

Evaluation of Sexual Health Literacy in Midwifery Students

Serpil ÖZBAŞ¹, Seray GEREY¹, Şükran ÖZKAHRAMAN KOÇ¹

¹ Suleyman Demirel University, Faculty of Health Sciences, Department of Midwifery, Isparta, Türkiye

Cite this article as: Özbaş S, Gerey S, Özkahraman Koç Ş. Evaluation of Sexual Health Literacy in Midwifery Students. Med J SDU 2025;32(2):157-168.

Abstract

Objective

Midwifery students need to have sufficient knowledge and equipment about sexual health to provide accurate guidance to individuals during lifelong service provision. Therefore, our study aims to evaluate the sexual health literacy levels of midwifery students.

Materials and Methods

This study was designed as a descriptive study. Students (n=282) who were attending the midwifery department of a public university between May and June 2024 and who volunteered to participate in the study were included in the study. A form was created using Google Forms, and demographic and descriptive characteristics of the participants, such as age, gender, class, family type, and questions about sexual health, were collected with this form. The Sexual Health Literacy Scale was also sent to the participants using Google Forms.

Results

In the study, it was determined that the mean total score of the Sexual Health Literacy Scale of midwifery students was 48.78±13.05. The mean score of Sexual Knowledge sub-dimension of the scale was

36.86±11.23 and the mean score of Sexual Attitude sub-dimension was 11.91±4.62. Accordingly, it was determined that the students had a moderate attitude towards sexual health literacy, and the factors affecting it were income status, housing status, and family approach. In addition, knowing the concept of sexual health literacy, finding the level of knowledge sufficient, and being able to provide sexual and reproductive health education affect the mean total score of the students.

Conclusion

In line with these findings, it should be aimed to strengthen students' knowledge and attitudes in this field by including more educational content that will increase sexual health literacy in midwifery programs. It is recommended that interactive methods, such as simulation training and case discussions, should be added to the programs in addition to theoretical course hours in order to increase practical applications and experiences in sexual health education and to equip students with ethical dilemmas, cultural sensitivity, and evidence-based practices in the cases they encounter.

Keywords: Midwifery, Student, Sexual Health Literacy

Correspondence: Ş.Ö.K. / sukranozkahraman@sdu.edu.tr

Received: 10.02.2025 • **Accepted:** 23.05.2025

ORCID IDs of the Authors: S.Ö: 0000-0003-3658-8806; S.G: 0009-0003-7354-9088;

Ş.Ö.K: 0000-0001-7286-6477

Introduction

Sexual health is an important health field that directly affects the quality of life of individuals. The World Health Organisation (WHO) defines sexual health as 'the positive enrichment and strengthening of personality, communication and love by addressing sexual life as a whole in terms of physical, spiritual, mental and social aspects (1). Sexual health is possible with a respectful and positive approach towards sexuality, free from violence and discrimination (2). Negative sexual health outcomes such as unwanted pregnancies and sexually transmitted infections may occur via risky sexual behaviours, which are more frequently encountered in young people and university students (3,4). University women aged 20-24 years have the highest rate of unwanted pregnancy among all age groups, with a rate of 81 per thousand (5). In addition, according to the Centers for Disease Control and Prevention (CDC), approximately half of women in the 15-24 age group are reported to contract STIs each year. It is known that 19% of all new Human Immunodeficiency Virus (HIV) diagnoses in 2021 will be made by young people aged 13-24 (6). Bakır and Beji's study revealed that 64% of university students did not receive sexual health education (7). In Erenoğlu and Bayraktar's study, it was reported that 33.4% of the students had not received any sexual health education before and that the lack of information resulting from this reason could lead to risky sexual behaviours (8). Lack of knowledge about risky sexual behaviours is related to the improvement of sexual function by training sexual skills (5). The protection and continuity of health can be gained by accessing health information and eliminating the lack of information and therefore, health literacy is an important issue (9,10). The ability of individuals to access correct information about sexual health and to use this information correctly constitutes the basis of sexual health literacy. Health literacy is the ability of individuals to access health information, understand, evaluate, and use this information for a healthy life. It also includes the ability to think critically about personal and social health needs and to communicate effectively (11). Sexual health literacy provides understanding and application of sexual health information, reduces the risk of Sexually Transmitted Infections (STIs), and also provides various benefits beyond health (12). Health literacy is increasing among young people. The reason for this is that if health literacy is integrated into the early stages of life, the possibility of individuals adopting healthy lifestyles in later ages can be maximised (13).

The midwifery profession has a critical role in the provision of sexual and reproductive health services to

the community. In addition, since they take an active role in the protection and development of women's health, it is important that they follow the current literature on sexual health (14). It is necessary to determine the attitudes, values, beliefs, and knowledge level of midwifery students who are professional midwife candidates about sexual and reproductive health during their undergraduate education (15). Although the projects carried out by the Ministry of Health and non-governmental organizations aiming to improve sexual and reproductive health and increase the utilization of services are positive steps, the need to expand and strengthen the scope of sexual health courses in the undergraduate education of professional groups that will directly serve in this field, such as midwifery, and to support them with practical training comes to the fore. It is of vital importance for midwives to have sufficient knowledge and equipment about sexual health to provide correct guidance to the individuals they will encounter in their professional lives. However, their level of knowledge and literacy skills in this field may not always be at the desired level. This situation creates the need to evaluate the current status of sexual health literacy among midwifery students. This study aims to evaluate the sexual health literacy levels of midwifery students. In this way, suggestions for the education processes of midwifery students can be developed, and they can be supported to contribute to society as individuals who are more aware of sexual health when they graduate.

