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Kadın Cinsel Sağlığı

Sexual health literacy and protective behaviors against sexually transmitted diseases in young adult women: Influencing factors and relationship

Genç erişkin kadınların cinsel sağlık okuryazarlığı, cinsel yolla bulaşan hastalıklardan korunma davranışları: Etkileyen faktörler ve aralarındaki ilişki

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ÖZ

OBJECTIVE: Young women are more prone to engaging in risky sexual behaviors, making them vulnerable to sexually transmitted diseases and unintended pregnancies. Considering that sexual health literacy may positively influence women's protective behaviors against sexually transmitted diseases, this study examines the effect of sexual health literacy on protective behaviors in young adult women.

MATERIAL and METHODS: This descriptive and relational study was conducted between May and September 2024 in an education and research hospital in Istanbul, with 256 women aged 18–24 years. The sample size was determined using power analysis. Data were collected through the Participant Information Form, the Sexual Health Literacy Scale, and the Protective Behaviors Against Sexually Transmitted Diseases Scale. The data were analyzed using statistical software, reliability was assessed with Cronbach's alpha coefficient, and the significance level was set at 0.05.

RESULTS: The average age of the participants was 21.67±1.84 years, with the majority being university graduates and single. A total of 46.1 percent had received sexual health education. Sociodemographic factors significantly influenced sexual health literacy and protective behaviors. Participants working part-time and those who consumed alcohol occasionally had higher sexual health literacy scores. Those who had received sexual health education scored higher on both scales. Participants who used the internet for social media and video watching obtained higher scores in both scales. As sexual knowledge and attitudes improved, protective behaviors also increased. A positive relationship was found between sexual health literacy and protective behaviors.

CONCLUSION: The sexual health literacy levels of young adult women positively influence their protective behaviors against sexually transmitted diseases. Sociodemographic characteristics, education level, and sources of information play a significant role in this process. The findings highlight the importance of education and awareness programs to improve women's sexual health literacy.

Keywords: sexually transmitted diseases, young adults, safe sex, health literacy, reproductive health

ABSTRACT

AMAÇ: Genç kadınlar, riskli cinsel davranışlara daha açık olup, cinsel yolla bulaşan hastalıklar ve istenmeyen gebelikler gibi sağlık sorunlarıyla karşı karşıya kalmaktadır. Cinsel sağlık okuryazarlığının, kadınların cinsel yolla bulaşan hastalıklardan korunma davranışlarını olumlu etkileyebileceği düşünülerek, bu çalışmada genç erişkin kadınlarda cinsel sağlık okuryazarlığının korunma davranışlarına etkisi incelenmiştir.

GEREÇ ve YÖNTEMLER: Bu tanımlayıcı ilişkisel çalışma, Mayıs–Eylül 2024 tarihleri arasında İstanbul'daki bir eğitim ve araştırma hastanesinde, 18–24 yaş arası 256 kadın ile yürütülmüştür. Örneklem büyüklüğü güç analizi ile belirlenmiştir. Veriler Katılımcı Bilgi Formu, Cinsel Sağlık Okuryazarlığı Ölçeği ve Cinsel Yolla Bulaşan Hastalıklardan Korunma Davranış Ölçeği ile toplanmıştır. Veriler istatistik programı kullanılarak analiz edilmiş, güvenilirlik Cronbach alfa katsayısı ile değerlendirilmiş ve anlamlılık düzeyi 0,05 olarak kabul edilmiştir.

