

## SAĞLIK BİLİMLERİ DERGİSİ JOURNAL OF HEALTH SCIENCES

# Erciyes Üniversitesi Sağlık Bilimleri Enstitüsü Yayın Organıdır



Araștırma

2025; 34(1): 78-85

ANALYSIS OF SEXUAL HEALTH KNOWLEDGE AND INFLUENCING FACTORS IN HEALTH SCIENCES
STUDENTS: A CASE STUDY OF A PRIVATE UNIVERSITY\*
SAĞLIK BİLİMLERİ ÖĞRENCİLERİ ARASINDA CİNSEL SAĞLIK BİLGİSİ VE ETKİLEYEN FAKTÖRLERİN
ANALİZİ: BİR ÖZEL ÜNİVERSİTE ÖRNEĞİ

## Seda SERHATLIOĞLU<sup>1</sup>

<sup>1</sup>Antalya Bilim University, Health Science Faculty, Midwifery Department, Antalya, Türkiye

#### ABSTRACT

This study aimed to assess the sexual health knowledge levels of health sciences faculty students and examine the factors influencing this knowledge. The research was conducted during the 2023-2024 academic year at a private university in the Mediterranean region of Türkiye, specifically in the Faculty of Health Sciences. A total of 208 students participated, and data was collected through a student information form and the Sexual Health Knowledge Test. The students' average Sexual Health Knowledge Test score was 25.93 ± 7.87, indicating a generally moderate level of sexual health knowledge. Age (p<0.001), department (p<0.001), class level (p<0.001), and having received sexual health education (p<0.001) significantly influenced Sexual Health Knowledge Test scores. Furthermore, the source of students' sexual health information (p=0.01) and their sexual experience (p<0.001) also significantly impacted Sexual Health Knowledge Test scores. The findings highlight the need to integrate sexual health education into university curricula, with particular emphasis on critical topics such as sexually transmitted infections.

#### Ö7

Bu çalışma, sağlık bilimleri fakültesi öğrencilerinin cinsel sağlık bilgi düzeylerini ve bu bilgi düzeyini etkileyen faktörleri incelemek amacıyla yapılmıştır. Çalışma, 2023 -2024 akademik yılı içerisinde, Türkiye'de Akdeniz Bölgesinde bulunan özel bir üniversitenin Sağlık Bilimleri Fakültesi'nde gerçekleştirilmiştir. Araştırmaya 208 öğrenci katılmış ve veriler, öğrenci bilgi formu ile Cinsel Sağlık Bilgi Testi aracılığıyla toplanmıştır. Öğrencilerin ortalama Cinsel Sağlık Bilgi Testi puanı 25.93±7.87 olup, bu sonuç genel olarak orta düzeyde cinsel sağlık bilgisine işaret etmektedir. Yaş (p<0.001), bölüm (p<0.001), sınıf düzeyi (p<0.001) ve cinsel sağlık eğitimi almış olma durumu (p<0.001), Cinsel Sağlık Bilgi Testi puanlarını anlamlı sekilde etkilemistir. Ayrıca, öğrencilerin cinsel sağlık bilgilerini kimlerden aldıkları (p=0.01) ve cinsel deneyimleride (p<0.001) Cinsel Sağlık Bilgi Testi puanları üzerinde anlamlı bir etkiye sahip bulunmuştur. Bulgular, cinsel sağlık eğitiminin üniversitelerde müfredata dahil edilmesi gerektiğini ve cinsel volla bulaşan enfeksiyonlar gibi kritik konulara daha fazla önem verilmesi gerektiğini ortaya koymaktadır.

**Keywords:** Sexual health education, sexual health knowledge, sexually transmitted infections, university students.

**Anahtar kelimeler:** Cinsel sağlık eğitimi, cinsel sağlık bilgisi, cinsel yolla bulaşan enfeksiyonlar, üniversite öğrencisi.

\*: This study was presented as an oral presentation at the 10th International 14th National Midwifery Students Congress held in Tokat, Türkiye, from May 16 to 18, 2024.

Makale Geliş Tarihi : 03.10.2024 Makale Kabul Tarihi: 23.02.2025 Corresponding Author: PhD, Seda SERHATLIOĞLU, sedagoncu07@gmail.com, 0000-0002-3329-5461, Antalya Bilim University, Health Science Faculty, Midwifery Department, Çıplaklı, AkdenizBlv. No:290/A, 07190 Döşemealtı, Antalya, Türkiye

#### INTRODUCTION

The transition from adolescence to adulthood is a crucial period marked by physical, psychological, and social changes. These transitions often heighten sexual curiosity among young people, which can lead to engagement in risky sexual behaviors and their associated consequences.1,2 Risky sexual behaviors include early sexual initiation, unplanned sexual encounters, having multiple sexual partners, and inconsistent use of contraception. These behaviors negatively impact sexual health, a critical aspect of overall well-being. According to the World Health Organization (WHO), sexual health is more than just the absence of disease or dysfunction; it encompasses a state of physical, emotional, mental, and social well-being in relation to sexuality.3 Achieving and maintaining this state of well-being requires identifying and addressing factors that contribute to young people's lack of awareness about sexual health.4,5

