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Exploring Nursing Students' Attitudes Toward Consanguineous Marriage and Factors Influencing These Attitudes: A Descriptive and Cross-sectional Study

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Abstract

Background: Consanguineous marriage is a risk factor for certain hereditary diseases, highlighting the importance of continuous public awareness efforts aimed at its prevention. Public health nurses play a key role in leading such initiatives. Therefore, understanding the attitudes of nursing students, who are future healthcare professionals, is essential.

Aim: This study aims to explore nursing students' attitudes toward consanguineous marriage and the factors influencing these attitudes.

Methods: This descriptive and cross-sectional study was conducted with 585 nursing students. Data were collected using a Personal Information Form and the Endogamy Marriage Attitude Scale. Independent Samples t-test and one-way analysis of variance (ANOVA) were used to compare scale scores based on individual characteristics. Among the multiple comparison tests, Duncan's test was applied. Multiple linear regression analysis was conducted to identify factors influencing attitudes toward consanguineous marriage.

Results: The study found that 28.4% of participants had parents in a consanguineous marriage, with 41.6% of those being first-degree cousin marriages. Additionally, 94.7% of students disapproved of consanguineous marriage, while 5.3% saw no issues with it. Multiple regression analysis revealed that being male (B=2.405, p=0.044), having parents in a consanguineous marriage (B=5.315, p=0.000), not objecting to consanguineous marriage (B=23.443, p=0.000), growing up in a village (B=3.523, p=0.021), and being raised in the Southeastern Anatolia region (B=3.147, p=0.040) were significant predictors of favorable attitudes toward consanguineous marriage.

Conclusion: It can be stated that only a small proportion of nursing students exhibit positive attitudes toward consanguineous marriage. Furthermore, it can be concluded that nursing students' attitudes toward consanguineous marriage are influenced by sociocultural characteristics. Including the topic of consanguineous marriage as a detailed subject in the content of certain courses in the nursing education.

Keywords: Attitude, consanguineous marriage, culture, nursing students

Introduction

Consanguineous marriage refers to the union between individuals who are closely related by first- or second-degree blood relations.[1] It is commonly practiced in societies where Islam is the predominant religion, particularly in Asian and African countries. The most frequent form involves first-degree cousin marriages, whether on the maternal or paternal side.[2] The prevalence of consanguineous marriage varies by region. It is approximately 0.5% in Western and European countries, 9.9% in India, and ranges from 40% to 60% in Arab Gulf countries and Pakistan, where the majority of the population is Muslim. In Saudi Arabia, the prevalence ranges from 42% to 67%.[3] In Türkiye, the frequency of consanguineous marriage is reported to be between 20% and 25%.[4] Moreover, an analysis of marriage trends over generations in Türkiye revealed a decline in the prevalence of consanguineous marriage from 27% to 24% over the past 50 years. The proportion of first-degree cousin marriages, which accounted for 85% of all consanguineous unions in 1968, dropped to 46% by 2018.[5]

Consanguineous marriage, defined as a union between individuals with a high degree of genetic similarity, poses significant public health risks. This type of marriage facilitates the intergenerational transmission of various genetic disorders, particularly autosomal recessive conditions. The literature indicates that consanguineous unions increase the risk of congenital anomalies, intellectual disabilities, sensory impairments, and several multifactorial diseases, such as obesity, cardiovascular disorders, and diabetes.[1,6] In countries like Türkiye, where the prevalence of consanguineous marriage is relatively high, this issue leads to serious health problems not only at the individual level but also at the societal level, placing a long-term burden on the healthcare system. For instance, studies conducted in certain rural regions have revealed high rates of intellectual disability, congenital deafness, blindness, and skeletal pathologies, clearly illustrating the impact of consanguineous marriage on public health.[7,8]