BULGULAR: Katılımcıların yaş ortalaması 21,67±1,84 olup, büyük bir kısmı üniversite mezunu ve bekârdır. Katılımcıların yüzde 46,1'i cinsel sağlık eğitimi almıştır. Sosyodemografik faktörlerin, cinsel sağlık okuryazarlığı ve korunma davranışları üzerinde anlamlı etkisi olduğu belirlenmiştir. Kısmi zamanlı çalışanlar ve ara sıra alkol kullananların cinsel sağlık okuryazarlığı puanlarının daha yüksek olduğu görülmüştür. Cinsel sağlık eğitimi alanların her iki ölçekten de daha yüksek puan aldığı belirlenmiştir. İnternet kullanım amaçları arasında sosyal medya ve video izleme tercih edenlerde, her iki ölçekte de daha yüksek puanlar elde edilmiştir. Cinsel bilgi ve tutum düzeyi arttıkça, korunma davranışlarının da arttığı görülmüştür. Cinsel sağlık okuryazarlığı ile korunma davranışları arasında pozitif bir ilişki bulunmuştur.

SONUÇ: Genç erişkin kadınların cinsel sağlık okuryazarlığı düzeyleri, cinsel yolla bulaşan hastalıklardan korunma davranışlarını olumlu etkilemektedir. Sosyodemografik özellikler, eğitim düzeyi ve bilgi kaynakları bu süreçte önemli bir rol oynamaktadır. Sonuçlar, kadınların cinsel sağlık okuryazarlığını artırmaya yönelik eğitim ve farkındalık programlarının önemini vurgulamaktadır.

Anahtar Kelimeler: cinsel yolla bulaşan hastalıklar, genç erişkinler, güvenli cinsellik, sağlık okuryazarlığı, üreme sağlığı

INTRODUCTION

The concept of sexual health is an important component of quality of life.[1] When examining sexual health issues worldwide, it is observed that risky sexual behaviors experienced unconsciously during youth often lead to unintended pregnancies, abortions, sexual violence, abuse incidents, and sexually transmitted diseases (STDs).[2,3] Although most sexually transmitted infections are asymptomatic, it is estimated that 374 million people are infected annually worldwide.[4]

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For women to exhibit protective health behaviors related to sexual health, their knowledge and skills must be high. A lack of knowledge and skills can negatively impact women's health outcomes and lead to various issues such as an increased risk of pelvic inflammatory disease, infertility, and ectopic pregnancy.[5,6,7]

Knowledge and skills related to sexual health are part of health literacy.[8] The World Health Organization (WHO) defines the concept of health literacy as "the ability of an individual to access, understand, and use health information to protect and maintain health."[1] The Centers for Disease Control and Prevention (CDC) addresses health literacy in two dimensions: personal and organizational. In this context, personal health literacy refers to the degree to which individuals have the ability to find, understand, and use information and services to make health-related decisions and actions for themselves and others.[9] Recognizing and improving health literacy is emphasized within the framework of the Sustainable Development Goals, highlighting its importance. Increasing health literacy is predicted to have positive effects on health by enabling informed decision-making.[10]

The rapidly changing health information environment has heightened concerns about young adults' sexual behaviors and practices.[11] In this context, sexual health literacy defined as the ability to access, understand, and evaluate information related to sexual health is considered to play a critical role in the prevention of STDs.[12,13] However, no study has been found in the literature that defines the relationship between sexual health literacy and protective behaviors against sexually transmitted diseases. This study aims to determine the relationship between sexual health literacy and the protective behaviors of young adult women against sexually transmitted diseases.

MATERIALS and METHODS

Study Design

This study was designed as a descriptive and relational study.

Population and Sample

The study was conducted from May to September 2024 with women aged 18–24 visiting outpatient clinics at a training and research hospital in Istanbul. A power analysis using G*Power (3.1.9.7) based on an effect size of 0.17 from a previous study determined a sample size of 255 for a power of 0.8 and an alpha level of 0.05.

Inclusion criteria:

- Female, 18–24 years old,
- At least primary school education,
- No chronic or metabolic diseases.

Exclusion criteria:

- Diagnosed sexually transmitted infection,
- Diagnosed psychiatric illness,
- Communication barriers.

