Research Article
Pamukkale Medical Journal
doi:https://dx.doi.org/10.31362/patd.1733682

Sexual and reproductive health stigma and associated factors among female medical students at Pamukkale University: a cross-sectional survey

Pamukkale Üniversitesi Tıp Fakültesi'nde öğrenim gören kadın tıp öğrencilerinin perspektifinden cinsel ve üreme sağlığı damgalanması ve ilişkili etmenler: kesitsel bir çalışma

Özgür Sevinç, Simge Peşdere

Received:03.07.2025 Accepted:01.10.2025

Abstract

Purpose: The aim of this study is to evaluate the perceptions of stigmatization regarding sexual and reproductive health and the associated factors among female students at Pamukkale University Faculty of Medicine.

Materials and methods: This study is a cross-sectional research conducted at Pamukkale University Faculty of Medicine between February 17 and 27, 2025. The study population consisted of 850 female students enrolled in the 2024–2025 academic year, and based on the sample size calculation performed using the G*Power program, a minimum of 369 participants was determined. A convenience sampling method was employed. The dependent variable of the study was the Sexual and Reproductive Health Stigmatization Scale in Young Women. Data were collected through Google Forms. Higher total scores obtained from the scale indicate increased stigmatizing attitudes toward sexual and reproductive health. The minimum possible score on the scale is 0, while the maximum score is 20.

Results: Female students scored 7.20±2.98 points on the scale. Approximately 25.2% (n=93) of the participants reported obtaining their basic knowledge on sexual matters from friends, while 26.6% (n=98) stated that their families exert pressure on their freedom of life and worldview. Within the family context, about 82.3% (n=304) indicated that sexual health issues were not discussed. The stigmatization score of those who obtained basic knowledge from their families (6.58±3.64) was significantly lower compared to those who obtained information from websites (7.75±2.78) (p=0.024); on the other hand, the stigmatization score of participants who perceived family pressure (8.13±2.61) was significantly higher (p<0.001).

Conclusion: The sexual and reproductive health stigmatization scores of female students were below the moderate level. This finding indicates that even medical education does not completely eliminate stigmatization.

Keywords: Sexual and reproductive health, stigmatization, sexual health, stigmatization of sexual and reproductive health among women.

Sevinc O, Pesdere S. Sexual and reproductive health stigma and associated factors among female Medical Students at Pamukkale University: a cross-sectional survey. Pam Med J 2026;19:429-441.

Öz

Amaç: Bu çalışmada, Pamukkale Üniversitesi Tıp Fakültesi'ndeki kadın öğrencilerin cinsel ve üreme sağlığına dair damgalama algıları ve etkileyen faktörlerin değerlendirilmesi amaçlanmaktadır.

Gereç ve yöntem: Pamukkale Üniversitesi Tıp Fakültesi'nde 17-27 Şubat 2025 tarihleri arasında gerçekleştirilen kesitsel bir çalışmadır. 2024-2025 akademik yılında öğrenim gören 850 kadın öğrenci evreni oluştururken, G*Power programı kullanılarak yapılan örneklem hesabında, minimum 369 katılımcı belirlenmiştir. Kolayda örnekleme yöntemi kullanılmıştır. Araştırmanın bağımlı değişkeni, Genç Kadınlarda Cinsel ve Üreme Sağlığı Damgalama Ölçeği'dir. Veriler, Google Forms üzerinden toplanmıştır. Ölçekten alınan toplam puanın artması cinsel ve üreme sağlığına yönelik damgalama tutumunun arttığını göstermektedir. Ölçekten alınabilecek en düşük puan "0", en yüksek puan "20"dir.

Bulgular: Kadın öğrenciler ölçekten 7,20±2,98 puan almışlardır. Katılımcıların yaklaşık %25,2'si (n=93) cinsel konularla ilgili temel bilgilerini arkadaşlarından edinmekte, %26,6'sı (n=98) ise ailelerinin yaşam özgürlüğü ve dünya görüşü üzerinde baskı oluşturduğunu düşünmektedir. Aile içinde, katılımcıların yaklaşık %82,3'ü (n=304) cinsel sağlık konularının tartışılmadığını belirtmiştir. Temel bilgiyi aileden edinenlerin damgalama puanı (6,58±3,64), web sitelerinden bilgi alanlara (7,75±2,78) göre anlamlı olarak daha düşük (p=0,024); aile baskısı algısı olanların damgalama puanı (8,13±2,61) ise anlamlı derecede daha yüksektir (p<0,001).

Özgür Sevinç, Assoc. Prof. Pamukkale University Faculty of Medicine, Department of Public Health, Denizli, Türkiye, e-mail: osevinc@pau.edu.tr (https://orcid.org/0000-0002-3231-8123)

Simge Peşdere, Research Asst, Pamukkale University Faculty of Medicine, Department of Public Health, Denizli, Türkiye, e-mail: spesdere@pau.edu.tr (https://orcid.org/0009-0005-0267-0950) (Corresponding Author)

Sonuç: Kadın öğrencilerin cinsel ve üreme sağlığı damgalama puanları orta düzeyin altındadır. Bu durum tıp eğitiminin dahi damgalamayı tam olarak ortadan kaldırmadığını göstermektedir.

Anahtar kelimeler: Cinsel üreme sağlığı, damgalama, cinsel sağlık, kadınlarda cinsel üreme sağlığı damgalaması.

Sevinç Ö, Peşdere S. Pamukkale Üniversitesi Tıp Fakültesi'nde öğrenim gören kadın tıp öğrencilerinin perspektifinden cinsel ve üreme sağlığı damgalanması ve ilişkili etmenler: kesitsel bir çalışma. Pam Tıp Derg 2026;19:429-441.