Material and Method

This descriptive and cross-sectional study was conducted to evaluate the level of sexual health literacy of midwifery students. Ethics committee approval of the study was obtained from Suleyman Demirel University Health Sciences Ethics Committee on 29-4-2024 with decision number 75/6. The purpose of the study was explained to the students in the sample group in detail, and they were assured of the confidentiality of the information to be obtained from them. Participants were asked to participate in the study voluntarily. The students participating in the study were informed about the purpose of the study, the process, and the questionnaire, and their informed consent was obtained. For the use of the scale, permission was obtained via e-mail from Üstgörül (2022), who developed the scale. The population of the study consisted of 323 midwifery students continuing their undergraduate education in the midwifery department of a public university. The study was completed with 282 midwifery students who volunteered to participate in the study. Socio-demographic data form and Sexual Health Literacy Scale were used during data

collection. Socio-demographic data form was created by the researchers by reviewing the literature and consisted of 18 questions (3-8,15). The Sexual Health Literacy Scale was developed by Üstgörü in 2022. The scale aims to measure the sexual health literacy of individuals aged 18 years and over. This five-point Likert-type scale consists of 17 items. The scale has two sub-dimensions as 'Sexual Knowledge' and 'Sexual Attitude'.

There are 12 items in the sexual knowledge sub-dimension, and the lowest score is 12 points, and the highest score is 60 points. The sexual attitude subscale consists of five items and is reverse-coded. The lowest score to be obtained from this section is 5, and the highest score is 25; and high scores are considered to have a negative attitude towards sexual health knowledge.

The items in the scale are graded as strongly disagree (1), strongly agree (5). The increase in the sub-dimensions and general scores of the Sexual Health Literacy Scale indicates that the sexual health literacy of individuals is high. The Cronbach's Alpha value of the scale was found to be 0.88 (16). The data were sent to the students with an online form prepared on Google Forms between May and June 2024, and they were asked to fill it out. Statistical analyses of the study were performed with SPSS 27.0 (IBM Inc., Armonk, NY, USA). Descriptive statistics were presented as frequency (percentage ratio) for categorical data and mean \pm SD for numerical measurements. The conformity of the scale score and the scores of the sub-dimensions to normal distribution was checked by the Kolmogorov-Smirnov test. One-way Analysis of Variance was used to compare the scale scores according to demographic characteristics. Tukey HSD post-hoc test was preferred for significant results. $P < 0.05$ was considered statistically significant.

Results

The mean age of the research group was 21.05 ± 1.86 . The distribution of sociodemographic characteristics of the students is shown in Table 1. Of the midwifery students, 67.0% were graduates of Anatolian High School, and 99.3% were single. 35.8% of the students spent most of their lives in the district, and 81.9% of them had a nuclear family. 63.8% of the students stayed in dormitories and 24.8% in apartments. 41.8% of the midwifery students provide their income with family support. Of the participants, 64.9% of the mothers and 46.1% of the fathers were primary school graduates.

The distribution of midwifery students' knowledge about sexual health is shown in Table 2. 72% of midwifery students stated that information about sexual health was not discussed in the family. 98.9% of the students found sexual health education necessary, 81.9% had not heard the concept of sexual health literacy before, and 51.1% found the level of sexual and reproductive health knowledge sufficient. It is seen that 26.3% of the participants received information about sexual and reproductive health from health personnel, 36.2% of them found health personnel to be the safest source of information, and 35.2% of them found health personnel to be the first source they would apply to when they had problems. 66% of the students state that they are not qualified to provide sexual health education, and 66.7% of them state that they are not qualified to provide reproductive health education.

Table 3 shows the distribution of the mean scores of the total and sub-dimensions of the sexual health literacy scale. The total mean score of the Sexual Health Literacy Scale was found to be 54.94 ± 11.16 , and the mean score of the Sexual Knowledge sub-dimension of the scale was 36.86 ± 11.23 , and the mean score of the Sexual Attitude sub-dimension was 18.08 ± 4.62 .

The distribution and comparison of the mean scores of the scale total and sub-dimensions of the students according to their socio-demographic characteristics are given in Table 4. There is a statistically significant difference between the income status of the participants and the sexual health literacy scale total score and sexual knowledge sub-dimension score ($p=0.023$; $p=0.017$). Students living in dormitories have higher sexual health literacy levels than students living with their families. The sexual health literacy level and sexual knowledge level of students who were employed were found to be lower than those who received scholarships, loans, and family support. There is no statistically significant difference between the level of sexual health literacy, sexual knowledge level, and sexual attitude level with the school graduated from, marital status, place of residence, family type, mother's education level, and father's education level. Table 5 shows the distribution and comparison of the mean scores of the scale total and sub-dimensions of the students according to their knowledge about sexual health. A statistically significant difference was found between the approach of the students' families to issues related to sexual health and the level of sexual health literacy ($p=0.010$) and sexual knowledge ($p=0.022$). Sexual health literacy level and sexual knowledge level were found to be higher in the families of the students whose families shared information than in the families