Consanguineous marriage is influenced by a variety of social, economic, and cultural factors.[9] Motivations such as strengthening family ties, preserving property and land ownership within the family, preventing outsiders from entering the family unit, avoiding the migration of family members to unfamiliar environments, easing communication, fostering trust, and, at times, promoting autonomous decision-making also contribute to the continuation of this practice.[10,11]

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Additionally, it can be argued that the absence of a prohibition against consanguineous marriage in the Islamic faith has contributed to its prevalence in communities adhering to this religion. In the Qur'an, first-degree cousin marriages are considered permissible.[12] According to Islamic law, kinship is divided into three categories, with close relatives defined as one's children and siblings, and more distant relatives including the children of uncles, aunts, nephews, and nieces.[12] It is well established that religion influences culture, thereby shaping customs and traditions. Marriage selection and decision-making involve a complex interplay of various social and cultural norms and behaviors.[10] A systematic review concluded that a woman's educational level significantly influences marriage choices, with lower levels of education being associated with a higher likelihood of consanguineous marriage. However, the same study also noted that some findings suggest consanguineous marriage can occur independently of education level. This may reflect deep-rooted social and cultural beliefs in these societies.[13] In this context, consanguineous marriage can be understood as a culturally driven practice.

Culture is learned.[14] Therefore, the cultural environment in which individuals are raised is important. If a person grows up in a society where consanguineous marriage is normalized, such marriages may appear natural to them, increasing the likelihood of adopting the same behavior. In these societies, public health nurses play a crucial role in changing this attitude by educating the community about the disadvantages of consanguineous marriage. However, the nurse's own attitude toward consanguineous marriage is also important. If the nurse holds a favorable view of such marriages, it is unlikely that effective health education can be delivered on this topic. Consequently, the attitudes of nursing students toward consanguineous marriage are important, as they will enter the nursing profession in the future. The attitude of nurses on this issue is also critical. If a nurse holds a positive view of consanguineous marriage, it may hinder the delivery of effective health education. In nursing education in Türkiye, this topic is addressed in some course content; however, students' attitudes toward consanguineous marriage is largely unknown. To date, no national or international studies have been found that examine nursing students' attitudes toward consanguineous marriage and the factors influencing these attitudes. Therefore, this study aims to investigate nursing students' attitudes toward consanguineous marriage and identify the factors that shape these views.

Study Questions

The following research questions were addressed in this study:

RQ1: What is the level of nursing students' attitudes toward consanguineous marriage?

RQ2: Do nursing students' attitudes toward consanguineous marriage differ based on their demographic characteristics (e.g., age, gender, year of study) and their familial and socio-cultural backgrounds (e.g., family history of consanguineous marriage, rural/urban origin, geographic region of upbringing)?

RQ3: What are the factors that predict nursing students' attitudes toward consanguineous marriage?

Materials and Methods

Design

This descriptive and cross-sectional study was conducted between October 16, 2023 and December 1, 2023 in the Nursing Departments of the Faculty of Health Sciences Afyonkarahisar Health Sciences University and Çankırı Karatekin University located in the Western and Central Anatolia regions of Türkiye.

Study Sample

The research population consisted of first-, second-, third-, and fourth-year students enrolled in the Nursing Departments of the Faculty of Health Sciences. A total of 860 nursing students were enrolled in these two faculties. Non-Turkish national students were excluded from the study. Since the study aimed to include all eligible students in the population, no sample size calculation was performed. A total of 605 students were administered the scale. However, due to incomplete or erroneous data, the responses of 20 students were excluded from the analysis. Thus, data from 585 students were included in the final analysis. Following the completion of the study, the effect size (f^2=0.28) was calculated using the R^2 (coefficient of determination) value obtained from the regression analysis. Based on this, a post-hoc power analysis indicated that the statistical power was 1.00.

Data Collection Instruments

Data were collected using the Personal Information Form and the Endogamy Marriage Attitude Scale.

Personal Information Form

This form, developed by the researchers, was designed to capture personal characteristics such as age, gender, year of study, parents' education level, whether the student's parents were in a consanguineous marriage. The form consisted of 12 multiple-choice questions.