Data Collection Tools

Descriptive Information Form

This form, prepared by the researchers, includes general questions about the sociodemographic characteristics of young women and their access to reproductive/sexual health services. The form consists of a total of 26 questions.[15,16,17]

Sexual Health Literacy Scale (SHLS)

The SHLS, developed by Üstgörül (2022), is a 17-item scale using a 5-point Likert system ("Strongly Disagree (1)" to "Strongly Agree (5)") that assesses sexual health literacy across two dimensions: Sexual Knowledge (12 items, scores 12–60) and Sexual Attitude (5 reverse-coded items, scores 5–25, where higher scores indicate negative attitudes). Higher scores overall and in both subdimensions indicate greater sexual health literacy. The original Cronbach's Alpha is 0.88[18]; in this study, it was 0.83.

Protective Behaviors Against Sexually Transmitted Diseases Scale (PBSTD-S)

The PBSTD-S, developed by Kılavuz and Yiğit (2022), is a 21-item scale using a 5-point Likert system ("Strongly Disagree (1)" to "Strongly Agree (5)"). It has two subdimensions: "Knowledge and Protection" and "Attitude." Total scores range from 21 to 105, with higher scores indicating more positive protective behaviors. The original and current study's Cronbach's Alpha is 0.78.[15]

Data Analysis

The distribution of the data was examined using the Shapiro-Wilk test. Quantitative data obtained from the study were analyzed using descriptive statistical methods (means, standard deviations, and frequencies). For comparisons between two groups, the t-test was used, while One-Way ANOVA and Bonferroni post hoc tests were applied for comparisons among three groups. Pearson correlation coefficient was used to examine the relationships between numerical variables. Additionally, the Cronbach's alpha coefficient was calculated to assess the reliability of the scale. All analyses were conducted using IBM Statistical Package for Social Sciences (SPSS) program version 25.0. The significance level was set at $p < 0.05$.

Ethical Considerations

The study was conducted in accordance with the Declaration of Helsinki. Approval was obtained from the Acıbadem University Non-Interventional Research Ethics Committee (decision number 2024/5/189, dated 28.03.2024) and institutional permission was received from the training and research hospital where the study was conducted. Additionally, permission was obtained from the original authors for the use of the scales. At the beginning of the study, all participating women provided their consent through an Informed Consent Form.

RESULTS

The participants' mean age was 21.67±1.84 years. Among them, 87.9% were university graduates, 82.4% were single, and 36.3% were employed either full-time or part-time. The sociodemographic data of the participants are presented in Table 1.

It was observed that women's sociodemographic characteristics had a significant impact on SHLS and PBSTD-S scale scores. A low-level negative correlation was found between age and PBSTD-S. Part-time employees had higher SHLS (p=0.029) and PBSTD-S (p=0.001) scores compared to full-time employees (p=0.029).

Participants living with their partner at home had lower SHLS scores compared to those living with family/relatives or alone (p=0.004). Additionally, those living with their partner had lower PBSTD-S scores compared to those living with a friend, family/relatives, or in a dormitory, while individuals living alone had higher PBSTD-S scores than those living with family/relatives (p=0.001). Regarding alcohol consumption, participants who consumed alcohol occasionally had higher SHLS (p=0.003) and PBSTD-S (p=0.002) scores (Table 1).

The average reproductive health/sexual health (RH/SH) knowledge score of the study participants was determined to be 6.13±1.69 out of 10. A total of 53.9% of the participants stated that they had not received any education on reproductive health/sexual health.

When examining the sources of information on reproductive health/sexual health, the most frequently consulted sources were social media and the internet (58.2%). Additionally, 48% of the participants reported that they could only discuss reproductive health/sexual health topics to a limited extent with their families. While 65.6% stated that they could discuss these topics with same-gender peers, only 25% reported being able to discuss them with the opposite gender.

