transmitted disease by looking at their genitalia. | 209(85.3) | 229(93.5) | 4.564 | **.000** |
| Untreated sexually transmitted diseases can cause infertility | 108(44.1) | 203(82.9) | 10.015 | **.000** |
| Clean and meticulous people do not get sexually transmitted diseases | 211(86.1) | 225(91.8) | 1.363 | .174 |
| People who choose sexual abstinence are definitely not infected with sexually transmitted diseases | 10(4.1) | 138(56.3) | 11.560 | **.000** |
| Some sexually transmitted diseases are easily treatable | 174(71.0) | 229(93.5) | 7.821 | **.000** |
| All sexually transmitted diseases can be treated and cured. | 149(60.8) | 209(85.3) | 7.949 | **.000** |
| Condoms are a highly effective method of protection against sexually transmitted diseases. | 180(73.5) | 234(95.5) | 7.871 | **.000** |
| Only adults who are sexually active can contract sexually transmitted diseases. | 181(73.9) | 201(82.0) | 3.851 | **.000** |
| Only gay men get HIV/AIDS. | 203(82.9) | 232(94.7) | 5.690 | **.000** |
| Sexually transmitted diseases can cause the baby to be born with visual impairment. | 64(26.1) | 212(86.5) | 18.971 | **.000** |
| You can get HIV/AIDS by touching a person with AIDS. | 171(69.8) | 213(86.9) | 3.580 | **.000** |
| Anyone can get a sexually transmitted disease. | 191(78.0) | 195(79.6) | 2.508 | **.013** |
| A person who has only one sexual partner has a lower risk of contracting a sexually transmitted disease. | 205(83.7) | 227(92.7) | 4.718 | **.000** |



Istanbul Gelisim University Journal of Health Sciences (IGUSABDER) is indexed by TUBITAK ULAKBIM TR Index.
Web site: https://dergipark.org.tr/en/pub/igusabder
Contact: igusabder@gelisim.edu.tr

| | | | | |
|---|---|---|---|---|
| If you have more than one partner, your risk of contracting a sexually transmitted disease increases. | 234(95.5) | 239(97.6) | 1.760 | .080 |
| If we use someone else's needle, you can catch a sexually transmitted disease. | 191(78.0) | 226(92.2) | 5.100 | **.000** |
| It is always safe to get a tattoo or piercing. | 220(89.8) | 236(96.3) | 2.501 | **.013** |
| Sexually transmitted diseases are only transmitted through sexual intercourse. | 180(73.5) | 187(76.3) | .089 | .930 |
| The herpes virus causes cold sores. | 169(69.0) | 239(97.6) | 9.667 | **.000** |
| Early onset of sexual intercourse increases the risk of genital warts, while having more than one partner increases the risk of cervical cancer in women. | 190(77.6) | 204(83.3) | 3.317 | **.001** |
| Genital discharge is a normal condition for women. | 141(57.6) | 193(78.8) | 6.903 | **.000** |
| Contraceptive pills have a protective effect against sexually transmitted diseases. | 147(60.0) | 214(87.3) | 6.805 | **.000** |
| If you know your partner, you will never get a sexually transmitted disease. | 195(79.6) | 222(90.6) | 2.242 | **.026** |
| Women with an active sexual life should regularly visit a doctor and have a smear test | 218(89.0) | 240(98.0) | 4.515 | **.000** |
| If the sexually transmitted disease is caused by a bacterium, it cannot be cured. | 141(57.6) | 236(96.3) | 9.956 | **.000** |

* McNemar $\chi^2$ test

While the mean STDs knowledge score of the students before the training was 13.76±0.24, it was found that the mean knowledge score increased to 17.22±0.13 after the training and there was a significant difference between them (p< .05) (Table 3).