Sexuality and sexual health concerns significantly affect the health of young people. The primary causes of these issues include inadequate education, insufficient knowledge, societal attitudes, prejudices, taboos, traditions, psychological factors, and stress.<sup>6,7</sup> Young people's attitudes and behaviors toward sexual health are shaped largely by their level of knowledge in this area.8 Research shows that sexual health knowledge plays a pivotal role in helping young people adopt healthier lifestyles.9 However, many young people lack sufficient knowledge about sexual and reproductive health, necessitating education and counseling in these areas.<sup>5,10-13</sup> Insufficient sexual health knowledge, particularly in cultures where discussing sexuality is considered taboo. can lead to serious health issues such as sexually transmitted infections (STIs), unintended pregnancies, and unsafe abortions.14 In our country, sexuality is a sensitive and rarely discussed topic, influenced by factors such as social norms, family structures, education levels, and media representations. 15-17

Health sciences faculty students, as future healthcare professionals, have a critical role in providing sexual health education and services to the public. Therefore, their knowledge and attitudes toward sexual health are crucial for public health. Additionally, during their studies, health sciences faculty students interact closely with their peers, making their level of awareness and knowledge essential for protecting and promoting the health of those around them. This study aims to assess the level of sexual health knowledge among health sciences faculty students at a private university in Türkiye and explore the factors influencing this knowledge. Understanding these factors is expected to contribute to the development of more effective educational programs in sexual health.

## MATERIALS AND METHODS

## **Study Design and Participants**

This research was conducted as a descriptive-analytic study. It took place between February and April of the 2023-2024 academic year among students from the Faculty of Health Sciences at a private university in the Mediterranean region of Türkiye. The faculty comprises four departments: Nutrition and Dietetics, Midwifery, Physiotherapy and Rehabilitation, and Nursing. Instead of using a sampling method, the study aimed to include

the entire population. Ultimately, 208 students who were present during the data collection period and agreed to participate were included in the study.

#### **Data Collection Tools**

Data were gathered using two main tools: a student information form, developed based on existing literature<sup>12-13</sup> and the Sexual Health Knowledge Test (SHKT).

#### **Student Information Form**

The information form consisted of 22 questions covering sociodemographic characteristics (e.g., gender, class year, type of high school attended, and university department), sources of sexual health information, sexual experience, and the presence of friends from the opposite sex.

## **Sexual Health Knowledge Test**

The Sexual Health Knowledge Test (SHKT), developed by Evcili and Gölbaşı (2017a), measured sexual health knowledge among Turkish youth. The test comprises 40 multiple-choice questions. Each correct answer is awarded 1 point, while unanswered or incorrect responses are scored as 0. The possible scores range from 0 to 40. Although there is no defined cutoff score, a higher score reflects a higher level of sexual health knowledge.11 The SHKT includes 11 subdomains: universal values related to sexuality, sexual identity development, sexual orientations, gender and social gender, reproductive system anatomy, sexual intercourse/ satisfaction, reproductive physiology, contraception, sexually transmitted infections, sexual violence, and safe sexual behavior. The original scale's reliability, as measured by Cronbach's alpha, was 0.88. In this study's sample, Cronbach's alpha was calculated as 0.86.

### **Data Collection**

Data were collected in the classroom at the start of lessons. Students were informed about the study's significance and objectives, and they were instructed not to write their names on the forms to ensure anonymity. Participation was voluntary, and students were assured that their data would remain confidential and be used solely for research purposes. Only students who agreed to participate completed the forms. The process of filling out the test took approximately 10-15 minutes, and students were seated separately to ensure privacy.

## Statistical Analysis

The data were analyzed using IBM SPSS Statistics for Windows, version 25.0 (IBM, Armonk, NY, USA). Descriptive statistics were calculated, including frequency, percentage, mean, median, standard deviation (SD), and minimum and maximum values. The Mann-Whitney U test, Kruskal-Wallis test, and one-way analysis of variance (ANOVA) were applied to compare SHKT scores according to various study variables. Following the Kruskal-Wallis tests, Bonferroni correction was applied for pairwise multiple comparisons to control for Type I errors. A significance level of 0.05 was used for all statistical analyses.