Table 1 Distribution of descriptive characteristics of students

Characteristics	n	%
Class		
Class 1	79	28.0
Class 2	63	22.3
Class 3	58	20.6
Class 4	82	29.1
Graduated school		
Anatolian High School	189	67.0
Vocational High School	21	7.4
Private High School	20	7.1
Other	52	18.4
Marital status		
Married	2	0.7
Single	280	99.3
Where do you spend most of your life?		
Metropolitan	76	27.0
City	74	26.2
District	101	35.8
Village	31	11.0
Family type		
Core Family	231	81.9
Extended Family	42	14.9
Fragmented family	9	3.2
Accommodation Status		
Dormitory	180	63.8
Home	26	9.2
Apart	70	24.8
Family	6	2.1
Income status		
I get a Scholarship	101	35.8
Getting a loan	56	19.9
Family support	118	41.8
I work in any job	7	2.5
Education level of your mother		
Primary education	183	64.9
High School	68	24.1
University and above	23	8.2
Literate	8	2.8
Education level of your father		
Primary education	130	46.1
High School	101	35.8
University and above	45	16.0
Literate	6	2.1

Table 2 Distribution of midwifery students' information about sexual health

Sexual health-related characteristics	n	%
What is your family's approach to issues related to sexual health?		
Information about sexuality is given and discussed within the family.	67	23.8
Information about sexuality is not discussed within the family.	203	72.0
It is forbidden to talk about sexuality within the family.	3	1.1
When a question is asked about sexuality within the family, topics are closed.	9	3.2
Do you think sexual health education is necessary?		
Yes	279	98.9
No	3	1.1
Have you heard of the concept of sexual health literacy before?		
Yes	51	18.1
No	231	81.9
Do you find your level of knowledge about sexual and reproductive health sufficient?		
Yes	144	51.1
No	138	48.9
Where or from whom did you get information about sexual and reproductive health?		
Family	37	13.1
Social environment	71	25.2
Internet-based access resources	64	22.7
Written resources	36	12.8
Healthcare personnel	74	26.3
Where do you think you can get the safest information about sexual and reproductive health?		
Family	21	7.5
Social environment	6	82.1
Internet-based access resources	25	8.9
Written resources	83	29.4
Healthcare personnel	147	52.1
What is the first source you will turn to when you encounter a problem related to sexual health?		
Family	53	18.8
Social environment	13	4.6
Internet-based access resources	94	33.3
Written resources	23	8.2
Healthcare personnel	99	35.2
Do you consider yourself qualified to provide sexual health education?		
Yes	96	34.0
No	186	66.0
Do you consider yourself qualified to provide reproductive health education?		
Yes	94	33.3
No	188	66.7

Table 3 Distribution of the mean scores of the sexual health literacy scale and its subscales

Sexual Health Literacy Scale	Minimum	Maximum	Mean \pm SD
Sexual Knowledge	12	66	36.86 \pm 11.23
Sexual Attitude	5	25	18.08 \pm 4.62
Total Scale	17	85	48.78 \pm 13.05

of the students in which sexuality-related topics were covered. A statistically significant difference was found between the level of sexual knowledge ($p=0.043$) and whether the students had heard the concept of literacy before. The sexual health literacy levels of the students who had heard the concept of literacy before were higher. A statistically significant difference was found between the level of sexual and reproductive health literacy ($p=0.014$) and sexual attitude level ($p=0.009$). The sexual health literacy level and sexual attitude level of those who found the sexual and reproductive health knowledge level sufficient were higher than those who did not. A statistically significant difference was found between the level of competence to provide sexual health education and sexual health literacy level ($p=0.001$), sexual knowledge level ($p=0.001$), and sexual attitude level ($p=0.031$). The sexual health literacy level, sexual knowledge level, and sexual attitude level of the students who considered themselves competent to provide sexual education were higher than the students who did not. A statistically significant difference was found between the level of competence to provide reproductive health education and the level of sexual health literacy ($p=0.001$) and sexual knowledge ($p=0.001$). The sexual health literacy level and sexual knowledge level of the students who considered themselves competent to provide reproductive health education were higher than the students who did not consider themselves competent to provide reproductive health education. No significant difference was found between the level of sexual health literacy, sexual knowledge, and sexual attitudes, and the level of sexual health literacy, sexual knowledge and sexual attitudes with the status of considering sexual education necessary, the source of sexual and reproductive health information, the safe source and the first applied source.

Discussion

Sexual health problems can be observed in all age groups, especially in young women (17). Considering that sexual life starts in university years. It is extremely

important to instill sexual health literacy in young women (18,19). This concept is more important, especially for midwifery students who are candidates for health personnel and who are closely interested in women's health (20).

In our study, the mean score of 'Sexual Health Literacy' was found to be 48.78 ± 13.05 , the mean score of the 'Sexual Knowledge' sub-dimension of the scale was 36.86 ± 11.23 , and the mean score of the 'Sexual Attitude' sub-dimension was 11.91 ± 4.62 .

In Doğan and Tuğut's study, the mean score of 'Sexual Health Literacy' was 49.27 ± 11.20 , the mean score of 'Sexual Knowledge' sub-dimension was 34.87 ± 8.76 , and the mean score of 'Sexual Attitude' sub-dimension was 14.40 ± 5.26 (21). In Doğan's study, the mean total score of the scale was found to be 54.37 ± 9.96 , the mean score of the 'Sexual knowledge' sub-dimension was 32.22 ± 9.00 , and the mean score of the 'Sexual attitude' sub-dimension was 17.35 ± 4.31 (22). In the study of Altınayak and Özkan, it was concluded that the mean total score of the scale was 50.66 ± 8.41 , the mean score of the 'Sexual Knowledge' sub-dimension was 34.50 ± 8.00 , and the mean score of the 'Sexual Attitude' sub-dimension was 16.16 ± 3.84 (23). The studies in the literature are similar to our study.