Introduction

According to the World Health Organization (WHO), sexual health is not merely the absence of disease, dysfunction, or disability; rather, it is defined as a state of complete physical, emotional, mental, and social well-being in relation to sexuality. This concept underscores the importance of safe, consensual, and respectful sexual experiences, devoid of coercion, discrimination, and violence [1-3]. Reproductive health, a closely related concept, encompasses the right to access reproductive healthcare services and information throughout one's life, beginning in adolescence and continuing into adulthood [4].

The United Nations Population Fund (UNFPA) and WHO categorize individuals aged 10-19 as adolescents and those aged 15-24 as youth, defining the broader group of 10-24-year-olds as the "young population" [5]. Individuals in this age range are particularly vulnerable to reproductive health issues, including unwanted pregnancies, unsafe abortions, sexually transmitted infections (STIs), sexual violence, and early or forced marriages [4].

Empirical studies have consistently revealed insufficient levels of sexual and reproductive health (SRH) knowledge among youth in developing countries [6-9]. In Türkiye, research has also shown that young people, particularly women, lack adequate information on SRH issues [10-12]. According to the 2023 Türkiye Youth Research, most young individuals seek information about SRH through digital platforms; 64% report using the internet, and 22.9% use television, while interpersonal communication on such topics remains limited [13].

In examining SRH behaviors and access to services, stigma emerges as a significant sociocultural barrier. Stigmatization in this context is shaped by dominant social, cultural, and religious norms that label certain sexual or reproductive experiences (e.g., premarital sex, pregnancy, abortion, STIs, or gender transition) as morally deviant or unacceptable [14]. Drawing from Goffman's seminal Stigma Theory, stigmatization is conceptualized as a socially constructed process involving labeling, stereotyping, separation, status loss, and discrimination, operating within existing power structures and societal hierarchies [15-17]. It undermines individual identity and facilitates exclusion and marginalization by society [18, 19].

Stigma related to SRH can manifest in multiple, overlapping forms: Perceived stigma refers to individuals' anticipation of being judged or rejected by others, often resulting in avoidance behaviors. External stigma involves actual experiences of prejudice and discrimination, whether from family, peers, healthcare providers, or broader society. Internalized stigma describes the internal absorption of negative societal beliefs, leading to diminished self-worth, guilt, and shame [17-22].

These layers of stigma can profoundly impact young people's mental health, contributing to anxiety, depression, substance use, and even suicide ideation [23-25].

In particular, young women aged 15-24 face compounded vulnerabilities: higher risks of unintended pregnancies, limited access to contraception, and exposure to social judgment when seeking care [26-29]. In Türkiye, female adolescents show greater disapproval of early marriage and premarital sexual activity, signaling the influence of gendered moral expectations in shaping attitudes and access to SRH resources [13].

From a theoretical standpoint, stigmatization can be understood through intersectional

frameworks that explore how gender, age, and sociocultural context intersect to exacerbate reproductive health inequities. In many cases, cultural constructs of honor, shame, and morality reinforce silence and misinformation around sexual issues, further deepening stigmatization. Moreover, structural stigma, perpetuated by healthcare systems or legal policies, may deter young people from accessing essential services such as STI testing, contraception, or counseling [30-34].

In this context, stigmatization not only limits access to healthcare but also constitutes a violation of fundamental human rights, especially for young women. Promoting sexual health requires dismantling such stigma to ensure safe, respectful, and inclusive care environments. This is particularly important for medical students, whose knowledge, attitudes, and future clinical practices will shape the reproductive health landscape of future generations [35].

This study aims to examine the stigmatization of sexual and reproductive health and its associated factors from the perspective of female students studying at Pamukkale University Faculty of Medicine. By exploring this issue within a specific cultural and educational context, the study seeks to contribute to the broader understanding of how stigmatization functions as a barrier to SRH among future healthcare providers.

Materials and methods

The study was designed as a cross-sectional study and was carried out at Pamukkale University Faculty of Medicine between 17 and 27 February 2025. The study population consisted of 850 female students enrolled at the Pamukkale University Faculty of Medicine during the 2024-2025 academic year.

Sample size calculation was performed using the G*Power program (version 3.1.9.7) [36]. The dependent variable of the study was the total score obtained from the Sexual and Reproductive Health Stigmatization Scale for Young Women. For the sample size estimation, effect sizes reported in previous studies on sexual and reproductive health stigmatization were used as a basis [37]. The effect size was calculated as d=0.19. Based on a power of 0.95, a significance level of α=0.05, and an effect size of d=0.19, the minimum required sample size was determined to be 369 [36].

Female students who were enrolled during the 2024-2025 academic year at Pamukkale University Faculty of Medicine and who voluntarily agreed to participate were included in the study. A convenience sampling method was employed. The rationale for this choice is that, within the timeframe and conditions of the research, it was practical and feasible to collect data from individuals who were accessible and available. Moreover, this method provided direct access to the target population, making it efficient in terms of time and resources. As the data collection form was in Turkish and distributed via an online/mobile system using the Google Forms survey method, individuals experiencing communication difficulties due to language issues were excluded. As the data collection method, an online survey (Google Forms) was preferred instead of a face-to-face questionnaire. The main rationale for this choice was to reach participants more easily and quickly, ensure efficiency in terms of time and cost, and encourage more candid responses by maintaining anonymity. Furthermore, the online survey method minimizes potential data entry errors and facilitates the analysis process by automatically recording and organizing responses in digital form.