### **RESULTS**

It was found that 80.8% of the students were between the ages of 17-21, 94.2% were female, 46.6% were enrolled in the Midwifery department, and 34.1% were first-year students. A small percentage (5.8%) had graduated from health-related vocational high schools, 97.1% were single. When the parents' educational back-



grounds were examined, it was found that most parents were high school graduates, and 51.0% of the families had an income equal to their expenses. A significant difference was found in the CSBT scores between students aged 17-21 and those aged 21 and above (p=0.002). Significant differences were also observed in CSBT scores based on students' departments (p=0.0003) and class levels (p=0.000). However, no significant differences were found in relation to gender, type of high school, marital status, place of residence, family income, or parents' education levels (p>0.05) (Table 1).

The students' mean total score on the SHKT was found to be  $25.93\pm7.87$ , indicating that participants generally had an average level of sexual health knowledge. The percentage of correct answers for the scale items was calculated based on the scale's maximum score (median 100/40). Accordingly, 64.8% of the participants answered the SHKT correctly. Participants achieved the highest percentage of correct answers in the "universal values related to sexuality" subscale (85.0%), while the lowest percentage of correct answers was in the "sexually transmitted infections" subscale (50.3%) (Table 2).

**Table 1.** Analysis of CSBT scores by demographic variables

Variable	Category	Frequency	Percentage	Median	CSBT Mean	Test Statistic\
		(n)	(%)	(Q1-Q3, IQR)	Score ± SD	<i>p</i> -value
Age	17-21	168	80.8	25 (20-30, 10)	25.26±0.59	Z=2277. 0
	21 and above	40	19.2	29 (25-32, 7)	28.75±1.23	<0.001*
Gender	Female	196	94.2	26 (23-29, 6)	26.01±0.57	z = 933.5
	Male	12	5.8	25 (21–28, 7)	24.58±1.64	= 0.230
	Midwiferya	97	46.6	24 (20-27, 7)	24.39±0.87	H= 29.860
Donartment	Nursing <sup>b</sup>	32	15.4	32 (30-34, 4)	32.15±0.65	<0.001*
Department	Nutrition and Dietetics <sup>c</sup>	35	16.8	27 (24-30, 6)	26.71±0.78	b >a,c,d
	Physiotherapy and Rehabilitation <sup>d</sup>	44	21.2	24 (21-27, 6)	24.18±1.24	
	1st year <sup>a</sup>	71	34.1	21 (19-23, 4)	21.05±0.89	H= 73.28
Class Year	2nd year <sup>b</sup>	80	38.5	26 (24-28, 4)	26.08±0.76	<0.001*
Class Teal	3rd year <sup>c</sup>	57	27.4	31 (30-33, 3)	31.78±0.69	c>b
	Jiu year	37	27.4			b>a
High School	Health-related vocational	12	5.8	23 (20–26, 6)	23.91±2.44	z= 1013.5
righ School	Non-health vocational	196	94.2	26 (23-29, 6)	26.05±0.56	= 0.421
Marial	Married	6	2.9	21 (19-24, 5)	21.50±3.86	z= 440.0
Status	Single	20	97.1	26 (23-29, 6)	26.06±0.54	= 0.253
	Less than expenses	16	7.7	23 (21-25, 4)	23.37±1.95	H= 3.829
Family Income	Equal to expenses	106	51.0	25 (23-28, 5)	25.34±0.81	= 0.147
	More than expenses	86	41.3	27 (24-30, 6)	27.12±0.75	
	Low school graduate	66	31.7	24 (22-26, 4)	24.04±4.74	H= 1.585
	Middle school graduate	31	14.9	23 (21-25, 4)	23.47±1.51	= 0.903
Mother's Education	High school graduate	69	33.2	26 (24-27, 3)	26.21±0.89	
	University graduate	42	20.2	27 (25-29, 4)	26.91±0.92	
	Low school graduate	45	21.7	24 (22-27, 5)	24.37±8.05	H= 3.933
	Middle school graduate	36	17.3	23 (21-25, 4)	23.47±9.06	= 0.559
	High school graduate	71	34.1	26 (24-28, 4)	25.83±8.37	
Father's Education	University graduate	56	26.9	27 (25–29, 4)	26.45±8.18	

H, Kruskal–Wallis test statistic; z, Mann–Whitney U test, Q1 (Birinci Çeyrek - 25. Yüzdelik Dilim), Q3 (Üçüncü Çeyrek - 75. Yüzdelik Dilim), IQR (Interquartile Range – Çeyrekler Arası Genişlik), Superscripts a, b, c, d indicate intra-group differences in each group.