In this study, it was found that the most common source used by midwifery students to access sexual health information was health personnel (26.3%). This finding partially contradicts the result of Vamos et al. (24), who reported that the internet was the primary source of information for university students. However, the main reason for this difference may be due to the significant difference in the target populations of the two studies. Vamos et al. (24) conducted their study on all university students. The interdisciplinary differences of the students in this group may also diversify the methods of accessing sexual health information. In particular, students studying in non-health fields may have limited awareness or shyness in accessing expert support on the subject, which may increase their

Table 4

Distribution and comparison of the mean scores of the total and sub-dimensions of the scale according to the socio-demographic characteristics of the students

Property	Sexual Knowledge	Sexual Attitude	Total Scale
	Mean \pm SD	Mean \pm SD	Mean \pm SD
Graduated school			
Anatolian High School	36.57 \pm 11.57	12.04 \pm 4.90	48.61 \pm 13.62
Vocational High School	35.61 \pm 13.85	10.76 \pm 3.30	46.38 \pm 15.36
Private High School	35.65 \pm 10.21	11.15 \pm 3.88	46.80 \pm 11.60
Other	38.88 \pm 9.05	12.23 \pm 4.29	51.11 \pm 10.18
T;P	0.514;0.765	0.743;0.527	0.953;0.415
Marital status			
Married	43.00 \pm 9.89	10.50 \pm 6.36	53.50 \pm 3.53
Single	36.81 \pm 11.24	11.92 \pm 4.62	48.74 \pm 13.09
T;P	0.600;0.439	0.189;0.664	0.262;0.609
Where do you spend most of your life?			
Metropolitan	38.89 \pm 11.43	12.01 \pm 4.83	50.90 \pm 13.55
City	35.47 \pm 10.57	12.32 \pm 4.86	47.79 \pm 12.50
District	36.45 \pm 12.06	11.41 \pm 4.49	47.87 \pm 13.64
Village	36.51 \pm 9.08	12.35 \pm 3.96	48.87 \pm 10.97
T;P	1.264;0.287	0.687;0.561	0.814;0.487
Family type			
Core Family	37.00 \pm 11.57	11.90 \pm 4.63	48.91 \pm 13.45
Extended Family	35.04 \pm 9.99	11.92 \pm 4.78	46.97 \pm 11.61
Fragmented family	42.12 \pm 4.91	12.50 \pm 4.40	54.62 \pm 7.02
T;P	0.963;0.411	0.099;0.960	0.814;0.487
Accommodation Status			
Dormitory	38.07 \pm 10.89	11.97 \pm 4.68	50.05 \pm 12.34
Home	34.19 \pm 10.16	11.42 \pm 4.53	45.61 \pm 12.17
Apart	35.27 \pm 12.26	11.92 \pm 4.53	47.20 \pm 14.75
Family	30.50 \pm 8.73	12.16 \pm 5.49	42.66 \pm 13.88
T;P	2.334;0.074	0.412;0.745	1.878;0.133
Income status			
I get a Scholarship	38.50 \pm 10.75 ^a	11.94 \pm 4.71	50.44 \pm 12.27 ^a
Getting a loan	36.35 \pm 11.58	12.01 \pm 4.63	48.37 \pm 13.44
Family support	36.38 \pm 11.22	11.96 \pm 4.61	48.35 \pm 13.21
I work in any job	25.14 \pm 9.13	10 \pm 3.82	35.14 \pm 11.93 ^a
T;P	3.454;0.017*	0.412;0.745	3.226;0.023*
Education level of your mother			
Primary education	36.73 \pm 11.39	11.69 \pm 4.63	48.42 \pm 12.98
High School	37.61 \pm 11.36	12.63 \pm 4.77	50.25 \pm 13.90
University and above	35.73 \pm 10.99	11.52 \pm 4.29	47.26 \pm 13.19
Literate	36.62 \pm 8.07	12.12 \pm 4.29	48.75 \pm 6.08
T;P	0.187;0.905	0.742;0.528	0.433;0.729
Education level of your father			
Primary education	36.30 \pm 10.70	12.30 \pm 4.38	48.60 \pm 12.23
High School	37.37 \pm 12.06	11.60 \pm 4.85	48.98 \pm 13.79
University and above	37.71 \pm 11.02	11.60 \pm 4.89	49.31 \pm 13.97
Literate	33.83 \pm 11.26	11.33 \pm 4.58	45.16 \pm 13.22
T;P	0.404;0.750	0.550;0.648	0.192;0.902

*: Significant at 0.05 level according to One-Way ANOVA test. a: The difference between categories with exponential letters is significant according to Tukey HSD post-hoc test, Test values are given as F statistics.