The dependent variable of the study was the total score obtained from the Sexual and Reproductive Health Stigmatization Scale for Young Women (SRHSSYW). The independent variables included the students' age, class (year level), marital status, family income status, place of residence, parents' education levels, family structure, the primary source from which they first acquired basic information about sexual topics, the extent to which the family exerts pressure on lifestyle freedom and worldview, and the family's approach towards sexual topics.

Data collection instruments comprised eight questions addressing the socio-demographic characteristics of the participants. Sources of initial information on sexual topics were recorded with options including family, friends, websites, social media, faculty/courses/books, healthcare personnel, and others. The extent to which the family was perceived to impose restrictions on lifestyle freedom and worldview was assessed

using a five-point Likert scale. Three items evaluated the family's approach towards sexual topics with statements such as "sexuality-related information is provided and discussed," "sexual topics are seldom discussed within the family," and "discussing sexual topics is prohibited." The Sexual and Reproductive Health Stigmatization Scale for Young Women (SRHSSYW) consisted of 20 items.

The SRHSSYW was originally developed by Hall et al. [38] in 2017 to assess sexual and reproductive health stigmatization among women aged 15-24, and its Turkish validity and reliability were established by Bayrakceken and Eryilmaz in 2018 [14]. The scale has a three-factor structure: items 1, 2, 3, 4, 5, and 6 represent external stigmatization; items 7, 8, 9, 10, 14, 15, 16, 19, and 20 represent perceived stigmatization; and items 11, 12, 13, 17, and 18 represent internal stigmatization. The items are scored on a three-point Likert scale ("0=Disagree, 0=Neutral, 1=Agree"), and the total score is obtained by summing the scores of each item, yielding a possible range from 0 to 20. No reverse-coded items are present in the scale; therefore, an increase in the total score indicates a more pronounced stigmatizing attitude toward sexual and reproductive health. In the study establishing its Turkish validity and reliability, the Cronbach's alpha coefficient was found to be 0.83 [14].

The survey was distributed via Google Forms to participants who agreed to take part in the study. Between 17 and 27 February, the survey link was shared daily through the common WhatsApp groups of class representatives from the medical faculty. To boost participation, the research team also visited problem-based learning classes and common break periods to verbally encourage students to complete the survey. Completing the survey took approximately 8-10 minutes for each participant.

Statistical analyses

Data were analyzed using SPSS version 29. Descriptive statistics for categorical variables were presented as frequencies and percentages and for continuous variables as arithmetic mean±standard deviation, median, minimum, and maximum values. The Kolmogorov-Smirnov test was used to assess the normality of the data distribution; since the parametric test assumptions were not met, the Mann-Whitney U test and Kruskal-Wallis tests were employed. A *p*-value of <0.05 was considered statistically significant. Following the Kruskal–Wallis test, pairwise comparisons between groups were performed using post-hoc analysis with Bonferroni correction.

Ethical approval was obtained from the Non-Interventional Clinical Research Ethics Committee of Pamukkale University Faculty of Medicine on 11 December 2024 (decision no: E-60116787-020-622694). Additionally, the administrative permission was granted on 14 February 2025 (decision no: E-75867404-020-654286). Necessary permission was also obtained from the developer of the scale prior to the commencement of the study.

Results

When examining the socio-demographic characteristics of the study participants, the mean age was determined to be 21.3±1.9 years. By year, participants were distributed as 1st–6th years: 16.0%, 16.8%, 19.0%, 14.9%, 14.9%, and 18.4%, respectively (Table 1). All were single (100%). Family income was reported as below expenses (37.2%), equal to expenses (53.9%), or above expenses (8.9%).

Regarding residence, 45.8% of participants lived in dormitories or alone in apartments, while 21.1% lived with their families. Maternal and paternal higher education levels were 48.0% and 59.9%, respectively. Most participants (85.6%) belonged to a nuclear family (Table 1).

As shown in Table 1, SRHSSYW total scores differed significantly by academic year (p=0.002), specifically between 6th and 1st years and 6th and 5th years; with all participants being single, the mean score by marital status was 7.21±2.98 (Table 1).

Mean SRHSSYW scores by family income were 7.39±3.31 (income > expenses), 7.03±2.77 (income= expenses), and 7.55±2.76 (income<expenses), with no significant difference among groups (p=0.525) (Table 1).

Mean SRHSSYW scores by residence were 7.10±2.86 (student housing), 7.37±2.82 (dormitories), and 7.30±3.45 (with family/ relatives), with no significant differences observed (p=0.725) (Table 1).

With respect to the mother's education level, children of mothers who were college/university graduates had a mean score of 7.09±2.94, whereas those whose mothers were high school graduates had a mean score of 6.89±3.10; these differences were not statistically significant (p=0.161). Mean SRHSSYW scores by father's education ranged from 6.67 to 7.66, with no significant differences across education levels (p=0.672) (Table 1).

Finally, regarding family structure, participants from nuclear families had a mean score of 7.20±3.02, those from extended families scored 7.66±3.13, and those raised in fragmented families had a mean score of 6.75±2.19, with no significant differences identified among the groups (p=0.654) (Table 1).