**Table 2.** Descriptive statistics of total and subscale scores of the SHKT

Subscale	Median	<b>CSBT Mean Score</b>	Percentage of Correct	
Subscale	(Min-Max)	± SD	Answers (%)	
Universal Values Related to Sexuality	2.0 (0-2)	1.70 ± 0.56	85.0%	
Sexual Identity Development	2.0 (0-4)	2.26 ± 1.10	56.5%	
Sexual Orientations	2.0 (0-3)	1.67 ± 0.95	55.7%	
Gender and Social Gender	2.0 (0-3)	$2.29 \pm 0.81$	76.3%	
Anatomy of the Reproductive System	2.0 (0-3)	1.93 ± 0.95	64.3%	
Sexual Intercourse/Satisfaction	3.0 (0-4)	2.81 ± 1.17	70.3%	
Physiology of Reproduction	2.0 (0-3)	$2.08 \pm 0.89$	69.3%	
Contraception	5.0 (0-6)	4.05 ± 1.65	67.5%	
Sexually Transmitted Infections	4.0 (0-7)	3.52 ± 1.75	50.3%	
Sexual Violence	3.0 (0-3)	$2.30 \pm 0.99$	76.7%	
Safe Sexual Behaviors	1.0 (0-2)	$1.29 \pm 0.72$	64.5%	
Total SHKT Score	28.0 (6-38)	25.93 ± 7.87	64.8%	

In the study, significant differences were found between the student's responses to questions about sexuality and sexual health and their CSBT scores. Students who had taken a course on sexual health (p<0.001) and those who considered their knowledge level sufficient (p<0.001) had higher CSBT scores. Additionally, there were significant differences in scores based on whom students preferred to receive sexual health information from (p=0.01) and with whom they discussed topics related to sexuality (p<0.001). Other factors that affected the scores included students' views on premarital sexual intercourse (p=0.01), their desire to take a sexual health course (p<0.001), and their sexual experience (p<0.001) (Table 3).

Figure 1 illustrates the correlations between the total SHKT score and its subscales. Correlation coefficients range between -1 and 1, where positive values indicate

that one variable influences the other in the same direction, and negative values indicate an inverse relationship. The total SHKT score shows the highest correlation with the "sexual intercourse" (r=0.80) and "contraception" (r=0.85) subscales. The correlations between the total SHKT score and the "universal values" (r=-0.33) and "sexual identity" (r=0.62) subscales are lower, indicating a weaker relationship between sexual health knowledge and these topics.

A factorial ANOVA was conducted to identify the independent variables affecting students' total SHKT scores. It was found that the adjusted model was significant (p<0.001) and explained 53% of the variance in SHKT scores. The factors that significantly predicted SHKT scores were class level, having received sexual health education, the source of sexual health information, and sexual experience. Notably, students in higher class

Table 3. Sexuality-Related Questions and Test Results

Question	Category	Frequency (n)	Percentage (	%) CSBT Mean Score ± SD	Test Statistic	<i>p</i> -value
Have you taken a sexual health	Yes	84	40.4	28.72 ± 0.73		
course?	No	128	59.6	26.31 ± 2.31	H=149.93	<0.001*
Do you find your knowledge	Yes	102	49.0	28.28 ± 0.68	z= 3467.5	<0.001*
level sufficient?	No	106	51.0	$23.66 \pm 0.78$		
	Familya	24	11.6	25.85 ± 2.78		
	Educator <sup>b</sup>	39	18.8	26.10 ± 1.25	H=40.99	< 0.001*
Who would you prefer to re-	Friendsc	18	8.7	29.1 ± 1.35		c>a
ceive sexual health info from?	Mediad	17	8.2	26.47 ± 1.38		d>a
	Healthcare profes	s- 110	52.7	26.14 ± 1.13		
	Familya	47	22.6	24.95 ± 3.33		
	Friends <sup>b</sup>	78	37.5	$28.94 \pm 0.72$		
Who do you discuss sexual topics with?	Healthcare profes	s- 35	16.8	28.02 ± 1.45	H=118.47	< 0.001*
topics with:	Nobodyd	48	23.1	23.29± 1.17		e>a e>d
	Friends <sup>e</sup>	78	37.5	$28.94 \pm 0.72$		C>u
	Approves <sup>a</sup>	58	27.9	27.51 ± 1.02		
View on premarital sexual	Disapprovesb	106	51.0	24.33 ± 0.81	H= 8.010	= 0.01*
intercourse?	Prefer not to an-	44	21.2	27.70 ± 0.86		a>b
Should there be a sexual	Yes	176	84.6	26.43 ± 0.56	z= 2242.5	= 0.06
health counseling unit at university?	No	32	15.4	23,1 5 <b>±</b> 1,62		
	Yesa	173	83.2	26.91 ± 0.57	H= 18.045	< 0.001*
Do you want a course on sex-	$No^{b}$	20	9.6	19.75 <b>±</b> 1.89		a>b
ual health before graduation?	Prefer not to an-	15	7.2	22.86 ± 1.67		
	Yesa	78	27.5	27.04 + 0.00		
Do you have a namentic	No <sup>b</sup>		37.5	27.94 ± 0.88	11-14047	- 0 001*
Do you have a romantic relationship?	Prefer not to an-	115	55.3	24.09 ± 0.69	H= 14.047	< 0.001*
<b>y</b> .	rieiei not to an-	15	7.2	21.86 ± 2.31		a>b
	Yesa	33	13.9	29.36 ± 1.44		
Have you had sexual inter-	Nob	151	72.6	$25.14 \pm 0.62$	H= 13.439	< 0.001*
course experience?	Prefer not to an-	24	11.5	26.16 ± 1.65		a>b

 $<sup>{</sup>f H}$ , Kruskal–Wallis test;  ${f z}$ , Mann–Whitney U test.