Table 1. The mean scale score of young women, the findings of their socio-demographic characteristics, and the relationship between the scale (n=256)

Characteristics		*Mean ± SD*	*Min-max*	*SHLS Puan*	*Test and significance*	*Post-hoc*	**PBSTD-S puan**	*Test and significance*	*Post-hoc*
Age (years)		21.67±1.84	18–24		r=-0.01 p^c= 0.993			r=-0.164 ***p^c= 0.009***	
		n	%	Mean ± SD			Mean ± SD		
Educational status	Middle school	1	0.4	46.00±0	p^b=0.681		78.00±0	p^b=0.266	
	High school	7	2.7	57.00±6.87			60.57±4.50		
	University	225	87.9	57.41±9.33			66.62±11.56		
	Masters/doctorate	23	9.0	57.52±9.90			63.91±11.45		
Employment status	Part-time[1]	25	9.8	60.60±9.91	p^b=0.029	1–2	76.92±14.94	p^b=0.001	1–2 1–3
	Full-time[2]	68	26.6	55.20±8.69			63.11±11.01		
	Not working[3]	163	63.7	57.77±9.31			65.93±10.08		
Marital status	Married	45	17.6	55.40±9.26	p^a=0.118		61.13±8.92	p^a=0.001	
	Single	211	82.4	57.79±9.27			67.35.40±11.66		
Place of residence	In the dormitory[1]	20	7.8	56.55±8.89	p^b=0.004	3–4 3–5	72.80±14.89	p^b=0.001	1–3 2–3 4–3 4–5
	At home with a friend[2]	13	5.1	59.84±8.99			71.00±14.66		
	At home with my partner/spouse[3]	41	16.0	53.24±5.68			58.48±3.11		
	With family/relatives[4]	173	67.6	57.89±9.55			66.10±10.40		
	Alone[5]	9	3.5	64.44±12.82			83.22±13.48		
Smoking	Regular	48	18.8	56.60±8.79	p^b=0.531		66.87±13.58	p^b=0.790	
	Occasional	58	22.7	58.51±9.79			65.41±11.49		
	Non-user	150	58.6	57.17±9.28			66.39±10.75		
Alcohol use	Regular[1]	16	6.3	52.75±6.83	p^b=0.003	1–2 2–3	60.50±9.64	p^b=0.002	1–2 2–3
	Occasional[2]	75	29.3	60.09±8.32			69.72±13.69		
	Non-user[3]	165	64.5	56.58±9.64			65.24±10.06		

* Multiple answers were marked; Mean: average; SD: standard deviation; p^a: independent Student T-test; p^b: one-way ANOVA; p^c; Pearson correlation; Bonferroni test was used for post hoc analysis; 1.2.3.4.5.6.: used to indicate the difference between variables.

Regarding areas of informational need in reproductive health/sexual health, 18.4% of young adults identified sexually transmitted infections (STIs), 5.4% sexuality, 3.9% pregnancy/childbirth, 3.9% family planning (FP) methods, and 1.2% the HPV vaccine.

Among young adults, 69.5% reported using the internet for social media, while 54.5% used it for information-seeking. The most commonly searched topics on the internet were current events (86.3%), education (57.4%), and health-related topics (53.9%).

Women who had received RH/SH education had significantly higher SHLS and PBSTD-S scores compared to those who had not (p=0.001). Sources of information that increased SHLS scores included teachers (p=0.001), artificial intelligence (p=0.001), fathers (p=0.012), and healthcare professionals (p=0.017). Meanwhile, sources that increased PBSTD-S scores were teachers (p=0.001) and friends (p=0.038).

Women who could discuss RH/SH topics with both same-gender and opposite-gender individuals had higher scale scores, with particularly high PBSTD-S scores among those who could discuss these topics, even to a limited extent, with the opposite gender (p=0.001).

While internet usage duration did not affect scale scores, usage purposes such as social media (p=0.042; p=0.019) and video watching (p=0.016; p=0.042) increased scores on both scales. Additionally, women who searched for educational information online had higher SHLS scores (p=0.011). Participants who expressed a need for information on STIs, the HPV vaccine, FP methods, and sexuality had higher scores on both scales (p <0.05) (Table 2).