Table 1. Socio-Demographic characteristics of the participants and distribution of the SRHSSYW total score means according to participants' sociodemographic characteristics

Variables (n=369)	n	%	Mean±SD	*p*-value (Kruskal Wallis H)
Age (Mean±SD) 21.33±1.93				
Class				
1st year	59	16.00	7.76±2.51	0.002* (kw:18.78) Significance is attributable to differences between 6th year and 1st year, and between 6th year and 5th year
2nd year	62	16.80	7.24±2.63	
3rd year	70	19.00	6.71±2.58	
4th year	55	14.90	7.55±3.09	
5th year	55	14.90	8.20±3.72	
6th year	68	18.40	6.13±2.95	
Marital Status				
Single	369	100.00	7.21±2.98	-
Family Income				
Less than expenses	137	37.20	7.55±2.76	0.525 (kw:1.28)
Equal to expenses	199	53.90	7.03±2.77	
More than expenses	33	8.90	7.39±3.31	
Place of Residence				
Student dorm/Apartment (alone)	169	45.80	7.10±2.86	0.725 (kw:0.64)
Student dorm/Apartment (with friends)	29	7.90		
Private dorm	15	4.00	7.37±2.82	
Public dorm	76	20.60		
With family	78	21.10		
With relatives/acquaintances	1	0.30	7.30±3.45	
Other	1	0.30		
Mother's Education Attainment				
Not literate	2	0.50	14.00±5.66	0.161 (kw:7.91)
Literate	5	1.40	6.40±1.52	
Primary school graduate	75	20.30	7.68±2.80	
Middle school graduate	27	7.30	7.30±2.93	
High school graduate	83	22.50	6.89±3.10	
College/University graduate or higher	177	48.00	7.09±2.94	

Table 1. Socio-Demographic characteristics of the participants and distribution of the SRHSSYW total score means according to participants' sociodemographic characteristics (continued)

Father's Education Attainment				
Not literate	-	-	-	
Literate	3	0.80	6.67±4.16	
Primary school graduate	40	10.80	7.10±3.54	0.672
Middle school graduate	31	8.40	7.42±2.26	(kw:2.34)
High school graduate	74	20.10	7.66±3.21	
College/University graduate or higher	221	59.90	7.05±2.87	
Family Structure				
Extended family	29	7.90	7.66±3.13	
Nuclear family	316	85.60	7.20±3.02	0.654
Broken family	22	6.00	6.75±2.19	(kw:0.84)
Other	2	0.50		

SD: Standard Deviation, *:p<0.05 statistically significant, Kw: Kruskal Wallis Test Statistic

Table 2, comprehensively presents the participants' sources of information on sexual and reproductive health, as well as their perceptions of family attitudes toward these topics.

In evaluating whether they believe the family imposes restrictions on freedom of life and influences their worldview, 19.80% of the participants responded "I think so," 17.10% indicated that they were undecided, and 40.70% stated "I do not think so."

Furthermore, when assessing the family's approach toward sexual health topics, 78.00% of the respondents reported that sexual topics are rarely discussed within the family, 17.60% noted that sexual information is provided and discussed, and 4.30% indicated that talking about such topics is forbidden (Table 2).

On the right-hand side of the table, the distribution of the SRHSSYW total scores according to questions related to sexual and reproductive health is shown. Analysis based on the source from which participants first acquired basic information on sexual topics revealed that those who obtained information from friends scored 7.55±2.52, those who relied on websites scored 7.75±2.78, and those who received information from family scored 6.58±3.64. The difference among these groups, particularly between the 'from family' and 'from websites' categories, was statistically significant (p=0.024), with higher stigma scores observed in the 'from websites' group (Table 2).

Regarding participants' perceptions of whether their family exerts pressure on their personal freedom and worldview, those who responded "agree" received a mean score of 8.13±2.61, while those who responded "undecided" and "disagree" obtained mean scores of 6.97±2.33 and 6.85±3.23, respectively; these differences were highly statistically significant (p<0.001) (Table 2).

Finally, in the examination of the family's approach to sexual health matters, participants who indicated that "sexual topics are rarely discussed within the family" scored 7.20±2.91, those who stated that "information on sexual issues is provided and discussed" scored 6.95±3.38, and those who reported that "discussion of sexual topics is forbidden" scored 8.44±2.39. The differences among these groups were not statistically significant (p=0.121) (Table 2).

Table 2. Distribution of participants according to sexual and reproductive health questions and distribution of SRHSSYW total score means according to sexual and reproductive health-related questions

		n	%	Mean±SD	*p*-value
Source of Basic Information on Sexual Topics	From friends	93	25.20	7.55±2.52	0.024* (kw:14.24)
	From websites	80	21.70	7.75±2.78	
	From family	65	17.60	6.58±3.64	Significance in the "Source of Information" group is attributable to the difference between the "From Family" and "From Websites" categories
	From faculty/courses/books	55	14.90	6.95±3.36	
	From social media	54	14.60	6.70±2.44	
	From health professionals	7	1.90	8.86±4.22	
	Others	15	4.10	6.93±2.66	
Perceptions Regarding the Family's Restrictions on Freedom of Life and Worldview	I definitely agree	25	6.80	8.13±2.61	<0.001* (kw:15.97)
	I agree	73	19.80		
	I am undecided	63	17.10	6.97±2.33	
	I disagree	150	40.70	6.85±3.23	
	I definitely disagree	58	15.70		
Family's Approach to Sexual Health Topics	Sexual topics are rarely discussed within the family	288	78.00	7.20±2.91	0.121 (kw:4.21)
	Sexual information is provided and discussed	65	17.60	6.95±3.38	
	Talking about sexual topics is forbidden	16	4.30	8.44±2.39	

SD: Standard Deviation, *:*p*<0.05 statistically significant, Kw: Kruskal Wallis Test Statistic

Table 3 displays the distribution of items related to the subdimensions of the Sexual and Reproductive Health Stigmatization Scale for Young Women (SRHSSYW) as well as the distribution of the total scale scores. In the analyzed data, the mean score for the external stigmatization subdimension was found to be 4.00±2.98, with a median of 4.00 (0-6); the possible score range for this subdimension is between 0 and 6. For the false stigmatization subdimension, the mean score was 1.15±1.25, with a median of 1.00 (0-9); the score range for this subdimension is defined as 0 to 9. In the internal stigmatization subdimension, the participants' mean score was determined to be 2.05±1.17, with a median of 2.00 (0-5); the designated score boundaries for this subdimension range from 0 to 5. Considering the overall scale score, the general mean was 7.20±2.98, with a median of 7.00 (1-18), and the total possible score range on the scale is between 0 and 20.