Superscripts a, b, c, d, e indicate intra-group differences in each group.



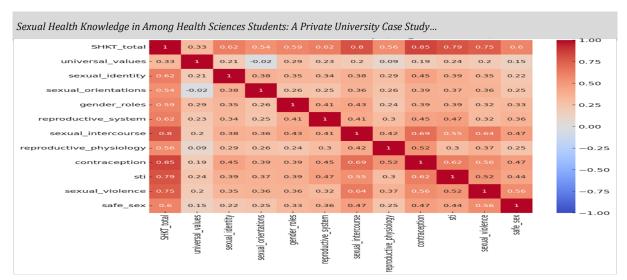


Figure 1. Correlation matrix heatmap (SHKT labels)

levels (p<0.001) and those with sexual experience (p<0.001) had higher SHKT scores (p<0.05; Table 4, Figure 2).

## DISCUSSION

The findings of this study provide key insights into the primary variables influencing sexual health knowledge

Table4. Between-subjects effects on CSBT total scores

Variables	Type III Sum	df	Mean	F	<i>p</i> Value	Partial Eta
	of Squares		Square			Squared (R <sup>2</sup> )
Corrected Model	6804.519	31	219.501	6.402	< 0.001*	.530
Intercept	8194.007	1	8194.007	238.9	< 0.001*	.576
Age	19.979	1	19.979	0.583	.446	.003
Department	241.498	3	80.499	2.348	.074	.038
Class	863.079	2	431.540	12.58	< 0.001*	.125
Preferred source of sexual health	56.500	2	28.250	0.824	.440	.009
information						
Have you taken a course on sexual health?	562.714	7	80.388	2.345	.026*	.085
Do you want to take a sexual health	382.649	7	54.664	1.594	.140	.060
course before graduation?						
View on premarital sexual intercourse	53.268	1	53.268	1.554	.214	.009
Who do you discuss sexual topics with?	250.455	2	125.227	3.652	.028*	.040
Have you had sexual intercourse experi-	859.093	2	429.547	12.52	< 0.001*	.125
ence?						
Do you have a romantic relationship?	116.182	2	58.091	1.694	.187	.019
Do you find your sexual health knowledge	102.703	2	51.352	1.498	.226	.017
sufficient?						
Error	6034.539	176	34.287			
Total	152720.000	208		•		
Corrected Total	12839.058	207				
R Squared (R <sup>2</sup> )	.530					
Adjusted R Squared (R <sup>2</sup> )	.447					

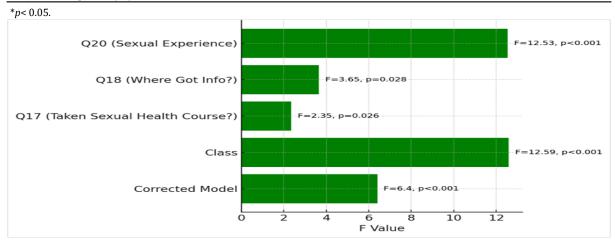


Figure 2. Significant effects of variables on CSBT total scores

Sağlık Bilimleri Dergisi (Journal of Health Sciences) 2024; 33 (1)

levels among health sciences faculty students. The students' average CSBT score (25.93±7.87) indicates that their overall sexual health knowledge is at a moderate level. This is consistent with findings from other studies that have also focused on health sciences faculty students.13,18-20 However, the students' CSBT scores varied across different subscales. The highest percentages of correct answers were in the "Universal Values Related to Sexuality" (84.38%) and "Sexual Violence" (75.48%) subscales, while the lowest percentages were in the "Sexually Transmitted Infections" (STIs) (48.63%) and "Sexual Identity Development" (56.61%) subscales. These findings indicate potential inadequacies in sexual health education, particularly in critical topics such as STIs, highlighting the need for more comprehensive education on these subjects. 13,21-23 Recent research shows that STI prevalence is highest among young people, which is closely associated with early sexual initiation.<sup>24,25</sup> In our study, 13.9% of the students reported having had sexual intercourse, and 27.9% did not oppose premarital sexual intercourse. In this context, it is crucial to address the gaps in sexual health knowledge at universities to protect students from harmful sexual behaviors, such as STIs. Additionally, the lack of knowledge regarding sexual identity development suggests that this topic is either not sufficiently covered in educational curricula or that the education provided is inadequate. Greater education and awareness around sexual identity development is therefore recommended.26 It is recommended that educational programs be designed to address these gaps.