Endogamy Marriage Scale

The scale was developed by Alp and Şen[15] in 2020 and is structured as a 5-point Likert scale. It consists of six subscales: *Acceptive Attitude* (items 1, 2, 3, 4, 5, 6, and 7), *Social Values* (items 8, 9, 10, 11, 12, 14, and 15), *Social Pressure* (items 13, 16, 17, and 18), *Risk Perception* (items 19, 20, and 21), *Health Perception* (items 22, 23, and 24), and *Legitimating Myths* (items 25, 26, 27, 28, 29, and 30). Items 2, 16, 19, 20, 21, 27, and 29 are reverse-coded. The Cronbach's alpha coefficient for the original scale is 0.87. The minimum possible score on the scale is 30, and the maximum is 150. A higher score indicates a more positive attitude toward consanguineous marriage. In the present study, Cronbach's alpha coefficient was found to be 0.86.

Data Collection Process

The data collection forms were administered to students by the researchers just before the start of their classes. First, students were informed about the aim of the study, and their consent was obtained. It was clearly communicated that participation was entirely voluntary and that they were free to choose whether or not to take part. It was emphasized that their decision to participate would not affect their course grades or their relationship with the instructor in any way. In this manner, it was ensured that students participated in the study on a fully voluntary basis. Then, the data collection forms were distributed to the students who agreed to participate in the study, and they were asked to complete them. The average time required to complete the forms was approximately 15 minutes.

Ethical Considerations

Ethical approval for the study was obtained from the Afyonkarahisar Health Sciences University Clinical Research Ethics Committee (Approval Number: 2023/384, Date: 01.09.2023). Informed consent was obtained from all students prior to participation. The study was conducted in accordance with the principles of the Declaration of Helsinki.

Data Analysis

Data analysis was performed using IBM SPSS Statistics for Windows, Version 25.0 (IBM Corp., Armonk, NY, USA). Skewness-kurtosis values and the Kolmogorov-Smirnov test were used to assess the normality of the data distribution. Frequencies and percentages were calculated to describe the distribution of students according to their individual characteristics and their responses to the scale items. Descriptive statistics for the scale included means and standard deviations. Independent samples t-tests and one-way analysis of variance (ANOVA) were used to compare consanguineous marriage attitude scores based on selected individual characteristics of the students. Duncan's test was used for multiple comparisons. Multiple regression analysis was conducted to identify the predictors of attitudes toward consanguineous marriage. A significance level of $p<0.05$ was considered for all analyses.

Results

Descriptive Characteristics

The students had a mean age of 20.40±1.66 years, and 77.3% of the participants were female. Among the students, 31.3% were in their first year of study, and 29.1% were from the Aegean region of Türkiye. It was found that 48.7% grew up in urban areas, 50.8% had mothers with a primary school education, and 34.4% had fathers who had completed high school. Additionally, 28.4% of the students reported that their parents were in a consanguineous marriage, and 41.6% of these were first-degree cousin marriages. It was also determined that 14.7% of students had a disabled child in the family due to a consanguineous marriage. While 94.7% of students perceived consanguineous marriage as problematic, 5.3% did not see any issues with it (Table 1). The mean score obtained by the students on the Endogamy Marriage Attitude Scale was 59.88±13.55 (Min: 34; Max: 110).