Table 3. Sub-dimensions and total score averages of the Sexual and Reproductive Health Stigmatization Scale for Young Women (SRHSSYW)

Sexual and Reproductive Health Stigmatization Scale for Young Women	Mean±SD	Median (Min-Max)	Possible Scale Score Range
External Stigmatization	4.00±2.98	4.00 (0-6)	0-6
False Stigmatization	1.15±1.25	1.00 (0-9)	0-9
Internal Stigmatization	2.05±1.17	2.00 (0-5)	0-5
Total Score	7.20±2.98	7.00 (1-18)	0-20

SD= Standard Deviation, Min=Minimum, Max=Maximum

Discussion

Female medical students participating in this study obtained an average score of 7.20±2.98 out of 20 on the Sexual and Reproductive Health Stigmatization Scale for Young Women (SRHSSYW). Although this score is below a moderate level, it is relatively high for individuals receiving medical training. This suggests that mere acquisition of medical knowledge is insufficient to overcome internalized or societal stigmatization related to sexual and reproductive health [35].

In previous studies, scores on the Sexual and Reproductive Health Stigmatization Scale for Young Women have shown considerable variability. For instance, Bakır et al. [37] reported an average score of 8.26±3.84 in a study conducted in 2020 among 371 female trainees aged 18-24 in the Mediterranean Region. Similarly, Yıldız et al. [39] found a median score of 8 (6) among 282 participants aged 18-24 in Iğdır in 2020. In Erzurum, Bayrakceken and Eryilmaz [14] reported a score of 9.96±4.50 among 392 students in 2018, whereas Dağlı and Reyhan [40] found a score of 6.78±4.00 in a 2023 study conducted in Mersin among 356 students. In contrast, Polat and Senol [41] reported a notably higher mean score of 14.46±3.71 among 385 students in Osmaniye in 2020. These differences in scores may reflect variations in knowledge levels, family structures, and social environments across regions and cultures, as suggested by the literature. Nevertheless, the findings consistently indicate that contemporary young women tend to be hesitant to discuss sexual and reproductive health issues, influenced by prevailing gender roles and societal judgments. Importantly, even among medical students—who receive specialized education in sexual and reproductive health—this study revealed stigma scores higher than expected, highlighting the persistent and significant nature of sexual and reproductive health stigmatization.

When examining the scores of female students in their 6th year, the data suggest that medical education might have a mitigating effect on sexual and reproductive health stigmatization. However, the observed increase in scores among 5th-year students, combined with the absence of a consistent trend in the other years, indicates that medical education does not exert a pronounced effect on reducing sexual and reproductive health stigmatization. In contrast, the study conducted by Dağlı and Reyhan [40] on midwifery students revealed statistically significant differences across academic years. Midwifery students, who assume direct responsibilities in the delivery of reproductive health services and play more visible roles within society, may be more sensitive to and open about these issues. This difference may account for the discrepancies observed among the studies.

Therefore, it is crucial to integrate comprehensive, structured, and evidence-based modules into medical education starting from the early years. These modules should address not only the biological dimensions of reproductive health but also gender equality, human rights, and communication skills. Implementing case-based discussions, simulation activities, and reflective practices would allow students to identify and confront their own biases.

In our study, no significant effect of parental education levels or family structure on stigmatization was observed. In contrast, Dağlı

and Reyhan [40] found a relationship between parental education and stigmatization, whereas Bakır et al. [37] reported results similar to ours, with no significant association between parental education and stigmatization. The literature suggests that psychological, social, and environmental factors may play a more decisive role in stigmatization [42, 43]. Moreover, it is posited that complex mechanisms are involved in the formation of stigmatization [16, 41]. In light of these considerations, the complex interplay of multiple factors may have overshadowed the potential impact of important variables such as parental education and family structure.

Regarding income level, our study did not reveal a significant relationship with stigmatization. Although several studies [37, 40] suggest that income level may either increase or decrease stigmatization, there is no clear consensus in the literature on the role of socioeconomic factors in stigmatization [37, 40, 41]. This ambiguity could be attributed to the fact that stigmatization, grounded in social and psychological principles, is a complex construct influenced by numerous elements such as cultural factors and educational attainment. This complexity may also account for the discrepancies observed across different studies [16, 41].

Furthermore, when examining the sources from which participants first obtained basic information about sexual topics, the significant difference was attributed to the contrast between family and websites. The lower stigmatization levels among participants who reported acquiring their initial sexual information from family may be explained by the fact that information received within the family tends to be more controlled, reliable, and accurate and is obtained in a less judgmental environment. This finding also implies that acquiring sexual health knowledge in a natural and proper manner from family may be a healthier process for young individuals [44, 45].

Those who acquire basic sexual and reproductive health information from their family demonstrate lower levels of stigmatization. This finding underscores the importance of providing comprehensive sexual education in an open and transparent manner within the family from an early age [44]. Information obtained from family members contributes to the development of a more positive and healthy perspective on sexual health. Moreover, open discussions about sexual health within the family can prevent the formation of taboos and reduce stigmatizing behaviors [45].

In contrast, individuals who initially obtain basic information on sexual topics from websites exhibit higher levels of stigmatization. This may be attributed to the exposure to inaccurate, distorted, or even stigmatization-reinforcing content [46, 47]. The broad accessibility of diverse information sources online—many of which may lack accuracy and reliability—can lead to the dissemination of misinformation, particularly among young people, thereby contributing to increased stigmatization.