Table 5

Distribution and comparison of the mean scores of the total and sub-dimensions of the scale according to the students' knowledge about sexual health

Property	Sexual Knowledge	Sexual Attitude	Total Scale
	Mean \pm SD	Mean \pm SD	Mean \pm SD
What is your family's approach to issues related to sexual health?			
Information about sexuality is given and discussed within the family.	40.38 \pm 11.11	18.55 \pm 4.97	59.94 \pm 10.75
Information about sexuality is not discussed within the family.	35.80 \pm 11.21	17.88 \pm 4.55	53.68 \pm 11.11
It is forbidden to talk about sexuality within the family.	36.66 \pm 2.08	18.66 \pm 5.50	55.33 \pm 4.50
When a question is asked about sexuality within the family, topics are closed.	34.55 \pm 9.97	18.77 \pm 3.73	53.33 \pm 11.12
T;P	2.607;0.022*	0.308;0.511	2.392;0.010*
Do you think sexual health education is necessary?			
Yes	39.91 \pm 11.25	18.06 \pm 4.65	54.98 \pm 11.18
No	31.66 \pm 10.01	19.33 \pm 1.15	51.00 \pm 10.44
T;P	0.862;0.389	0.605;0.669	0.605;0.545
Have you heard of the concept of sexual health literacy before?			
Yes	39.27 \pm 12.48	18.37 \pm 5.23	57.64 \pm 12.28
No	36.32 \pm 10.89	18.01 \pm 4.49	54.34 \pm 10.84
T;P	2.021;0.043*	0.726;0.468	1.865;0.062
Do you find your level of knowledge about sexual and reproductive health sufficient?			
Yes	37.74 \pm 12.33	18.71 \pm 4.73	56.45 \pm 11.81
No	35.94 \pm 9.91	17.42 \pm 4.44	53.36 \pm 10.25
T;P	1.865;0.062	2.624;0.009*	2.452;0.014*
Where or from whom did you get information about sexual and reproductive health?			
Family	35.48 \pm 11.06	17.00 \pm 4.85	52.48 \pm 9.39
Social environment	35.32 \pm 11.03	17.84 \pm 4.55	53.16 \pm 11.76
Internet-based access resources	37.20 \pm 10.85	17.95 \pm 4.40	55.15 \pm 10.65
Written resources	37.83 \pm 12.83	18.55 \pm 5.11	56.38 \pm 11.63
Healthcare personnel	38.25 \pm 11.06	18.72 \pm 4.52	56.98 \pm 11.38
T;P	3.061;0.398	0.179;0.382	2.263;0.180
Where do you think you can get the safest information about sexual and reproductive health?			
Family	34.23 \pm 11.73	16.61 \pm 4.67	50.85 \pm 11.19
Social environment	34.83 \pm 13.39	19.00 \pm 4.33	53.83 \pm 15.02
Internet-based access resources	35.48 \pm 11.12	17.68 \pm 4.46	53.16 \pm 8.96
Written resources	38.27 \pm 11.64	18.53 \pm 4.76	56.80 \pm 12.41
Healthcare personnel	36.75 \pm 10.89	18.06 \pm 4.58	54.82 \pm 10.50
T;P	3.640;0.326	0.750;0.441	2.631;0.106
What is the first source you will turn to when you encounter a problem related to sexual health?			
Family	33.75 \pm 10.70	18.18 \pm 4.35	51.94 \pm 10.68
Social environment	34.53 \pm 13.76	19.92 \pm 4.46	54.46 \pm 13.26
Internet-based access resources	37.90 \pm 10.69	17.78 \pm 4.83	55.69 \pm 10.77
Written resources	34.60 \pm 13.17	18.91 \pm 5.02	53.52 \pm 11.81
Healthcare personnel	38.36 \pm 10.95	17.86 \pm 4.50	56.23 \pm 11.24
T;P	2.206;0.084	0.565;0.468	3.964;0.202
Do you consider yourself qualified to provide sexual health education?			
Yes	39.43 \pm 13.34	18.73 \pm 5.22	58.17 \pm 12.75
No	35.53 \pm 9.74	17.74 \pm 4.26	53.27 \pm 9.88
T;P	3.616;0.001*	0.158;0.031*	3.570;0.001*
Do you consider yourself qualified to provide reproductive health education?			
Yes	39.67 \pm 13.33	18.25 \pm 5.48	57.92 \pm 12.58
No	35.45 \pm 9.76	17.99 \pm 4.14	53.45 \pm 10.09
T;P	4.082;0.001*	0.001;0.275	3.351;0.001*

*: Significant at 0.05 level according to One-Way ANOVA test

tendency towards anonymous and accessible sources such as the internet. In contrast, midwifery students have opportunities for direct interaction with health personnel in clinical settings due to their education in the field of health. Their academic curriculum may cover sexual health topics, and they tend to obtain this information from professional authorities. In their search for reliable sources, they may prefer expert opinion over questionable content on the internet. In our study, it was concluded that marital status did not affect the sexual health literacy levels of students. Studies in the literature show that the sexual health literacy levels of single students are lower (25,26). In our study, it was concluded that the income status of the students affected the level of sexual health literacy. Similar results are seen in studies in the literature. It is thought that income status and the sources of income can also affect the level of sexual health literacy by affecting situations such as social and cultural factors, family support, and communication. (23,25). It is believed that income level and the sources of income can influence social and cultural factors, family support, and communication, which in turn can also affect the level of sexual health literacy. In our study, it was concluded that the educational level of the mother and father did not affect the level of sexual health literacy in students. The findings of our study show that there is no significant relationship between parents' level of education and students' sexual health literacy. This suggests that sexual health literacy is mostly influenced by factors such as family cultural values, attitudes towards sexual health, and social norms. In light of these findings, it appears that interventions to increase sexual health literacy should be aimed at improving families' approaches to sexual health issues and communication skills rather than focusing only on the level of formal education. Similar results were also observed in Doğan's study (22). In some studies, it was reported that parental education level affected the level of sexual knowledge and sexual health literacy in students (27,28). The findings of our study reveal that dormitory students have high levels of sexual health literacy. When the main reasons underlying this situation are examined, it is seen that the socialization opportunities offered by the dormitory environment play a critical role. Students living in dormitories are in a wider social network and experience a more intense information-sharing process with their peers. This process creates an environment that facilitates obtaining information on sensitive issues such as sexual health. In addition, health education and information seminars organized in many dormitories are also thought to have an impact on this result. In these seminars, topics such as sexual health, prevention methods, and sexual