Table 2. Young women's reproductive health/sexual health knowledge and internet usage characteristics (n=256)

Characteristics		*Mean ± SD*	*Min-max*						
RH/SH Knowledge Levels		*6.13±1.69*	*1–10*						
		n	*%*	*SHLS Puan*	*Test and Significance*	*Post-Hoc*	*PBSTD-S Puan*	*Test and Significance*	*Post-Hoc*
RH/SH education status	Yes	118	46.1	60.38±9.47	p^a=0.001		69.02±13.39	p^a=0.001	
	No	138	53.9	54.79±8.36			63.89±8.88		
RH/SH Source of information*	Mother	76	29.7	57.73±9.96	p^a=0.684		66.88±11.25	p^a=0.575	
	Father	9	3.5	65.00±8.57	p^a=0.012		70.00±13.40	p^a=0.320	
	Sibling	15	5.9	60.66±10.31	p^a=0.158		63.73±10.88	p^a=0.380	
	Teacher	78	30.5	60.46±9.56	p^a=0.001		72.69±14.09	p^a=0.001	
	Friend	82	32.0	58.95±8.97	p^a=0.062		68.53±12.34	p^a=0.038	
	Social media and internet	149	58.2	57.69±9.75	p^a=0.508		66.43±11.51	p^a=0.774	
	Artificial intelligence	20	7.8	64.30±9.70	p^a=0.001		68.40±14.42	p^a=0.386	
	Health professional	129	50.4	58.74±9.62	p^a=0.017		65.79±11.10	p^a=0.509	
Discussing RH/SH issues with the family	I can talk	102	39.8	58.70±9.97	p^b=0.168		66.97±11.58	p^b=0.554	
	I can talk limited	122	47.7	56.37±8.81			66.13±11.64		
	I can't talk	32	12.5	56.90±8.62			64.46±10.42		
Discussing RH/SH issues with same sex	I can talk[1]	168	65.6	58.85±9.71	p^b=0.001	a-b. a-c	68.48±12.57	p^b=0.001	1–2 1–3
	I can talk limited[2]	55	21.5	55.30±8.63			63.54±8.34		
	I can't talk[3]	33	12.9	53.24±5.88			59.48±4.18		
Discussing RH/SH issues with the opposite sex	I can talk[1]	64	25.0	60.04±10.53	p^b=0.001	a-c. b-c	70.92±13.40	p^b=0.001	1–2 1–3 2–3
	I can talk limited[2]	119	46.5	58.16±8.41			66.69±11.24		
	I can't talk[3]	73	28.5	53.72±8.52			61.46±7.61		
Information need areas related to RH/SH*	HPV vaccine	3	1.2	62.66±4.04	p^a=0.322		82.33±66.07	p^a=0.014	
	FP** methods	10	3.9	62.20±11.30	p^a=0.094		77.90±16.45	p^a=0.046	
	STIs	47	18.4	61.29±8.79	p^a=0.001		69.31±13.23	p^a=0.076	
	Sexuality	14	5.5	59.85±10.96	p^a=0.305		81.50±7.01	p^a=0.001	
	Pregnancy/ childbirth	11	4.3	60.90±10.96	p^a=0.198		73.27±15.65	p^a=0.155	
Average internet usage time	I have no access to the internet	3	1.2	47.33±12.50	p^b=0.418		77.66±12.70	p^b=0.082	
	1 hour per day	50	19.5	58.08±8.67			67.68±14.28		
	2–3 hours per day	120	46.9	57.55±8.94			67.05±11.48		
	More than 4 hours per day	78	30.5	57.03±10.28			64.02±9.08		
	1–2 hours every other day	5	2	57.20±4.20			61.20±3.63		
Purpose of internet use*	Accessing information	177	69.1	57.96±9.66	p^a=0.130		66.75±12.04	p^a=0.274	
	Social media	225	87.9	57.80±9.30	p^a=0.042		66.73±11.80	p^a=0.019	
	Watching videos	111	43.4	58.97±9.57	p^a=0.016		67.98±64.94	p^a=0.042	
Information areas searched on the internet*	Health	137	53.5	57.88±10.02	p^a=0.340		66.72±12.30	p^a=0.479	
	Education	147	57.4	58.61±9.82	p^a=0.011		66.80±12.03	p^a=0.381	
	Agenda	221	86.3	57.60±9.06	p^a=0.320		66.25±11.49	p^a=0.935	