**Table 3:** Comparison of students' level of knowledge about STDs before and after education

| **CTBH Knowledge Level** | **Pre-Test Score** | **Final Test Score** | ***Z** | **p** |
|---|---|---|---|---|
| | X±SS | X±SS | | |
| | 13.76±0.24 | 17.22±0.13 | -9.981 | **0.00** |

*Wilcoxon signed rank test

## Discussion

Although the World Health Organization defines late adolescence as ages 18–19 years, the age range was extended to 21 years in this study in accordance with the literature including late adolescents and young adults. In this study, the effectiveness of the training applied to increase the level of knowledge and awareness of nursing students about STDs was investigated. Considering the socio-demographic characteristics of the



Istanbul Gelisim University Journal of Health Sciences (IGUSABDER) is indexed by TUBITAK ULAKBIM TR Index.
Web site: https://dergipark.org.tr/en/pub/igusabder
Contact: igusabder@gelisim.edu.tr

students, it is seen that the number of female students is higher than the number of male students, the average age of the students is 18.99, the number of married students was low, the majority of the students have a medium socio-economic status and the majority of the students live with their families.

In this study, the STDs Knowledge Level pre-test scores applied to the students before the training were found to be 13.76±0.24. In the study conducted by Sari et al. (2023), the average total score of the STDs knowledge test applied to university students studying in the field of health was 13.24±3.08[12]. Irmak Vural et al. (2015) measured the level of knowledge with STDs at the Vocational School of Health and the average correct answer was 20.35±6.07[13]. Bakır and Kızılkaya (2015) found that the mean score of correct answers was 16.64±7.00[14]. Karasu et al. (2017) found that the mean score of students who responded correctly in the CTBH knowledge test in nursing students at a university in the Southeastern Anatolia region was 26.12±5.85[15]. The mean scores of the students may differ according to whether they have received training before or not.

The deterioration of sexual/reproductive health not only results in the interruption of physical health, but also leads to deterioration in psychosocial and mental health, and thus this situation, which impairs the health of the individual, negatively affects family and community health. Individuals need adequate and accurate sexual health education about sexuality and sexual health in order to develop, protect and maintain their sexual health[16]. In this study, the STDs Knowledge Level pre-test score applied to the students before the training was 13.76±0.24, while the post-test score one month after the training was 17.22±0.13. In the study of İldan Çalım et al. (2021), which looked at the effect of peer education on the knowledge level of university students about sexually transmitted diseases, the pre-test score before training was 20.39±6.75 and 30.43±3.74 after training[17]. In a study conducted by Kurt et al. (2021) in nursing students, it was found that students who were trained by an expert educator accompanied by a brochure had higher levels of knowledge about STDs than students who received peer education[18]. In a study conducted by Karataş et al. in 2014 to determine the level of knowledge of students studying at the Faculty of Medicine about STDs, it was determined that the level of knowledge of the 1st and 2nd year students was insufficient and that the courses given with the committee system increased the level of knowledge of the students about STDs to some extent[19] Limited evidence exists to suggest that curriculum-based programs, by themselves, are sufficient to improve gender and reproductive health outcomes among adolescents[20]. However, as seen in similar studies, it is seen that providing education with any method is effective in increasing students' knowledge levels and awareness of STDs.

Knowledge of the transmission routes of STDs and implementation of preventive measures are important for individual and community health. It has been associated with limitations in condom use, which increases the risk and incidence of sexually transmitted infections including HIV[21]. Unprotected sexual intercourse is one of the most important factors in the spread of STDs. In our study, the participation in the proposition "Using condoms is an effective method to protect against STDs" was 73.5%. This rate was reported to be 75% in nursing faculty students[16], 76.8% in vocational school students[22], 59.6% in health vocational school students[23], 59.1% in university students[24], 43.4% in university students[6], 31.5% in another group of university students[25]. In this study, this rate reached 95.5% with training. When we look at the rate before the training, it is pleasing. Nurse candidates should know that the only and most effective method to prevent STDs is to use condoms and should guide society.