Table 1. Comparison of scale scores by individual characteristics of students (n=585)

Individual characteristic	n	%	Total scale score Mean±SD
Gender			
Female	452	77.3	58.95±12.48
Male	133	22.7	63.02±13.36
t/p			**-3.062/0.002**
Year of study			
1st year	183	31.3	60.56±13.42
2nd year	112	19.1	58.35±13.54
3rd year	144	24.6	60.09±12.57
4th year	146	25.0	59.98±14.65
F/p			0.643/0.588
Region where student grew up			
Aegean	170	29.1	56.24[a]±11.34
Central Anatolia	152	26	60.94[ab]±13.43
Mediterranean	109	18.6	59.91[ab]±13.82
Southeastern Anatolia	71	12.1	64.73[b]±14.13
Marmara	31	5.3	60.77[ab]±17.38
Black Sea	30	5.1	59.97[ab]±12.36
Eastern Anatolia	22	3.8	63.41[b]±16.55
F/p			**4.124/0.000**
Type of place where student grew up			
City	285	48.7	59.60[a]±13.61
District	202	34.5	58.99[a]±13.63
Village	72	12.3	65.08[b]±13.13
Town	26	4.4	55.35[a]±9.57
F/p			**4.940/0.002**
Mother's education level			
Illiterate	8	1.4	70.63[b]±16.18
Primary School	297	50.8	61.08[a]±13.18
Middle School	135	23.1	59.50[a]±15.38
High School	103	17.6	57.27[a]±12.00
University	42	7.2	56.90[a]±11.19
F/p			**3.383/0.009**
Father's education level			
Primary School	158	27.0	61.10±13.87
Middle School	120	20.5	61.74±14.26
High School	201	34.4	58.32±12.92
University	106	18.1	58.91±13.18
F/p			2.258/0.081
Are your parents related by kinship?			
Yes	166	28.4	64.20±13.62
No	419	71.6	58.16±13.15
t/p			**4.955/0.000**
Is there anyone in your family who has practiced consanguineous marriage and has a child with a disability?			
Yes	86	14.7	60.21±12.71
No	499	85.3	59.82±13.70
t/p			0.247/0.805
Do you think consanguineous marriage is harmful?			
Yes	554	94.7	58.55±12.32
No	31	5.3	83.55±12.80
t/p			**-10.971/0.000**

[a,b]: Means with different superscript letters differ significantly. SD: Standard deviation, t: Independent samples t-test, F: One-way analysis of variance (ANOVA).

Comparison of Scale Scores by Individual Characteristics

When the scale scores were compared by gender, male students had higher consanguineous marriage attitude scores than female students (t=-3.062; p=0.002). Students who grew up in the Southeastern Anatolia and Eastern Anatolia regions had higher attitude scores compared to those from the Aegean region (F= 4.124; p=0.000). It was also found that students who grew up in villages had higher scores than those who grew up in towns, districts, or provincial centers. While the attitude scores did not differ according to the father's education level (F=2.258; p=0.081), they did vary according to the mother's education level (F=3.383; p=0.009). Students whose mothers were illiterate had higher scores than those whose mothers had higher levels of education. Additionally, students whose parents had a consanguineous marriage (t=4955; p=0.000) had higher attitude scores than those whose parents did not, as well as higher scores than students who did not perceive any problems with consanguineous marriage (t=-10.971; p=0.000). Furthermore, it was found that Endogamy Marriage Attitude Scale scores did not differ based on students' grade level (F=0.643; p=0.588) or the presence of a disabled child in the family due to consanguineous marriage (t=0.247; p=0.805) (Table 1).

Students' Responses to Scale Items

When students' responses to the scale items were examined, it was found that 3.8% approved of consanguineous marriage, and 5.2% found first-degree cousin marriages acceptable. Additionally, 8.2% of students disagreed with the idea that the risk of having a disabled child increases in consanguineous marriages, and 6.3% disagreed with the notion that hereditary diseases are more common in such marriages. Moreover, 4.3% of students believed that consanguineous marriage does not affect women's health, 2.7% believed it does not affect child health, and 3.5% believed it does not impact family health. Furthermore, 11.3% of students agreed with the statement "Divorce is less common in couples who practice consanguineous marriage," and 35.8% agreed with the statement "I approve of consanguineous marriage in couples who choose it themselves" (Table 2).