rights are addressed, which increases students' level of knowledge in this area.

The findings of our study show that demographic factors such as the type of high school graduated from, place of residence, and family type did not make a statistically significant difference in sexual health literacy, knowledge level, and attitudes. These results can be explained by the fact that the current sexual education programs in our country remain at the basic level and the curricula exhibit a standard approach. The fact that there were no significant differences in the content and scope of sexual health education between high school types may have led to the limited effect of this variable. In today's digital age, the internet and social media platforms facilitate access to sexual health information, largely eliminating the traditional barriers of geographical location in obtaining information. This can be considered an important factor preventing a significant difference in sexual health literacy between urban and rural areas. Our findings on family structure, on the other hand, suggest that sexual health literacy is more related to qualitative factors such as the quality of communication within the family and parents' approach to the issue. It is seen that the attitudes and behaviors of family members towards discussing sexual health issues are more determinant than structural characteristics such as a traditional extended family or a nuclear family. In our study, sexual health literacy and sexual knowledge levels of those who talked about sexual health issues in their families were found to be higher than those who did not. Similar results were found in the study by Doğan and Tuğut (21). The reason for this is that parents' communication and relationships with their children have a significant effect on sexual health literacy (29). Environments where sexual health issues can be openly discussed within the family are a critical factor that facilitates children's acquisition of healthy information on these issues. When this communication process is not limited to the transfer of biological information, but also includes issues such as social values, ethical principles, and personal boundaries, it helps young people to form their sexual identities more healthily. The expansion of sexual health education within the family will have positive results not only at the individual level but also at the societal level. This approach will contribute to raising individuals with high sexual health literacy, who are at peace with themselves and their environment, and who can make healthy decisions. Considering the pioneering role of the midwifery profession in public health, equipping midwife candidates in this field should be considered as a strategic investment in terms of public health. In our study, it was observed

that the sexual health literacy and sexual attitudes of the students who considered their level of knowledge about sexual health sufficient were high. Similarly, in the study of Yeşil and Apak, it was reported that the sexual health literacy and sexual attitudes of students with an adequate sexual health knowledge level were high (26). Since the population of our study was midwifery students. The theoretical and practical courses they took may suggest that they are adequate in terms of their level of knowledge. In our study, the mean scores of the students who had previously heard the concept of sexual health literacy were found to be higher. Yeşil and Apak's study also shows similar results (26). Future midwives' knowledge of the concept of sexual health literacy has an important effect on both their individual health and public health (20).

In this study, the sexual health literacy level of the students who considered themselves competent to provide education on sexual and reproductive health was found to be high. The midwifery profession has an important role in providing sexual and reproductive health services. In this case, it has been reported that midwives and midwife candidates should increase their sexual health literacy levels and provide training on sexual and reproductive health (30,31). The results of our study revealed that there was no statistically significant relationship between students' perception of sexual education as necessary, the sources from which they obtained information, and their level of trust in these sources, and their sexual health literacy, knowledge level, and attitudes. This finding indicates that even information sources perceived as reliable may not always provide accurate and sufficient information. As a matter of fact, this discrepancy between the reliability of the sources and the accuracy of the information they provide is an important factor limiting the development of sexual health literacy. In terms of the effectiveness of sexual health education, the fact that the content of education remains at the basic level and is limited to superficial information prevents students from gaining in-depth knowledge on the subject. This situation suggests that the quality and scope of education are determinants of sexual health literacy rather than the presence of education. Especially in a complex and multidimensional subject such as sexual health, it seems inevitable that training in which only basic information is provided will be insufficient. The impact of social and cultural factors should not be ignored. Sociocultural barriers in society may limit the development of sexual health literacy, regardless of the quality of educational content.

The Limitations of the Study

Since the study was conducted in a single center and

included midwifery students at a specific university, its findings on sexual health literacy cannot be generalized to all midwifery students in our country. The data used in the study were collected through a questionnaire, and their attitudes towards sexual health literacy are limited to the scope of the scale used. The sample selection in this study was based on "volunteerism", which may cause selection bias. Furthermore, students' sexual health knowledge and attitudes may be shaped not only by the education they receive but also by their cultural and social environment. The influence of these factors may not have been adequately considered in this study.

Conclusion

Increasing sexual health literacy in midwifery students is of great importance for both individual and social welfare. Since midwives focus on women's health and obstetric services, increasing the level of knowledge and awareness of students about sexual health contributes to the development of healthy individuals and communities. In conclusion, strengthening sexual health literacy in midwifery students will increase their professional skills, enable them to provide a more qualified and effective health service, and improve public health in the long term.