* Multiple answers were marked; ** FP: family planning; Mean: average; SD: standard deviation; p^a: independent Student T-test; p^b: one-way ANOVA; p^c: Pearson correlation; Bonferroni test was used for post hoc analysis. 1.2.3.4.5.6.: used to indicate the difference between variables.

In the study, the SHLS and PBSTD-S scores of young adult women are provided in Table 3. The overall mean SHLS score was 57.37±9.30, with the subscale scores being 38.76±8 for sexual knowledge and 18.60±3.96 for sexual attitude. The overall PBSTD-S score was 66.26±11.46. The mean subscale score for PBSTD-S knowledge and protection was 44.59±9.15, and the attitude subscale score was 21.66±3.14 (Table 3).

Table 3. Young women's sexual health literacy and protective behaviours against sexually transmitted diseases scale scores (n=256)

	Mean ± SD	*Min-max*
SHLS		
Sexual Knowledge	38.76±8.32	18.00–24.00
Sexual Attitude	18.60±3.96	12.00–60.00
Total	57.37±9.30	34.00–82.00
PBSTD-S		
Knowledge and Protection	44.59±9.15	27.00–70.00
Attitude	21.66±3.14	14.00–33.00
Total	66.26±11.46	45.00–101.00

Mean: average; SD: standard deviation.

A statistically significant positive relationship was found between the total and each subscale mean scores of SHLS and the total and each subscale scores of PBSTD-S ($p < 0.002$). As women's sexual knowledge and attitude scores increased, their scores for behaviors aimed at protecting against sexually transmitted infections also increased (Table 4).

Table 4. Young women's sexual health literacy and protective behaviours against sexually transmitted diseases scale scores (n=256)

	PBSTD-S		
	Knowledge and protection	*Attitude*	*Total*
SHLS			
Sexual knowledge	r=0.194 **p^c= 0.002**	r=0.346 **p^c= 0.001**	r=0.247 **p^c= 0.001**
Sexual attitude	r=0.286 **p^c= 0.001**	r=0.222 **p^c= 0.001**	r=0.290 **p^c= 0.001**
Total	r=0.295 **p^c= 0.001**	r=0.396 **p^c= 0.001**	r=0.344 **p^c= 0.001**

p^c: Pearson correlation.

DISCUSSION

This study aimed to determine the relationship between young adult women's sexual health literacy and their behaviors aimed at protecting against sexually transmitted infections. The study findings support that an increase in sexual health literacy positively influences behaviors to prevent sexually transmitted infections. In particular, the role of digital tools such as social media and video watching reveals new dynamics in modern times that shape health literacy.

The Effect of Sociodemographic Factors on Sexual Health Literacy and Behaviors Aimed at Protecting Against Sexually Transmitted Infections