Predictors of Attitudes Toward Consanguineous Marriage

A model was constructed with gender, parents' consanguineous marriage status, perception of consanguineous marriage, place of upbringing, and region of upbringing as independent variables, and the attitude score toward consanguineous marriage as the dependent variable. Dummy variables were created for the categorical independent variables included in the model. Female gender, a "no" response for parents' consanguineous marriage status, a "yes" response indicating a negative perception of consanguineous marriage, "provincial center" as the place of upbringing, and the "Aegean region" as the region of upbringing were used as reference variables. These independent variables were entered into the model, and a multiple regression analysis was conducted. The generated regression model was found to be statistically significant (F=34.180; p=0.000) (Table 3). These independent variables collectively explained 22.1% of the variance in attitudes toward consanguineous marriage.

According to the results of the multiple regression analysis, male gender (B=2.405, p=0.044) (Table 3), having parents who practiced consanguineous marriage (B=5.315; p=0.000) (Table 3), and not perceiving any risk associated with consanguineous marriage (B=23.443; p=0.000) were found to be positive predictors of a favorable attitude toward consanguineous marriage. Additionally, growing up in a village (B=3.523; p=0.021) (Table 3) and in the Southeastern Anatolia region (B=3.147; p=0.040) (Table 3) were also identified as positive predictors of a favorable attitude toward consanguineous marriage. Specifically, male gender was associated with a 2.405-point increase in consanguineous marriage attitude score compared to female gender; having consanguineous parents was associated with a 5.315-point increase compared to those with non-consanguineous parents; and not perceiving any problems with consanguineous marriage was associated with a 23.443-point increase compared to those who viewed it negatively. Furthermore, growing up in a village was associated with an increase of 3.523 points in consanguineous marriage attitude scores compared to growing up in a provincial center, and growing up in the Southeastern Anatolia region was associated with an increase of 3.147 points compared to growing up in the Aegean region.

Discussion

Although the frequency of consanguineous marriage in Türkiye has decreased compared to previous years, such marriages still persist in certain regions.[5] In this context, it is important to sustain awareness-raising campaigns about the risks associated with consanguineous marriage. Nurses play a key role in these efforts. The attitudes of nursing students, who are future nurses, crucial to the effectiveness of such campaigns. This study aimed to examine nursing students' attitudes toward consanguineous marriage and the factors influencing these attitudes. However, no national or international studies were found on this specific topic that would allow researchers to compare and interpret the findings. Therefore, the results were evaluated in light of related studies with comparable findings.

The study revealed that about one-third of the students had consanguineous parents. When the degree of consanguineous marriage was examined, it was found that nearly half of these were first-degree cousin marriages. These two rates are consistent with the general population data for Türkiye,[5] indicating that the sample reflects national trends.

When the overall mean scores of nursing students on the Consanguineous Marriage Attitude Scale were analyzed, it was evident that their attitudes toward such marriages were generally negative. The mean scores were below the median value of 75.5. However, when students' responses to individual questionnaire items were examined, some findings reflected positive attitudes toward consanguineous marriage. A small portion of students considered first-degree cousin marriages acceptable and disagreed with the idea that consanguineous marriage increases the risk of having a child with disabilities or that hereditary diseases are more common in such marriages. Approximately one-third of the students agreed with the statement, "I approve of consanguineous marriage if it is the couple's own choice." Additionally, the students were asked, "Do you think consanguineous marriage is harmful?" on the personal identification form. Although few in number, some students responded "no" to this question. While these percentages are relatively low, they may still reflect the presence of positive attitudes among certain students. Despite the inclusion of information on the negative effects of consanguineous marriage in some nursing course content, these responses may be influenced by students' family backgrounds and the cultural norms of the regions where they were raised. These findings highlight the need for more comprehensive coverage of consanguineous marriage in nursing education curricula in Türkiye.