Having sufficient knowledge about sexual health is of great importance for midwifery students to provide effective guidance to individuals in their professional lives. The data obtained showed that there were deficiencies, especially in the sexual knowledge levels of the students, and this situation indicates that measures should be taken to increase sexual health literacy in educational processes.

According to the findings of the study, the most important factors affecting the sexual health literacy levels of students are income level, housing status, and family approach. It was determined that the income level and housing status of the students positively affected their sexual health literacy.

It was found that students' knowledge of this concept and their perception of themselves as competent in this field made a great contribution to the increase in sexual health literacy scores. In addition, it was determined that their competence to provide sexual and reproductive health education also positively affected their sexual health literacy scores. This shows that midwifery students' ability to provide education on these issues in their future professional lives can also improve their sexual health literacy.

In line with these findings, midwifery programmes should include more training content that will increase sexual health literacy. It should aim to strengthen the knowledge and attitudes of students in this field by providing more information about sexual and reproductive health.

Sexual health education plays a critical role in helping students develop informed and healthy sexual behaviors. In this context, the most effective intervention method is considered to be age-appropriate and gradual sexual health education integrated into the standard curriculum. Such systematic education from an early age can contribute to the prevention of risky behaviors by ensuring that students acquire the right information promptly. In today's digital age, diversification of education methods is of great importance. Online learning platforms provide students with easy access to sexual health information and offer interactive learning experiences. These platforms can adapt to students' learning speeds and offer the opportunity to reach wider audiences by overcoming the limitations of traditional classroom environments. Digital tools, especially those supported by up-to-date and scientific content, can facilitate students' access to accurate information. In addition, increasing practical applications and experiences in sexual health education can reinforce the level of knowledge of students.

Finally, the findings of this study suggest that further research is needed to improve the sexual health literacy levels of midwifery students and that it would be beneficial to adopt multidisciplinary approaches in this regard. It may positively affect public health if educational institutions and health authorities develop a common understanding in this field and provide comprehensive and effective sexual health education to midwifery students.

Acknowledgment

We would like to thank the midwifery students who participated in our study and the support our university provided us in the analysis of the findings of the study.

Conflict of Interest Statement

The authors declare that there is no conflict of interest.

Ethical Approval

Ethics committee approval of the study was obtained from Suleyman Demirel University Health Sciences Ethics Committee on 29.04.2024 with decision number 75/6. The study was conducted in accordance with the principles set forth in the Declaration of Helsinki.

Consent to Participate and Publish

The students participating in the study were explained about the purpose, process and questionnaire of the research and their informed consent was obtained.

Funding

The authors declare that they receive no financial support.

Availability of Data and Materials

All data are available from the corresponding author upon reasonable request

Artificial Intelligence Statement

The authors declare that they have not used any type of generative artificial intelligence for the writing of this manuscript, nor for the creation of images, graphics, tables, or their corresponding captions.

Authors Contributions

SÖ: Conceptualization; Data curation; Formal analysis; Investigation; Methodology; Validation; Visualization; Writing-original draft.

SG: Data curation; Formal analysis; Investigation; Validation; Visualization; Writing-original draft.

ŞÖK: Conceptualization; Data curation; Formal analysis; Investigation; Methodology; Validation; Writing-original draft.

References

1. World Health Organization. Developing sexual health programmes: A framework for action [Internet]. Geneva: World Health Organization; 2022 [cited 2025 Jan 13]. Available from: https://iris.who.int/bitstream/handle/10665/70501/WHO_RHR_HRP_10.22_eng.pdf?sequence=1
2. World Health Organization. Sexual Health [Internet]. Geneva: World Health Organization; 2023 [cited 2025 Jan 14]. Available from: https://www.who.int/health-topics/sexual-health#tab=tab_1
3. Belihu WB, Amogne MD, Herder T, et al. Risky sexual behavior and associated factors among university students in Ethiopia: a cross-sectional national survey. BMC Public Health 2024;24(1):1–14. doi:10.1186/s12889-024-19213-2
4. Jahanfar S, Pashaei Z. Sexual attitudes and associated factors of risky sexual behaviors among university students. Brain Behav 2022;12(8):1–8. doi:10.1002/brb3.2698
5. Centers for Disease Control and Prevention. Sexual Risk Behaviors [Internet]. Atlanta: CDC; 2024b [cited 2024 Jan 13]. Available from: <https://www.cdc.gov/healthyyouth/sexualbehaviors/index.htm>
6. Centers for Disease Control and Prevention. HIV Testing and Youth [Internet]. Atlanta: CDC; 2024a [cited 2025 Jan 14]. Available from: <https://www.cdc.gov/healthy-youth/nyhaad/hiv-testing-and-youth.html>
7. Bakır N, Beji NK. Üniversite öğrencilerinin cinsel yolla bulaşan hastalıklar konusundaki bilgi düzeyleri. Düzce Üniversitesi Sağlık Bilimleri Enstitüsü Dergisi 2015;5(3):10–16. Available from: <https://dergipark.org.tr/tr/pub/duzcesbed/issue/4850/66660>

