

## Original Article

# Evaluation of Midwifery and Nursing Students' Knowledge and Attitudes toward Sexuality in the Elderly

**Feyza Aktas Reyhan**

Research Assistant, Kutahya University of Health Sciences, Faculty of Health Sciences, Midwifery Department, Kutahya, Turkey

**Elif Dagli, PhD**

Cukurova University, Abdi Sutcu Vocational School of Health Services, 01330, Adana, Turkey

**Nebahat Ozerdogan**

Professor, Eskişehir Osmangazi University, Faculty of Health Sciences, Midwifery Department, 26480, Eskişehir, Turkey

**Correspondence:** Elif Dagli, PhD, Email: elifarik90@gmail.com Cukurova University, Abdi Sutcu Vocational School of Health Services, 01330, Adana, Turkey

### Abstract

**Background:** Sexuality, one of the fundamental elements of the quality of life, important in maintaining human relationships and ensuring the feeling of being an integral part of society.

**Objective:** This study aimed to determine the knowledge and attitudes of midwifery and nursing students, who will provide health care and counseling in future, about sexuality in the elderly.

**Design:** This study used a cross-sectional and descriptive design.

**Methodology:** This study was conducted between 01 March and 10 June 2017 on undergraduate students studying in the field of health. A total of 490 students who were at the school during data collection and agreed to participate in the study made up the study group.

**Results:** Of the students, 276 (56.4%) thought that sexuality was a lifelong need, 358 (73.1%) thought that sexual health affected the quality of life of the individual, and 246 (50.2%) thought there was a prejudice among people that sexuality was dirty, ugly, and disgusting in old age. A statistically significant relationship was found between the school year of the students and "neglecting sexuality while taking a history from elderly patients" ( $\chi^2 = 94.757$ ;  $p = 0.000$ ). It was determined that first-year students mostly did not have an opinion on the subject and that the majority of 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup>-year students expressed opinion about the existence of this situation.

**Conclusions:** It was found that as the school year of the students increased, their knowledge about sexuality in the elderly increased and their negative attitudes decreased and that negative attitudes towards sexuality in the elderly were more common among male students.

**Keywords:** Sexuality in the elderly, sexuality, midwifery and nursing students, knowledge and attitudes

### Introduction

Sexuality is defined as one of the most natural and basic aspects of life, including the social identities and roles of individuals, their sexual orientation, pleasure, love, intimacy, and reproduction. In fact, sexuality is part of a larger concept known as intimacy (Alam, & Fadila, 2016; Haesler, Bauer, & Fetherstonhaugh, 2016). Sex, which involves not only the genitals but also the whole body and mind, is affected by psychological, social, economic, political, cultural, legal, historical,

religious, biological, and spiritual factors (Bozdemir, & Ozcan, 2011; Dominguez, & Barbaggio, 2016).

Sexuality is known as an important component of human identity throughout the life cycle. Although research has found that the prevalence of sexual activity decreases with age, people can also be sexually active in their 70s and 80s (Mahieu et al., 2016; DeLamater, 2012). Lee et al reported that sexual interests and activities continued to play a role in the lives of many older

adults, but that there was an increase in the prevalence of sexual problems (Lee et al., 2016). An important component of full and productive life for many older adults, the intersection between sexuality and aging is the least noticeable topic. While much has been written about adolescent and adult sexuality, there are few studies highlighting the nature of sexuality in older groups (Jen, 2017). Although it is one of the constant needs of people from birth to death, there is a false assumption that older people are asexual or that sexuality should not be experienced in the elderly, and that physical attraction is based on youth and beauty. It is often encountered among people that sexuality is a funny and/or disgusting situation that should not exist among the elderly (Karakartal, 2020). In their study investigating the views of university students with metaphor analysis, Apak and Yilkan (2020) reported that students' views on elderly sexuality were generally negative and that metaphors, such as slow, painful, bad, etc. were used (Apak, & Yilkan, 2020; Syme, & Cohn, 2016). Elderly individuals, on the other hand, internalize this perception prevailing in society, stay away from the continuation of their sexual desires, and avoid expressing their sexual desires and problems and sexual behaviors (Reyhan, Ozerdogan, & Arik, 2018). Although there is an increase in sexual problems with age in both genders, the inadequate knowledge of health professionals about elderly sexuality, their own value judgments, and negative attitudes can prevent elderly people from receiving adequate sexual health services (Schaller, Traena, & Lundin, 2020).