This study revealed that male students have more positive attitudes toward consanguineous marriage compared to female students. A study conducted by Bakry et al.[16] in 2023 also found that men tend to hold more favorable views of consanguineous marriage. Although their findings were not specific to nursing students, they are similar to the current study in terms of gender-based differences in attitudes. This difference between genders may be attributed to characteristics commonly associated with women. Given that consanguineous marriage is linked to certain health risks, women may be more sensitive and detailed-oriented in their approach to health-related issues, which could explain this result.[17–19]

Türkiye is divided into seven geographical regions, each differing in terms of development levels. The Southeastern Anatolia and Eastern Anatolia regions have the lowest levels of development, while the Aegean, Marmara, and Mediterranean regions have the highest.[20] Additionally, the Southeastern Anatolia region is geographically very close to the Middle East. In this study, it was found that students who grew up in the Southeastern Anatolia region had more positive attitudes toward consanguineous marriage compared to those raised in the western region of Türkiye, specifically the Aegean region, which is more highly developed. Furthermore, growing up in the Southeastern Anatolia region was identified as a positive predictor of favorable attitudes toward consanguineous marriage. The Southeastern Anatolia region is predominantly characterized by clan culture. Although this lifestyle has lost some of its significance with modernization, its influence still persists. A clan is a community of families sharing the same bloodline, functioning as a form of social organization. In other words, a clan is a political union formed by the merging of families, often through marriage-based kinship ties.[21] Clans share a common culture, and marriage practices within these communities are largely shaped by clan and kinship systems. As a result, cousin marriages, particularly those on the paternal side, are prevalent in these communities.[22–24] Therefore, it can be expected that students raised in such cultural settings would have more

Table 2. Distribution of students' responses to scale items

	Strongly disagree		Disagree		Undecided		Agree		Strongly agree	
	n	%	n	%	n	%	n	%	n	%
1. I approve of consanguineous marriage.	367	62.7	116	19.8	80	13.7	**18**	**3.1**	**4**	**0.7**
2. I do not approve of consanguineous marriage.	**13**	**2.2**	**19**	**3.2**	70	12	125	21.4	358	61.2
3. There is no harm in practicing consanguineous marriage.	383	65.5	135	23.1	39	6.7	20	3.4	8	1.4
4. There is no harm in my son/daughter practicing consanguineous marriage.	385	65.8	123	21	37	6.3	25	4.3	15	2.6
5. There is no harm in my sibling practicing consanguineous marriage.	388	66.3	117	20	45	7.7	22	3.8	13	2.2
6. I find first-degree consanguineous marriage appropriate (cousins).	421	72	102	17.4	32	5.5	**15**	**2.6**	**15**	**2.6**
7. I find second-degree consanguineous marriage appropriate (nephews/nieces).	303	51.8	126	21.5	101	17.3	42	7.2	13	2.2
8. Consanguineous marriage contributes to improving economic status.	383	65.5	130	22.2	54	9.2	10	1.7	8	1.4
9. Family ties are stronger in consanguineous marriage.	352	60.2	116	19.8	75	12.8	35	6	7	1.2
10. Consanguineous marriage preserves a woman's honor.	496	84.8	70	12	6	1	7	1.2	6	1
11. Consanguineous marriage is practiced to preserve societal morality.	400	68.4	109	18.6	52	8.9	20	3.4	4	0.7
12. Consanguineous marriage is practiced to preserve cultural customs and traditions.	398	68	101	17.3	59	10.1	23	3.9	4	0.7
13. Consanguineous marriage is common due to societal pressure.	81	13.8	70	12	164	28	191	32.6	79	13.5
14. Consanguineous marriage is in accordance with traditions, customs, and norms.	324	55.4	128	21.9	96	16.4	28	4.8	9	1.5
15. Consanguineous marriage is practiced to secure a better future.	407	69.6	116	19.8	51	8.7	8	1.4	3	0.5
16. Women/men are pressured into consanguineous marriage.	101	17.3	88	15	178	30.4	146	25	72	12.3
17. Consanguineous marriage is practiced to prevent outsiders from entering the family.	150	25.6	89	15.2	157	26.8	148	25.3	41	7
18. Consanguineous marriage is practiced to prevent family members from marrying outsiders.	144	24.6	82	14	148	25.3	167	28.5	44	7.5
19. Risk of having a child with disability increases with consanguineous marriage.	**32**	**5.5**	**16**	**2.7**	13	2.2	121	20.7	403	68.9
20. Hereditary (familial) diseases are more common in consanguineous marriages.	**24**	**4.1**	**13**	**2.2**	16	2.7	158	27	374	63.9
21. Couples in kinship marriages have more disagreements.	49	8.4	54	9.2	267	45.6	106	18.1	109	18.6
22. Consanguineous marriage does not affect women's health.	307	52.5	156	26.7	97	16.6	**15**	**2.6**	**10**	**1.7**
23. Consanguineous marriage does not affect children's health.	397	67.9	139	23.8	33	5.6	**10**	**1.7**	**6**	**1**
24. Consanguineous marriage does not affect family health.	347	59.3	152	26	66	11.3	**12**	**2.1**	**8**	**1.4**
25. Couples in consanguineous marriages are happier.	285	48.7	120	20.5	166	28.4	8	1.4	6	1
26. Divorces are less common in consanguineous marriages.	236	40.3	121	20.7	162	27.7	49	8.4	17	2.9
27. Consanguineous marriage is often preferred because families encourage it.	54	9.2	54	9.2	176	30.1	209	35.7	92	15.7
28. I approve of couples choosing consanguineous marriage based on their own preference.	145	24.8	70	12	161	27.5	**156**	**26.7**	**53**	**9.1**
29. Consanguineous marriage is more common among individuals with lower educational levels.	73	12.5	62	10.6	127	21.7	190	32.5	133	22.7
30. Individuals' decisions to enter consanguineous marriage vary based on their cultural background.	37	6.3	30	5.1	121	20.7	263	45	134	22.9