In this study, the proportion of students who answered the question "Statistics show that the majority of people infected with sexually transmitted diseases are young people and adults" correctly increased from 71% before the training to 95.9% after the training. Unfortunately, HIV infections among young people between the ages of 15 and 24 account for half of all new infections[26]. Three of the United Nations' sustainable development goals focus on adolescents' sexual and reproductive health and their right to access appropriate health services. However, adolescents—particularly those under the age of 18—represent a vulnerable group with a lower likelihood of using or accessing condoms or other contraceptive methods. Before the training, 60% of the students correctly answered the statement *"You must be 18 years of age or older to be treated for a sexually transmitted disease."* Following the training, the proportion of students who provided correct responses increased to 89.8%**.**

The rate of correct answers to the question "Untreated sexually transmitted diseases can cause infertility" increased from 44.1% before the training to 82.9% after the training. The rate of correct answers to the question "Sexually transmitted diseases can cause the baby to be born visually impaired" increased from 26.1% before the training to 86.5% after the training. If left untreated, some STDs increase the risk of HIV transmission during unprotected sexual contact and pelvic inflammatory disease leads to complications such as infertility, ectopic pregnancy, miscarriage, fetal death and congenital infections[28].

"You can catch a sexually transmitted disease or HIV/AIDS from a doorknob, toilet bowl or tap" (47.3% to 64.1%), "Sexually transmitted diseases are only transmitted through sexual intercourse" (73.5% to 76.3%), "Only syphilis and gonorrhoea are among the most serious sexually transmitted diseases" (55.9% to 87.3%), "Genital discharges are normal for women" (57.6% to 78.8%), "Anyone can contract a sexually transmitted disease" (78% to 79.6%), "Sexually transmitted diseases are transmitted only through sexual intercourse" (73.5% to 76.3%), "People who prefer sexual abstinence do not definitely contract sexually transmitted diseases" (41% to 56.3%). A number of educational interventions have been developed to promote sexual and reproductive health among adolescents, aiming to reduce the incidence of HIV, STDs and early unintended pregnancy. Many of these programmes encourage abstinence from sexual activity and postponing sexual initiation to later years[29]. Programs aimed at promoting sexual abstinence and delaying sexual activity during adolescence have not been successful in reducing self-reported pregnancies and STDs[30]. Effectively designed and executed school-based HIV and STD prevention programs can help reduce sexual risk behaviors among school-aged youth. These programs can encourage delaying the first sexual experience, limit the number of sexual partners, decrease instances of unprotected sex, and promote increased condom use[31].



Istanbul Gelisim University Journal of Health Sciences (IGUSABDER) is indexed by TUBITAK ULAKBIM TR Index.
Web site: https://dergipark.org.tr/en/pub/igusabder
Contact: igusabder@gelisim.edu.tr

## Conclusion

The training on sexually transmitted diseases has increased the level of knowledge of university students. However, this rate is not at the desired level. Adolescents and young adults are at higher risk of contracting HIV and other STDs. The fact that sexually transmitted diseases are seen at such an early age, in an environment where HIV and other types of infections are gradually increasing, providing accurate information about STDs to secondary and high school students is definitely an important task from a social point of view. It is important to state that the students of the nursing department take the indispensable subject of sexually transmitted diseases in their courses, especially the infectious diseases courses starting from the 2nd grade, the women's health and diseases nursing course in the 3rd grade and the field elective courses, but we see that the rates increase with education and in other studies conducted, we see that this subject is missing in the field of health. The finding obtained from the study reminded us that the STDs-related trainings given to students should be presented within a standardized curriculum, planned and regularly repeated at certain intervals.

## REFERENCES


1. World Health Organization. Adolescent health and development.World Health Organization. who.int/maternal_child_adolescent/adolescence/en/. Accessed Feb 20, 2025.

2. Hacettepe Üniversitesi Nüfus Etütleri Enstitüsü. Türkiye nüfus ve sağlık araştırması 2018. Hacettepe Üniversitesi Nüfus Etütleri Enstitüsü. https://hips.hacettepe.edu.tr/tr/2018_turkiye_nufus_ve_saglik_arastirmasi-55. Published August 2020. Accessed November 2023.