8. Erenoğlu R, Bayraktar E. Hemşirelik öğrencilerinin cinsel tutumları ve etkileyen faktörler. *J Hum Sci* 2017;14(2):1745. doi:10.14687/jhs.v14i2.4505
9. Centers for Disease Control and Prevention. What Is Health Literacy? [Internet]. Atlanta: CDC; 2023 [cited 2025 Jan 13]. Available from: <https://www.cdc.gov/healthliteracy/learn/index.html>
10. Gözlü K.A. Social Determinant of health: Health literacy. *Med J SDU* 2020;27(1):137-44. doi:10.17343/sdutfd.569301
11. World Health Organization. Health literacy [Internet]. Geneva: World Health Organization; 2024 [cited 2025 Jan 15]. Available from: <https://www.who.int/news-room/fact-sheets/detail/health-literacy>
12. Martin SP. Young people's sexual health literacy: Seeking, understanding, and evaluating online sexual health information [PhD thesis]. Glasgow: University of Glasgow; 2017. Available from: <https://theses.gla.ac.uk/8528/>
13. McDaid D, Richardson E, Wismar M, et al. Investing in health literacy. *Econ Polit Wkly* 2016;45. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK464510/>
14. Church S, Ejder S, Gurol A, et al. Student midwives' perspectives of women's sexual and reproductive health literacy in Turkey. *Sex Reprod Healthc* 2023;37:100864. doi:10.1016/j.srhc.2023.100864
15. Işık HK, Aytekin MŞ, Kahraman A, et al. Ebelik bölümü öğrencilerinin cinsellik ve cinsel sağlıkla ilişkili bilgi düzeylerinin değerlendirilmesi. *Anatolian J Health Res* 2023;4(3):125–131. doi:10.29228/anatoljhr.72354
16. Ustgorul S. Cinsel Sağlık okuryazarlık ölçeğinin geliştirilmesi: Geçerlik ve güvenilirlik çalışması. *Ankara Sağlık Bilimleri Dergisi* 2022;11(2):164-176. doi:10.46971/ausbid.1086403
17. Forsyth S, Rogstad K. Sexual health issues in adolescents and young adults. *Clin Med* 2015;15(5):447–451. doi:10.7861/clinmedicine.15-5-447
18. Panahi R, Namdar P, Nayebi N, et al. Sexual health literacy and the related factors among women in qazvin, Iran. *J Educ Community Health* 2021;8(4):265–270. doi:10.52547/jech.8.4.265
19. Simpson S, Clifford C, Ross K, et al. Sexual health literacy of the student population of the University of Tasmania: Results of the RUSSL Study. *Sex Health* 2015;12(3):207–216. doi:10.1071/SH14223
20. Duman R, Uncu B, Doğan E. Perspective of midwives in Turkey regarding sexual health literacy and sexual healthcare services. *Public Health Nurs* 2025;42(1):80–86. doi:10.1111/phn.13442
21. Doğan ZS, Tuğut N. Determination of sexual health literacy levels of reproductive age women. *J Health Sci Inst* 2024;9(3):310–318. doi:10.51754/cusbed.1521323
22. Doğan EK. Genç kadınların cinsel sağlık okuryazarlık düzeylerinin evlilik öncesi riskli cinsel davranışları üzerine etkisi. *Androl Bul* 2024;26:192–198. doi:10.24898/tandro.2024.68889
23. Altınayak SÖ, Özkan H. Gebelerde Cinsel sağlık okuryazarlığının cinsellik tutumları ile ilişkisi. *Mersin Üniversitesi Tıp Fakültesi Lokman Hekim Tıp Tarihi ve Folklorik Tıp Dergisi* 2024;14(3):605–615. doi:10.31020/mutftd.1498489
24. 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
25. Güllü A, Aloğlu N. Lifelong learning and sexual health literacy in nursing students: Cross-sectional study. *Sakarya Univ J Holistic Health* 2024;7(2):113–122. doi:10.54803/sauhsd.1445868
26. Yeşil Y, Apak H. Ebelik ve hemşirelik bölümü öğrencilerinin cinsel sağlık okuryazarlığı ve cinsel sağlığa yönelik tutumlarının belirlenmesi. *Gümüşhane Üniversitesi Sağlık Bilimleri Dergisi* 2024;13(1):48–54. doi:10.37989/gumussagbil.1410112
27. Kelecha YT, Mehamud BM, Goda HS, et al. Reproductive and sexual health literacy and associated factors among late-adolescent high school students in Arba Minch and Sawla towns, Southern Ethiopia, 2023: A cross-sectional study. *BMJ Open* 2024;14(8):e086034. doi:10.1136/bmjopen-2024-086034
28. Small E, Nikolova SP, Keyes LL, et al. Sexual health literacy, parental education, and risky sexual behavior among college students in Sierra Leone. *Cogent Soc Sci* 2023;9(2):1-13. doi:10.1080/23311886.2023.2279352
29. Coakley TM, Randolph S, Shears J, et al. Parent-youth communication to reduce at-risk sexual behavior: A systematic literature review. *J Hum Behav Soc Environ* 2017;27(6):609–624. doi:10.1080/10911359.2017.1313149
30. Church S, Ejder S, Gurol A, et al. Student midwives' perspectives of women's sexual and reproductive health literacy in Turkey. *Sex Reprod Healthc* 2023;37:100864. doi:10.1016/j.srhc.2023.100864
31. Mohseni M, Riazi H, Karimian Z, et al. Factors affecting the provision of sexual health services by midwives: A qualitative study in Iran. *Iran J Nurs Midwifery Res* 2023;28(1):47–52. doi:10.4103/ijnmr.ijnmr_157_21.