Table 3. Regression analysis of predictors of students' attitudes toward consanguineous marriage

Stepwise method	B (95% CI)	Beta	t	p	Zero-order	Partial	Part	VIF
Constant	55.762 (54.438–57.087)		82.701	**0.000**				
Gender (male)	2.405 (0.070–4.741)	0.074	2.023	**0.044**	0.126	0.084	0.074	1.016
Parental consanguineous marriage (yes)	5.315 (3.143–7.488)	0.177	4.805	**0.000**	0.201	0.196	0.175	1.018
Perception: "Nothing wrong with consanguineous marriage"	23.443 (19.054–27.832)	0.388	10.491	**0.000**	0.414	0.400	0.383	1.025
Place the person grew up in								
Village	3.523 (0.541–6.506)	0.086	2.32	**0.021**	0.144	0.096	0.085	1.018
Region the person grew up in								
Southeastern Anatolia	3.147 (0.142–6.153)	0.076	2.057	**0.040**	0.133	0.085	0.075	1.022

F=34.180; p<0.001. Adjusted R^2= 0.221, SEE=11.956, Durbin-Watson=2.016, B: Non-standardized coefficient, CI: Confidence interval, Beta: Standardized coefficient, t: Student t test, VIF: Variance inflation factor.

positive attitudes toward consanguineous marriage. Changing the attitudes of these students during their nursing education is an important issue.

The findings of this study also indicate that students who grew up in villages have more positive attitudes towards consanguineous marriage compared to those raised in urban areas. Additionally, growing up in a village was identified as a positive predictor of favorable attitudes toward consanguineous marriage. It is well known that the frequency of consanguineous marriage is higher in rural areas.[6,25,26] Therefore, it can be concluded that students raised in villages exhibit more positive attitudes toward consanguineous marriage due to its prevalence in their communities.