Furthermore, participants who perceived that their family exerts pressure on their personal freedom and worldview were found to have higher levels of stigmatization. It is expected that an increase in family pressure would be associated with higher stigmatization levels [4, 5, 7]. In individuals from controlling family environments, discussions about sexual health are frequently considered taboo, forbidden, or inappropriate [45, 48-50]. The pressure exerted by one's family can affect an individual's self-perception, self-esteem, and attitudes toward themselves within the larger society. As family pressure intensifies, individuals may feel increasingly controlled, restricted, and deprived of their freedom, which in turn can result in a diminished sense of self-worth or in the internalization of societal stigmatization. Moreover, a reluctance to discuss sexual health openly within the family may lead to hesitancy in accessing sexual health services, the development of prejudices, and the internalization of negative societal judgments regarding sexuality. Consequently, this may foster a closed-minded attitude toward sexual health, thereby elevating the level of stigmatization experienced [48, 50].

In conclusion, fostering open communication within the family and minimizing the perception of family-induced pressure can enable individuals to acquire more effective and accurate sexual health information, which may, in turn, reduce the tendency toward stigmatization [45].

As far as we know, this is the first study conducted in Denizli using a sample of medical faculty students. To minimize social desirability

bias, data were collected via an online survey. Due to the cross-sectional design of the study, causal inferences cannot be made. A non-probabilistic sampling method was employed, and data were collected exclusively from female medical students; therefore, the findings cannot be generalized to the broader population. Additionally, the timing of data collection during the examination period may have contributed to a lower response rate.

In conclusion, female students at Pamukkale University Faculty of Medicine exhibited below-moderate levels of sexual and reproductive health stigmatization. Approximately one-quarter of participants reported obtaining their basic sexual health information from friends, while a similar proportion perceived familial pressure on their personal freedom and worldview. Discussions about sexual health were absent in nearly 85% of families. Stigmatization scores were lowest among 6th-year students and highest among 5th-year students. Notably, students who relied on family for basic sexual information had significantly lower stigmatization scores than those who first consulted websites, whereas those perceiving familial restrictions on freedom and worldview showed higher scores.

Stigmatization related to sexual and reproductive health can profoundly affect individuals, families, communities, and society at large. Consequently, it is imperative to implement measures to prevent stigmatization in settings such as the family, the workplace, and healthcare institutions. Enhancing public education on sexual and reproductive health issues may help reduce stigmatization. Moreover, initiatives to raise public awareness regarding stigmatization tendencies should be organized, with an emphasis on providing confidential counseling and healthcare services and increasing educational and awareness-raising efforts.

Although healthcare professionals have the potential to influence attitudes toward sexual and reproductive health, this study does not provide evidence on their impact, as the stigmatization score was relatively high despite only seven participants being healthcare professionals. Therefore, conclusions regarding the role of healthcare professionals in reducing stigmatization should be interpreted with caution, and further research with larger samples is needed to explore this effect.

On a broader scale, national education policies should ensure that anti-stigma training is a mandatory component of healthcare education. In addition, encouraging medical students to engage in community projects or youth reproductive health services may promote positive attitudes and increase awareness of the social determinants affecting reproductive rights.

In the present study, a multivariable analysis (e.g., multiple linear regression) was not performed. This is considered a limitation of the study. For future research, it is recommended to employ multivariable models to control for potential confounding variables.

Finally, the formulation of policies that protect sexual and reproductive health rights represents an essential step in preventing stigmatization. Support groups and counseling services can assist individuals in managing their experiences with stigmatization by sharing their stories. The media, as a powerful tool in shaping public perception of sexual and reproductive health issues, can contribute to reducing stigmatization through the dissemination of positive and accurate messages. Consequently, further research is required to develop effective strategies for preventing sexual and reproductive health stigmatization.

Funding: None.

Authors' contributions: O.S. constructed the main idea and hypothesis of the study. S.P. developed the theory and arranged/edited the Material and Method section. S.P. has done the evaluation of the data in the results section. The discussion section of the article was written by O.S. reviewed, corrected and approved. In addition, all authors discussed the entire study and approved the final version.

Conflict of interest: No conflict of interest was declared by the authors.

References

1. Scavello I, Maseroli E, Di Stasi V, Vignozzi L. Sexual health in menopause. Medicina (Kaunas). 2019;55(9):559. doi:10.3390/medicina55090559