In the study, while the age of the participants did not affect the SHLS score, there was a negative correlation with the PBSTD-S scores. A recent study found that women aged 18–35 had significantly higher SHLS score averages compared to those aged 36–49.[19] Jamali et al. (2020), in their study with Iranian women, reported that age influenced sexual health literacy, indicating that younger women aged 15–25 were more likely to have higher sexual health literacy.[20] On the contrary, some studies in the literature have reported no significant relationship between age and sexual health literacy.[21,22] These studies support the results of our research. The differing findings regarding the relationship between age and sexual health literacy may stem from cultural and social differences as well as the homogeneous distribution of the age group in the sample. The findings from these studies suggest that younger age groups are more conscious regarding protective behaviors and may adapt better to a health-related information environment. No study in the literature was found that examined the relationship between age and protective behaviors against STIs. In this study, it was determined that as age increased, the behaviors aimed at protecting against STIs tended to decrease. It is conceivable that as age increases, exposure to risky behaviors decreases. Younger women may use social media and the internet more effectively, and this tendency may diminish with age, which in turn could adversely affect protective behaviors. Moreover, this finding strongly indicates that sexual health education should be provided not only to young individuals but to individuals of all age groups.

No relationship was found between the level of education and both the SHLS and PBSTD-S scores. It is thought that the level of education does not affect sexual health literacy and behaviors aimed at protecting against STIs. However, studies conducted with different groups of women in the literature have found a significant relationship between education level and sexual health literacy.[19–21,23] The result of this study does not show similarity with the literature. This suggests that access to sexual health information may be influenced not only by formal education but also by cultural differences and access to information sources. In

addition to raising the overall education level to enhance sexual health literacy, it may be effective to implement specific sexual health education programs tailored to women of every education level. No study was found in the literature that examined the relationship between education level and protective behaviors against STIs. In this study, no significant relationship was found between education level and PBSTD-S scores. This implies that the level of education alone is not sufficient to change behaviors aimed at protecting against STIs. Awareness and risk perception are important for the transformation of knowledge into behavior. In this study, the vast majority of the sample had a university-level education, which indicates that even if individuals have a high level of education, they might not exhibit protective behaviors if they do not perceive themselves as being at risk.

It was determined that part-time workers had significantly higher SHLS score averages compared to full-time workers. The literature presents different results regarding the relationship between employment status and health literacy.[19,20,24,25] This discrepancy may be due to methodological and cultural differences in the studies. No study was found in the literature that examined the relationship between employment status and protective behaviors against STIs. In this study, the higher SHLS and PBSTD-S scores of part-time workers compared to full-time workers suggest that these individuals may have more time to access information and utilize the information they acquire. In contrast, full-time working young adults in this sample might experience difficulties accessing and applying information due to time constraints.

The Effect of Lifestyle and Habits on Sexual Health Literacy and Behaviors Aimed at Protecting Against Sexually Transmitted Infections

Young adults living with their partner had significantly lower SHLS and PBSTD-S scores compared to those living with family/relatives. This indicates that lifestyle and social environment have an impact on health literacy and protective behaviors against STIs. The literature shows differences regarding the relationship between family structure and health literacy.[19,22,26] It can be interpreted that individuals living with their partner may feel they are in a secure relationship and thus feel less need to seek sexual health information, whereas those living with family/relatives may have higher awareness due to increased social support interactions. Additionally, living with a partner may reduce the motivation to access information. The finding that individuals living alone have higher scores for behaviors aimed at protecting against STIs than those staying with family/relatives may suggest that these individuals act with a stronger sense of responsibility for their own health.

In the literature, there are few studies examining the relationship between smoking/alcohol consumption and sexual health literacy, and no relationship was found between smoking and sexual health literacy.[22] In this study, no significant relationship was found between smoking and both the SHLS and protective behavior (PBSTD-S) scale scores, whereas women who consumed alcohol occasionally had higher SHLS and PBSTD-S scores compared to regular users and non-users. This could be related to increased awareness and access to information regarding risky sexual behaviors. Additionally, individuals who consume alcohol occasionally might have an increased likelihood of engaging in risky sexual behaviors due to the influence of alcohol, which in turn may create a greater need for awareness and access to information on sexual health. This need is thought to contribute to higher SHLS and PBSTD-S scores.