In the analysis of age and class level, students over the age of 21 and those in higher class levels were found to have significantly higher CSBT scores (p<0.001). This finding suggests that sexual health knowledge increases throughout the education process. As noted in studies by Baldwin-White<sup>27</sup> and Warner et al.,<sup>18</sup> students acquire more knowledge on sexual health as their education progresses, and this knowledge is reinforced over time. Thus, students in higher class levels and older students likely have more access to information and experiences, which contribute to their greater awareness of sexual health. Comparisons across departments revealed that Nursing students had significantly higher CSBT scores than students in other departments. This may be explained by the fact that some Nursing students were taking an elective course on sexual health during the data collection period. This also explains why students who had taken a course on sexuality and those who rated their knowledge as sufficient had significantly higher CSBT scores (p<0.001; p<0.001), aligning with literature showing that sexual health education enhances knowledge levels. 10,13,18-20,28-30

The study also found that while students obtained sexual health information from various sources, there was no significant relationship between the source and CSBT scores. The most frequently reported source of information was communication tools (27.9%). This finding is consistent with studies indicating that the internet and social networks are the most common sources of sexual information. <sup>12,31</sup> The study also showed that students most frequently discussed sexual health topics with their friends, which was one of the independent variables most strongly associated with higher CSBT scores.

This is consistent with previous studies.<sup>23,30,32</sup> Given that health sciences faculty students often share sexual health knowledge with their peers,<sup>33</sup> our findings suggest that implementing peer education in sexual health programs could be beneficial.

The correlation analysis between the total SHKT score and subscales revealed that the strongest correlation was with the "contraception" subscale (r=0.85). This indicates that individuals with knowledge about contraception also tend to have higher overall sexual health knowledge. The literature emphasizes that contraception knowledge is a crucial component of sexual health education and contributes to higher overall sexual health knowledge.10 The high correlation between sexual intercourse knowledge and the total SHKT score (r=0.80) underscores the significant impact of sexual intercourse on sexual health knowledge. This finding is supported by Fortenberry,34 who noted that sexual experiences and education in this area contribute to an increase in general sexual health knowledge. The high correlation between sexual violence and sexual intercourse knowledge (r=0.64) suggests that these two topics are interrelated in sexual health education. Addressing sexual violence and consent in sexual health education could raise awareness on these issues.34

Students who had sexual intercourse had significantly higher CSBT scores than those without sexual experience (p<0.001). This suggests that sexual experiences may have an impact on sexual health knowledge, which is consistent with some findings in the literature. <sup>13,34</sup> Fortenberry <sup>34</sup> noted that sexual experiences can raise individuals' awareness of sexual health issues. However, it is important to consider the nature of these sexual experiences and their association with safe sexual practices.

The strengths of the study include the analysis of various demographic factors and variables, such as sexual health knowledge and education, allowing for a more comprehensive evaluation of factors that could influence sexual health knowledge. Additionally, the use of statistical methods such as Kruskal-Wallis and Mann-Whitney U tests provided appropriate tools for understanding the relationships between variables. Factorial ANOVA analysis also helped identify the factors influencing sexual health knowledge levels. As for the limitations, the fact that 94.2% of the participants were female may limit the generalizability of the findings across genders. Moreover, the use of self-reported data, particularly on sensitive topics such as sexual health, poses risks of bias and accuracy issues.

## CONCLUSION

This study thoroughly examined the various factors influencing university students' sexual health knowledge and emphasized the critical importance of sexual health education for students. The average score on the Sexual Health Knowledge Test (CSBT) was found to be 25.93±7.87, indicating a generally moderate level of knowledge. The findings revealed that students' age, class level, and whether they had received sexual health education were significant predictors of their CSBT scores. In particular, students in higher class levels and those who had taken sexual health courses were found to have higher CSBT scores.



In conclusion, it is necessary to expand and integrate sexual health education into the curricula to enhance the sexual health knowledge of health sciences faculty students. Given the positive impact of education on sexual health knowledge, expanding and broadening the scope of such educational programs will be effective. Special emphasis should be placed on critical topics like sexually transmitted infections (STIs). Raising awareness among young people about these issues will have positive long-term outcomes for public health. In this context, it is recommended to establish sexual health services and counseling centers at universities, and to direct students to reliable online sources to ensure easy access to accurate and trustworthy information.

Ethics Committee Approval: This study was approved by the Akdeniz University Non-Interventional Clinical Research Ethics Committee (Decision No: KAEK-57; 25.01.2023). Informed Consent: Written and/or verbal consent was obtained from students participating in the study.

**Peer-review:** Externally peer-reviewed.

**Author Contributions**: Concept-SS; Design- SS; Supervision- SS; Resources- SS; Materials- SS; Data Collection and/or Processing- SS; Analysisand/or Interpretation- SS; Literature Search- SS; Writing Manuscript- SS; Critical Review- SS.