2. Marcell AV, Burstein GR, Committee on Adolescence. Sexual and reproductive health care services in the pediatric setting. *Pediatrics*. 2017;140(6):e20172858. doi:10.1542/peds.2017-2858
3. World Health Organization. Sexual health. Geneva: World Health Organization; 2018. Available at: https://www.who.int/health-topics/sexual-health#tab=tab_1. Accessed February 18, 2025
4. Duman BN, Yilmazel G, Topuz S, Basci AB, Kocak YD, Buyukgonenc L. The knowledge, attitudes and behaviours of university youth regarding reproductive and sexual health. *Yildirim Beyazit Univ Fac Health Sci Nurs E-Journal*. 2015;3:19-32.
5. United Nations Fund for Population Activities. Adolescent and youth demographics: a brief overview. Available at: https://www.unfpa.org/sites/default/files/resource-pdf/One%20pager%20on%20youth%20demographics%20GF.pdf. Accessed February 25, 2025
6. McManus A, Dhar L. Study of knowledge, perception and attitude of adolescent girls towards STIs/HIV, safer sex and sex education: a cross-sectional survey of urban adolescent school girls in South Delhi, India. *BMC Womens Health*. 2008;8(12):1-6. doi:10.1186/1472-6874-8-12
7. Kyilleh JM, Tabong PTN, Konlaan BB. Adolescents' reproductive health knowledge, choices and factors affecting reproductive health choices: a qualitative study in the West Gonja District in Northern Region, Ghana. *BMC Int Health Hum Rights*. 2018;18(6):1-12. doi:10.1186/s12914-018-0147-5
8. Lim MS, Zhang XD, Kennedy E, et al. Sexual and reproductive health knowledge, contraception uptake, and factors associated with unmet need for modern contraception among adolescent female sex workers in China. *PLoS One*. 2015;10(1):1-17. doi:10.1371/journal.pone.0115435
9. Tenore JL, Lipsky MS. Preventive services for the adolescent (13-20 years). *Clin Fam Pract*. 2000;2(2):289-311. doi:10.1016/S1522-5720(05)70020-9
10. Koluacik S, Gunes G, Pehlivan E. Knowledge levels and service expectations regarding reproductive health among Inonu University students. *Inonu Univ Fac Med J*. 2010;17(1):7-14.
11. Kocak DY, Duman NB, Topuz S, Yilmazel G, Gungor T, Basci AB. Knowledge, attitudes, and behaviors regarding emergency contraception among women of reproductive age. *J Gynecol Obstet Neonatol Med*. 2016;138(3):112-116.
12. Atan SU, Tasci Duran E, Sen S, Bolsoy N, Sevil U. University students' knowledge, opinions, and practices regarding sexuality and family planning methods. *Ege Univ Fac Nurs J*. 2012;28(1):13-25.
13. Hacettepe University Institute of Population Studies, United Nations Population Fund (UNFPA). Turkey youth survey: sexual health, reproductive health and child, early and forced marriages among youth. Ankara: UNFPA; 2023. Available at: https://turkiye.unfpa.org/en/2023_TR_Youth_Research_Key_Findings#:~:text=The%20findings%20highlight%20the%20need,from%20diverse%20backgrounds%20across%20T%C3%BCrkiye
14. Bayrakceken E, Eryilmaz G. Validity and reliability of the Turkish version of the Stigma Scale for Sexual and Reproductive Health in Young Women. *Int J Caring Sci*. 2021;14(3):1961-1969. Available at: http://www.internationaljournalofcaringsciences.org/docs/45_esra_original_14_3.pdf. Accessed August 22, 2025
15. Goffman E. Stigma: Notes on the Management of Spoiled Identity. New York: Simon and Schuster; 1963. Available at: https://archive.org/details/stigmanotesonma00goff. Accessed February 27, 2025
16. Link BG, Phelan JC. Conceptualizing stigma. *Annu Rev Sociol*. 2001;27:363-385. doi:10.1146/annurev.soc.27.1.363
17. Hussein J, Ferguson L. Eliminating stigma and discrimination in sexual and reproductive health care: a public health imperative. *Sex Reprod Health Matters*. 2019;27(3):1-5. doi:10.1080/26410397.2019.1697103
18. Cook RJ, Cusack S, Dickens BM. Unethical female stereotyping in reproductive health. *Int J Gynecol Obstet*. 2010;109(3):255-258. doi:10.1016/j.ijgo.2010.02.002
19. Watts C, Hossain M, Zimmerman C. War and sexual violence – mental health care for survivors. *N Engl J Med*. 2013;368(23):2152-2154. doi:10.1056/NEJMp1304712
20. Starrs AM, Ezeh AC, Barker G, et al. Accelerate progress—sexual and reproductive health and rights for all: report of the Guttmacher Lancet Commission. *Lancet*. 2018;391(10140):2642-2692. doi:10.1016/S0140-6736(18)30293-9
21. Bilge A, Cam O. Combating stigma toward mental illness. TAF Prev Med Bull. 2010;9(1):71-78. Available at: https://www.bibliomed.org/mnsfulltext/1/khb_009_01-71.pdf?1630240389. Accessed February 19, 2025
22. Cam O, Cuhadar D. The process of stigmatization and internalized stigma among individuals with mental illness. *Psychiatr Nurs J*. 2011;2(3):136-140. Available at: https://jag.journalagent.com/phd/pdfs/PHD_2_3_136_140.pdf. Accessed February 22, 2025
23. Taskin E. Stigmatizing attitudes toward mental illness and stigmatization. In: Taskin EO, ed. Attitudes and Stigma Toward Mental Illness in Turkey. 1st ed. Izmir: Meta Printing; 2007:255-278. (In Turkish). [URL]. Accessed February 24, 2025