3. Türkiye İstatistik Kurumu. İstatistiklerle Gençlik, 2022.Türkiye İstatistik Kurumu. https://data.tuik.gov.tr/Bulten/Index?p=Istatistiklerle-Genclik-2022-49670. Published May 2023. Accessed February 2024.

4. Gölbaşı Z. Adölesan dönem üreme sağlığı sorunları ve etkileyen faktörler. *Atatürk Üniversitesi Hemşirelik Yüksekokulu Dergisi*. 2015;8(1):100-108.

5. Gbagbo FY, Nkrumah J. Family planning among undergraduate university students: A case study of a Public University in Ghana. *BMC Women's Health*. 2019;19(12):1-9.

6. Çalışkan T, Çevik C, Ergün S. Üniversite öğrencilerinin cinsel yolla bulaşan hastalıklar konusundaki bilgi düzeylerinin değerlendirilmesi. *Balıkesir Sağlık Bilimleri Dergisi*. 2015;4(1):27-31.

7. Güllü FN, Tümer A. Türkiye'de son 10 yılda hemşirelik alanında yapılan human papilloma virus konulu makalelerin incelenmesi. *Izmir Democracy University Health Sciences Journal*. 2022;5(1):72-86. doi: 10.52538/iduhes.1021327.

**8.** Tu W, Batteiger BE, Wiehe S, et al. Time from first intercourse to first sexually transmitted infection diagnosis among adolescent women. *Archives of Pediatrics and Adolescent Medicine*. 2009;163(12):1106-11. doi: 10.1001/ archpediatrics.2009.203.

**9.** Mason-Jones AJ, Crisp C, Momberg M, et al. A systematic review of the role of schoolbased healthcare in adolescent sexual, reproductive, and mental health. *Systematic Reviews*. 2012;1:49. doi: 10.1186/2046-4053-1-49.

**10.** Yücesan A, Ayaz Alkaya S. Okullarda göz ardı edilen bir konu: Cinsel sağlık eğitimi. *SDÜ Tıp Fakültesi Dergisi*. 2018;25(2):200-9.

**11.** Siyez DM, Siyez E. Üniversite öğrencilerinin cinsel yolla bulaşan hastalıklara ilişkin bilgi düzeylerinin incelenmesi. *Türk Üroloji Dergisi*. 2009;35(1):49-55.

**12.** Sari C, Adiguzel L, Demirbag BC. Knowledge about family planning and sexually transmitted diseases among university students. *TJFMPC*. 2023;17(1):50-61.

**13.** Irmak Vural P, Bakır N, Oskay Ü. Meslek yüksekokulu öğrencilerinin cinsel yolla bulaşan enfeksiyonlar konusundaki bilgi düzeyleri. *KASHED*. 2015;2(2):58-70.

**14.** Bakır N, Kızılkaya Beji N. Üniversite öğrencilerinin cinsel yolla bulaşan hastalıklar konusundaki bilgi düzeyleri düzce üniversitesi. *Sağlık Bilimleri Enstitüsü Dergisi*. 2015;5(3):10-16.

**15.** Karasu F, Göllüce A, Güvenç E. et al. Hemşirelik öğrencilerinin cinsel yolla bulaşan hastalıklar hakkındaki bilgilerinin incelenmesi. *İÜ Sağlık Hizmetleri MYO Derg*. 2017;5(1):1-15.

**16.** Yaşar Ö, Dikoğlu Buluş M, Özsever Kaymak, et al. Üniversite öğrencilerinin cinsel yolla bulaşan hastalıklar konusunda bilgi ve görüşlerinin incelenmesi. *JAREN*. 2019;5(1):53-58.