**Declaration of Interests:** The authors declare thatthere is no conflict of interest.

**Funding:** This research did not receive support from any funding agency/industry.

**Acknowledgments:** I would like to thank the students and Ruken TUNÇ for their support during the data collection process.

**Etik Komite Onayı**: Bu çalışma, Akdeniz Üniversitesi Girişimsel Olmayan Klinik Araştırmalar Etik Kurulu tarafından onaylanmıştır (Karar No: KAEK-57; 25.01.2023).

**Bilgilendirilmiş Onam:** Çalışmaya katılan öğrencilerden yazılı ve/veya sözlü onam alınmıştır.

Yazar Katkıları: Fikir-SS; Tasarım-SS; Denetleme-SS; Kaynaklar-SS; Malzemeler-SS; Veri Toplanması ve/veya İşlenmesi-SS; Analiz ve/veya yorum-SS; Literatür taraması-SS; Yazıyı yazan-SS; Eleştirel İnceleme-SS.

Hakem Değerlendirmesi: Dış bağımsız.

Çıkar Çatışması: Yazar herhangi bir çıkar çatışması olmadığını beyan etmiştir.

Finansal Destek: Bu araştırma herhangi bir finansman kuruluşundan/sektörden destek almamıştır.

**Teşekkür**: Veri toplama sürecinde desteğini esirgemeyen öğrencilere ve Ruken TUNÇ'a teşekkür ederim.

## REFERENCES

- Patton GC, Sawyer SM, Santelli JS, et al. Our future: a Lancet commission on adolescent health and wellbeing. *Lancet*. 2016;387(10036):2423-2478.
- Muslu GK, Aygün Ö. Ergenlerin riskli sağlık davranışlarının ve etkileyen faktörlerin belirlenmesi. DEUHFED. 2017;10(4):242-250.
- World Health Organization (WHO). Defining sexual health: Report of a technical consultation on sexual health. 2006. Accessed January 25, 2024.

- https://www.who.int/teams/sexual-and-reproductive-health-and-research/key-areas-of-work/sexual-health/defining-sexual-health.
- Sawyer SM, Azzopardi PS, Wickremarathne D, Patton GC. The age of adolescence. *Lancet Child Adolesc Health*. 2018;2(3):223-228. doi:10.1016/ S2352-4642(18)30022-1.
- Kirby D, Laris BA, Rolleri LA. Sex and HIV education programs: Their impact on sexual behaviors of young people throughout the world. *J Adolesc Health*. 2007;40(3):206-217. doi:10.1016/j.jado health.2006.11.143
- World Health Organization (WHO). International technical guidance on sexuality education. 2018. Accessed June 22, 2024. https://www.who.int/ publications/m/item/9789231002595.
- UNICEF. Sexual and reproductive health. 2023;. Accessed January 25, 2024. https://data.unicef.org/topic/gender/sexual-and-reproductive-health/
- 8. Çuhadaroğlu A. The effects of sex education on psychological counselling students in Turkey. *Sex Educ.* 2017;17(2):209-219. doi:10.1080/146818 11.2016.1164132.
- Goldfarb ES, Lieberman LD. Three decades of research: The case for comprehensive sex education.
   *J Adolesc Health*. 2021;68(1):13-27. doi:10.1016/j.jadohealth.2020.07.036.
- Santelli JS, Kantor LM, Grilo SA, et al. Abstinenceonly-until-marriage: An updated review of US policies and programs and their impact. *J Adolesc Health*. 2017;61(3):273-280. doi:10.1016/j.jado health.2017.05.031.
- Evcili F, Gölbaşı Z. Cinsel Sağlık Bilgi Testi: Geliştirme, Geçerlik ve Güvenirlik Çalışması. AUHSJ. 2017;1:29-33.
- 12. Evcili F, Gölbaşı Z. Sexual myths and sexual health knowledge levels of Turkish university students. Sex Cult. 2017;21:976-990. doi:10.1007/s12119-017-9436-8.
- 13. Uğurlu M, Karahan N. Sexual health knowledge and influencing factors among health science students at a state university in Turkey. *Eur J Contracept Reprod Health Care*. 2022;27(1):75-82. doi:10.1080/13625187.2021.1980871
- 14. Esin A, Mıhçıokur S, Demir C, Kanal G. Türkiye'de Cinsel Sağlık ve Üreme Sağlığı Durum Analizi Raporu. Published 2021. Accessed [1.10.2014]. https://dspace.ceid.org.tr/items/66cab216-a033-49da-bcbb-e68bc0854ec7
- Ogul Z, Sahin NH. The effect of an educational peer-based intervention program on sexual and reproductive health behavior. *J. Adolesc.* 2024;96 (7):1642-1654. doi:10.1002/jad.12371
- Dişsiz M, Yalçıntürk AA, Sümer G, et al. (2020). Hemşirelik öğrencilerinin cinsel sağlık konusundaki bilgi düzeyleri ve görüşleri. Zeynep Kamil Tıp Bülteni. 2020;51(2): 78-83. doi:10.16948/zktipb. 691007.
- Yeşil Y, Apak H. Ebelik ve Hemşirelik Bölümü Öğrencilerinin Cinsel Sağlık Okuryazarlığı ve Cinsel Sağlığa Yönelik Tutumlarının Belirlenmesi. Saglik Bilim. Derg. 2024;13(1):48-54.
- 18. Warner C, Carlson S, Crichlow R, Ross MW. Sexual