24. Saewyc EM, Poon CS, Homma Y, Skay CL. Stigma management? The links between enacted stigma and teen pregnancy trends among gay, lesbian, and bisexual students in British Columbia. *Can J Hum Sex*. 2008;17(3):123-139. doi:10.3138/cjhs.17.3.123
25. Cook RJ, Dickens BM. Reducing stigma in reproductive health. *Int J Gynecol Obstet*. 2014;125(1):89-92. doi:10.1016/j.ijgo.2014.01.002
26. Bohren MA, Vazquez Corona M, Odiase OJ, et al. Strategies to reduce stigma and discrimination in sexual and reproductive healthcare settings: a mixed-methods systematic review. *PLOS Glob Public Health*. 2022;2(6):e0000582. doi:10.1371/journal.pgph.0000582
27. Centers for Disease Control and Prevention. Sexually transmitted disease surveillance 2018. Atlanta: US Department of Health and Human Services; 2019. Available at: https://www.cdc.gov/sti/statistics/2018/. Accessed February 24, 2025
28. Hall KS, Kusunoki Y, Gatny H, Barber J. Social discrimination, stress, and risk of unintended pregnancy among young women. *J Adolesc Health*. 2015;56(3):330-337. doi:10.1016/j.jadohealth.2014.11.008
29. Rueda S, Park Wyllie LY, Bayoumi AM, et al. Examining the associations between HIV-related stigma and health outcomes in people living with HIV/AIDS: a series of meta-analyses. *BMJ Open*. 2016;6(7):e011453. doi:10.1136/bmjopen-2016-011453
30. Charlton BM, Hatzenbuehler ML, Jun HJ, et al. Structural stigma and sexual orientation-related reproductive health disparities in a longitudinal cohort study of female adolescents. *J Adolesc*. 2019;74:183-187. doi:10.1016/j.adolescence.2019.06.008
31. World Health Organization. HIV/AIDS: addressing stigma and discrimination. Available at: https://www.emro.who.int/asd/asd-infocus/hiv-basic-knowledge-and-stigma-reduction-in-health-care-settings.html. Accessed February 27, 2025
32. Hindin MJ, Christiansen CS, Ferguson BJ. Setting research priorities for adolescent sexual and reproductive health in low- and middle-income countries. *Bull World Health Organ*. 2013;91(1):10-18. doi:10.2471/BLT.12.107565
33. Singh S, Sedgh G, Hussain R. Unintended pregnancy: worldwide levels, trends, and outcomes. *Stud Fam Plann*. 2010;41(4):241-250. doi:10.1111/j.1728-4465.2010.00250.x
34. Nmadu A, Mohamed S, Usman N. Adolescents' utilization of reproductive health services in Kaduna, Nigeria: the role of stigma. *Vulnerable Child Youth Stud*. 2020;15(3):246-256. doi:10.1080/17450128.2020.1800156
35. Ikiisik H, Ari A, Basibuyuk HF, Biyik K, Erdem AE, Maral I. An assessment of medical students' level of knowledge about reproductive health and family planning. *Anatol Clin J Med Sci*. 2019;24(2):147-154. doi:10.21673/anadoluklin.514316
36. Faul F, Erdfelder E, Lang AG, Buchner A. G*Power 3: a flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behav Res Methods*. 2007;39(2):175-191. doi:10.3758/BF03193146
37. Bakir N, Vural PI, Demir C. Stigmatization in sexual and reproductive health from the perspective of young women. *Androl Bul*. 2021;23(3):146-153. doi:10.24898/tandro.2021.10438
38. Hall KS, Manu A, Morhe E, et al. Development and validation of a scale to measure adolescent sexual and reproductive health stigma: results from young women in Ghana. *J Sex Res*. 2018;55(1):60-72. doi:10.1080/00224499.2017.1292493
39. Yildiz M, Yildirim MS, Okyar G. Determination of sexual and reproductive health stigmatization levels of young women. *Anatol J Fam Med*. 2020;3(3):254-259. doi:10.5505/anatoljfm.2020.36349
40. Dagli E, Reyhan FA. Stigmatization in women's sexual and reproductive health: the case of midwifery students. *Mersin Univ Fac Med Lokman Hekim J Med Hist Folklor Med*. 2024;14(1):141-149. doi:10.31020/mutftd.1358849
41. Polat F, Senol DK. Examining the correlation between sexual and reproductive health stigmatization level and gender perception: a case of a university in Turkey—a descriptive cross-sectional study. *Sao Paulo Med J*. 2022;141(2):146-153. doi:10.1590/1516-3180.2022.0278.03062022
42. Hall KS, Morhe E, Manu A, et al. Factors associated with sexual and reproductive health stigma among adolescent girls in Ghana. *PLoS One*. 2018;13(4):e0195163. doi:10.1371/journal.pone.0195163
43. Parker R, Aggleton P. HIV- and AIDS-related stigma and discrimination: a conceptual framework and implications for action. In: Parker R, Aggleton P, eds. Culture, Society and Sexuality. London, UK: Routledge; 2007:459-474. doi:10.4324/9780203966105-42
44. Widman L, Choukas Bradley S, Noar SM, Nesi J, Garrett K. Parent-adolescent sexual communication and adolescent safer sex behavior: a meta-analysis. *JAMA Pediatr*. 2016;170(1):52-61. doi:10.1001/jamapediatrics.2015.2731
45. Grossman JM, Pearce N, Richer AM. The family system of sexuality communication: extended family perceptions of adolescent-family talk about sex, with sibling and non-sibling comparison. *Sexes*. 2021;2(1):1-16. doi:10.3390/sexes2010001

46. World Health Organization. Documents on adolescent health. 2011. Available at: http://www.who.int/maternal_child_adolescent/documents/adolescent/en/. Accessed February 28, 2025
47. White A, Boehm M, Glackin E, Bleakley A. How sexual information sources are related to emerging adults' sex-positive scripts and sexual communication. *Sexuality Cult*. 2023;27(4):1224-1245. doi:10.1007/s12119-022-10061-z
48. Olawade DB, Asaolu AJ, Adebisi YA, Asaolu FT, Odetayo A, David Olawade AC. The realities of adolescent sexual behaviours in Nigeria: a narrative review. *Afr Health Sci*. 2024;24(2):273-282. doi:10.4314/ahs.v24i2.30
49. Chou WJ, Liu TL, Hsiao RC, Yen CF. Online sexual risk behaviors in adolescents: roles of family relationships, impulsivity, and attention-deficit/hyperactivity disorder. *Children*. 2024;11(10):1199. doi:10.3390/children11101199
50. Kaplan O, Mucuk S. Students' avoidance of sexuality in relation to sexual topics discussed within the family. *Gen Sag Bilimleri Derg*. 2024;6(1):57-73.