**17.** İldan Çalım S, Cambaz Ulaş S, Demirci H, et al. Cinsel temasla bulaşan hastalıklarla ilgili akran eğitiminin üniversite öğrencilerinin bilgi düzeyine etkisi. *Balıkesir Sağlık Bilimleri Dergisi*. 2021;10(3):342-347. doi: 10.53424/balikesirsbd.987210.

**18.** Kurt G, Açıksöz S, Arslan H. Evaluating the effectiveness of the two training methods for ıncreasing nursing students' knowledge level on sexually transmitted diseases. *TJFMPC*. 2021;15(1):33-41. doi: 10.21763/tjfmpc.788356.

**19.** Karataş N, Boncukçu E, Demirkıran H, et al. Knowledge level of Trakya University medical school students about sexually transmitted diseases. *Turk Med Student J*. 2014;1:61–4.

**20.** Nishioka E. Trends in research on adolescent sexuality education, fertility awareness, and the possibility of life planning based on reproductive health education. *Nihon Eiseigaku Zasshi*. 2018;73(2):185-199. doi: 10.1265/jjh.73.185.

**21.** Dhairyawan R, Tariq S, Scourse R, et al. Intimate partner violence in women living with HIV attending an inner city clinic in the UK: Prevalence and associated factors. *HIV Medicine*. 2013;14(5):303-10.

**22.** Uzun E, Kişioğlu M. SDU Tıp fakültesi halk sağlığı anabilim dalı keçiborlu bilgi ve araştırma bölgesi çalışmaları: Bir meslek yüksekokulunda okuyan öğrencilerin cinsel yolla bulaşan hastalıklarla ilgili bilgi durumları. *SDÜ Tıp Fak Dergisi*. 2007;14(3):7-12.

**23.** Artan M, Baykan Z. Sağlık hizmetleri meslek yüksekokulu öğrencilerinin cinsel yolla bulaşan hastalıklar konusundaki bilgi düzeyleri ve bunu etkileyen faktörler. *Türk Hijyen ve Deneysel Biyoloji Dergisi*. 2010;67(3):128-133.

**24.** Elkin N. Üniversite öğrencilerinin cinsel yolla bulaşan hastalıklar konusundaki bilgilerinin araştırılması. *Mersin Üni Sağlık Bil Dergisi*. 2015;8(1):1-14.

**25.** Demir G, Şahin TK. Selçuk üniversitesi öğrencilerinin cinsel yolla bulaşan hastalıklar konusundaki bilgi düzeylerinin belirlenmesi. *Düzce Üniversitesi Sağlık Bilimleri Enstitüsü Dergisi*. 2014;4:19-24.

**26.** UNAIDS. Report on the global AIDS epidemic. UNAIDS. https://www.unaids.org/en/resources/documents/2012/20121120_UNAIDS_Global_Report_2012. Published November 2012. Accessed October 2023.

**27.** Mathews C, Aaro LE, Flisher AJ. et al. Predictors of early first sexual intercourse among adolescents in Cape Town, South Africa. *Health Education Research*. 2009;24(1):1-10.

**28.** World Health Organization. Report on global sexually transmitted infection surveillance, 2018. World Health Organization. https://iris.who.int/bitstream/handle/10665/277258/978924 1565691-eng.pdf. Published 2018. Accessed October 2023.

**29.** Black SE, Devereux PJ, Salvanes KG. Staying in the classroom and out of the maternity ward? The eGect of compulsory schooling laws on teenage births. *Economic Journal*. 2008;118(530):1025-54.

**30.** Oringanje C, Meremikwu MM, Eko E, et al. Interventions for preventing unintended pregnancies among adolescents. *Cochrane Database of Systematic Reviews*. 2016;2:CD005215. doi: 10.1002/14651858.CD005215.pub3.

**31.** Mavedzenge SN, Luecke E, Ross DA. Effective approaches for programming to reduce adolescent vulnerability to HIV infection, HIV risk, and HIV-related morbidity and mortality: A systematic review of systematic reviews. *J Acquired Immune Deficiency Syndromes*. 2014;66:154-169.