- health knowledge of US medical students: A national survey. *J Sex Med.* 2018;15(8):1093-1102.doi:10.1016/j.jsxm.2018.05.019.
- Özkan H, Taşğın ZDÜ, Apay SE. Cinsellikle ilgili eğitim alan ve almayan öğrencilerin cinsel sağlık bilgi düzeylerinin karşılaştırılması. J Midwifery and Health Sci. 2020;3(1):11-21.
- Işık HK, Aytekin MŞ, Kahraman A, Öcalan D. Ebelik bölümü öğrencilerinin cinsellik ve cinsel sağlıkla ilişkili bilgi düzeylerinin değerlendirilmesi. *Anatolian J Health Res.* 2023;4(3):125-131. doi:10.29 228/anatoljhr.72354.
- Wasserheit JN, Aral SO. The dynamic topology of sexually transmitted disease epidemics: implications for prevention strategies. *J Infect Dis.* 1996;174(Suppl 2). doi:10.1093/infdis/ 174.Supplement 2.S201
- Torre ALD, Dacillo HBB, Babao AD, Batiancila MJQ. Examining the association of sexual health knowledge and sexual attitude of Filipino college students. *EIKI JETM*. 2024; 2(1). doi:10.59652/jetm. v2i1.152.
- Centers for Disease Control and Prevention (CDC). Sexually Transmitted Infections Surveillance, 2022. Accessed January 25, 2024. https:// www.cdc.gov/sti-statistics/media/pdfs/2024/ 11/2022-STI-Surveillance-Report-PDF.pdf
- 24. World Health Organization (WHO). "Sexually Transmitted Infections (STIs)." Accessed January 25, 2024. https://www.who.int/news-room/fact-sheets/detail/sexually-transmitted-infections-(stis)
- American Psychological Association (APA). Guidelines for psychological practice with lesbian, gay, and bisexual clients. *Am Psychol.* 2012;67(1):10-42. doi:10.1037/a0024659.
- Soto-Fernández I, Fernández-Cézar R, Aguiar Frias AM, et al. Sexual education for university students and the community in a European project: study protocol. *BMC Nurs*. 2023;22(1):192. doi:10.1186/ s12912-023-01350-5.
- 27. Baldwin-White A. College students and their knowledge and perceptions about sexual assault. *Sex Cult.* 2021;25(1):58-74. doi:10.1007/s12119-020-09757-x.
- 28. Haberland NA. The case for addressing gender and power in sexuality and HIV education: a comprehensive review of evaluation studies. *Int Perspect Sex Reprod Health*. 2015;41(1):31-42. doi:10.13 63/4103115.
- 29. Ross MW, Bayer CR, Shindel A, Coleman E. Evaluating the impact of a medical school cohort sexual health course on knowledge, counseling skills and sexual attitude change. *BMC Med Educ.* 2021;21 (1):1-10. doi:10.1186/s12909-020-02482-x.
- 30. Guan M. Sexual and reproductive health knowledge, sexual attitudes, and sexual behaviour of university students: findings of a Beijing-based survey in 2010–2011. *Arch Public Health*. 2021; 79:39. doi:10.1186/s13690-021-00739-5.
- 31. Vamos CA, Thompson EL, Logan RG, et al. Exploring college students' sexual and reproductive health literacy. *J Am Coll Health*. 2020;68(1):79-88. doi:10.1080/07448481.2018.1515757.

- Kashefi F, Bakhtiari A, Pasha H, Amiri FN, Bakouei F. Student attitudes about reproductive health in public universities: a cross-sectional study. *Int Q Community Health Educ.* 2021;41(2):133-142. doi:10.1177/0272684X2091659.
- Dağ H, Dönmez S, Şirin A, Kavlak O. University youth reproductive and sexual health knowledge and peer education. *J Anatolia Nurs Health Sci.* 2012;15(1):10-17.
- 34. Fortenberry JD. Puberty and adolescent sexuality. *Horm Behav.* 2013;64(2):280-287. doi:10.1016/j.yhbeh.2013.03.007.



Sağlık Bilimleri Dergisi (Journal of Health Sciences) 2024; 33 (1)