Nursing students' attitude scores also varied based on their mothers' educational levels. Students whose mothers were illiterate had higher attitude scores compared to those whose mothers had higher levels of education. Thus, it can be said that students with illiterate mothers tend to have more positive attitudes toward consanguineous marriage. However, students' attitude scores did not differ based on their fathers' educational level. Many studies examining the relationship between consanguineous marriage and women's education show that these marriages are more common among women with lower educational attainment.[1,27,28] As the frequency of consanguineous marriage tends to increase with lower education levels, children raised in communities where such marriages are common may also develop more favorable attitudes toward them. Therefore, the findings of this study suggest that this may be due to the normalization of consanguineous marriage resulting from its high frequency. İnandı et al.[11] in 2016 found that parental education level was negatively associated with the frequency of consanguineous marriage. Although this finding may not directly relate to attitudes, it supports the present study in demonstrating the influence of maternal education on the acceptance of consanguineous marriage. However, in this study, students' attitude did not vary according to their fathers' educational levels. Further scientific studies in different cultural contexts are needed to better understand the reasons for this discrepancy.

The results of the current study indicated that students whose parents were relatives had more positive attitudes toward consanguineous marriage. Moreover, parental kinship status was found to be a positive predictor of students' attitudes. Since culture is a learned concept, it is rarely questioned by members of a society.[14,29] Consanguineous marriage is also a culturally learned form of marriage, and when it is widely practiced within a culture, it can become normalized for individuals. In this context, it is not surprising that students raised in such environments would hold more favorable attitudes toward consanguineous marriage.

In this study, students who did not perceive any problems with consanguineous marriage exhibited more positive attitudes than those who did. Additionally, the absence of perceived problems in consanguineous marriage was identified as a positive predictor of attitudes toward consanguineous marriage. Individuals are continuously shaped by interactions within their social environments. According to symbolic interactionist theory, individuals interpret situations they encounter during social interactions and behave based on the conclusions they draw.[30,31] In line with this theoretical approach, it can be inferred that students' belief that there is nothing wrong with consanguineous marriage contributes to their more positive attitudes toward it. Moreover, it is noteworthy that despite receiving nursing education, some students still do not perceive any problems with consanguineous marriage, which can only be explained by the strong influence of culture.

Limitations

This study employed a non-probabilistic sampling method, which represents a limitation. Since the research was conducted with students from only two faculties, the findings cannot be generalized. Additionally, the researcher being a faculty member in the participating departments may have introduced social desirability bias in student responses. However, this potential bias was minimized by ensuring voluntary participation and maintaining strict confidentiality. Moreover, the limited number of studies examining nursing students' attitudes toward consanguineous marriage restricted the scope of the discussion.

Conclusion

It can be inferred that a small portion of nursing students hold slightly positive attitudes toward consanguineous marriage. Factors such as gender, parental kinship, rural upbringing, the belief that there are no problems with consanguineous marriage, and growing up in a less developed region where consanguineous marriages are common may influence these attitudes. Consanguineous marriage continues to persist in many Muslim countries. However, these marriages lead to the birth of disadvantaged generations due to increased health risks. Therefore, public education about the risks of consanguineous marriage is of paramount importance. Nurses play an important role in delivering such education. For these efforts to be effective, it is essential that nurses themselves do not hold positive attitudes toward consanguineous marriage. In this context, understanding the attitudes of nursing students, who represent the future nursing workforce, is crucial. This study offers insights into nursing students' attitudes toward consanguineous marriage and the factors influencing them. In societies where consanguineous marriage is common, integrating detailed content on this topic into nursing curricula is important. Such education could potentially shift the attitudes of students from families practicing consanguineous marriage and empower them to contribute positively to society through their future nursing roles. Additionally, targeted intervention programs could be developed for students who hold positive attitudes toward consanguineous marriage.

Ethics Committee Approval: The study was approved by the Afyonkarahisar Health Sciences University Clinical Research Ethics Committee (Approval Number: 2023/384, Date: 01.09.2023).

Informed Consent: Informed consent was obtained from all students prior to participation.

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