The Effect of Reproductive/Sexual Health Knowledge and Information Sources on Sexual Health Literacy and Behaviors Aimed at Protecting Against Sexually Transmitted Infections

In this study, it was determined that women who had received RH/SH education had higher scores on both the sexual health literacy (SHLS) and protective behavior (PBSTD-S) scales. The literature supports this finding highlighting that sexual health education plays a critical role in increasing both health literacy and protective behaviors against STIs.[21,27]

According to the literature, the most frequently used sources of information regarding sexual health and protection against STIs are the internet, social networks, and friends.[19,20,26,28,29] In this study, among the information sources that increased both SHLS and PBSTD-S scores, teachers were found to be particularly effective. This suggests that formal education plays a critical role in acquiring sexual and reproductive health information and in transforming this information into behavior.

Women who used the internet for educational purposes had higher SHLS scores, which suggests that the internet can be a valuable tool for accessing accurate information. The duration of internet use did not affect the scores on either scale, indicating that the quality of information and the purpose of internet use are more important than the amount of time spent online. In this study, while a significant relationship was found between women's search for information on STIs and their sexual health literacy

scores, searching for information on topics such as the HPV vaccine, family planning methods, and sexuality was seen to affect the scores for behaviors aimed at protecting against STIs. In a study examining the effect of education on reproductive-aged women's RH/SH behaviors, the most needed topics in relation to RH/SH were STIs and protection methods.[30] The need for seeking and accessing information on specific health-related topics can be an important factor in individuals exhibiting positive health behaviors and avoiding risky behaviors.

The Relationship Between Sexual Health Literacy and Behaviors Aimed at Protecting Against Sexually Transmitted Infections

The overall mean scores of SHLS (57.37±9.30) and PBSTD-S (66.26±11.46) among young adult women were moderate, with sexual health-related knowledge levels exceeding attitudes. For instance, Doğan and Tuğut (2024) reported an SHLS mean score of 49.27±11.20 (knowledge: 34.87±8.76; attitude: 14.40±5.26), and Yeşil and Apak (2024) found an SHLS mean score of 45.56±10.22 among university students.[19,21] Kaplan Doğan (2024) observed an SHLS score of 54.37±9.96 (knowledge: 32.22±9.00; attitude: 17.35±4.31).[31] In contrast, studies from Iran reported considerably higher SHLS scores, ranging from 68.76±12.96[32] to 78.47±17.85[23], with other studies reporting scores of 74.11±12.38[20], and 75.64±12.81.[33] This suggests that SHLS scores in our country are lower than those in Iran. The differences in sexual health literacy levels may be due to variations in sociocultural characteristics. Similarly, in this study, the mean PBSTD-S score was at a moderate level, with women's knowledge and protection subscale scores being higher, while their attitude subscale scores were lower. The literature has similarly reported that university students have moderate knowledge levels regarding STIs.[27,34–36] This suggests that although more effort is made to access information, there may be inadequacies in transforming that information into behavior and adopting the knowledge as an attitude.

No study in the literature has directly examined the relationship between sexual health literacy and behaviors aimed at protecting against STIs. In this study, the positive relationship found between the overall and subscale scores of SHLS and the overall and subscale scores of PBSTD-S is an important indication that knowledge and attitudes related to sexual health affect behaviors aimed at protecting against STIs. It is believed that enhancing sexual health literacy in young adults would be an important and effective approach to developing behaviors aimed at protecting against STIs.

CONCLUSION

In conclusion, higher sexual health literacy among young adult women is associated with increased protective behaviors against STIs. These outcomes were linked to factors such as employment status, residence, alcohol use, sexual/reproductive health education, information sources, communication about sexual topics, internet use, and online information searches. Overall, while both literacy and protective behaviors were moderate, knowledge levels exceeded attitudes.

Based on these findings, it is recommended to enhance educational programs on sexual and reproductive health for young adult women by not only providing information but also fostering appropriate attitudes and behaviors. Furthermore, disseminating accurate and reliable online content on these topics is crucial for effective information access.

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