With the growth of the elderly population and advances in medicine, older people will likely have greater expectations to maintain their sexual health and improve their quality of life (Balami, 2011). With the increase in the elderly population, studies on aging are also increasing. These studies mostly focus on physiological, cognitive, and psychological disorders. However, studies on aging and sexuality appear to be very scarce (Koh, & Sewell, 2015; Cybulski et al., 2018). Considering that sexuality is closely related to other areas of life, protecting and improving sexual health in old age is important in terms of ensuring the physical health, psychological well-being, and life satisfaction of the elderly. Therefore, the present study aimed to determine the knowledge and attitudes of midwifery and nursing students, who will provide health care and

counseling services to society in the future, toward sexuality in the elderly.

### Methodology

**Participants:** This study used a cross-sectional and descriptive design and was conducted on students at the Faculty of Health Sciences Midwifery and Nursing Departments between March 01 and June 10, 2017. A total of 490 students who were at the school at the time of data collection and agreed to participate in the study made up the study group.

**Measures:** A questionnaire form, which was developed according to the purpose of the study by reviewing the literature, was used as a data collection tool (Traena et al., 2017; Dağlı et al., 2020; Şen et al., 2015; Alam, & Fadila, 2016). The questionnaire consists of 23 questions about students' demographic characteristics and their knowledge and opinions about sexuality in old age.

**Procedure:** All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. In order to conduct the study, approval of the Ethics Committee (dated May 22, 2017 and issue 2017/06) and written permission of the institution was obtained. In addition, the informed verbal and written consent of the participants of the study group were obtained. The students were informed about the topic and purpose of the study by the researcher. The questionnaires were distributed to students and were filled out by them under the researcher's supervision. Students gathered in different classrooms as 1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup>-year groups. The questionnaires were filled out in approximately 10-15 minutes.

**Statistical analysis:** Statistical analyses were performed using SPSS (IBM SPSS Statistics 24) software package. Frequency tables and descriptive statistics were used in the interpretation of the findings. Continuity correction according to expected value levels and Pearson- $\chi^2$  test statistics were used to examine the relationship between two qualitative variables.  $P < 0.05$  was accepted as the significance value.

**Ethics approval:** Ethics approval was obtained from the Çankırı Karatekin University Ethics Committee (dated May 22, 2017 and issue 2017/06).

## Results

It was determined that the mean age of the students was  $20.72 \pm 1.99$  (year) and 269 (54.9%) of them were in the 20-22 age group. Also, 297 students (39.4%) were in the midwifery department, 151 (30.8%) were first-year students, 281 (79.4%) were female, 261 (53.3%) lived in a province, 337 (68.8%) had equal income and expenses. Regarding the parents, mothers of 351 students (71.6%) were in the 34-49 age group, fathers of 248 (50.6%) were in the 34-49 age group, mothers of 311 (63.4%) and fathers of 256 (52%, 2) were primary school graduates, and 284 (58.0%) did not have an elderly member in their family (Table 1).

According to the findings, 276 (56.4%) students thought that sexuality was a lifelong need, 358 (73.1%) thought that sexual health affected the quality of life of the person, and 246 (50.2%) thought that there was a prejudice in society that sexuality in old age was dirty, ugly, and disgusting. Also, 260 students (53.1%) thought that the cessation of sexual activity in old age was caused by psycho-social reasons as well as physiological reasons, 211 (43.1%) stated that they had no idea about whether sexual activity in old age was dangerous for health, and 241 (49.2%) stated that they had no idea about whether sexual activity had physical and mental benefits in old age. The findings also showed that 186 of the students (38.0%) had no idea about whether the elderly in society isolated themselves from sexuality, 213 (43.5%) did not have any idea about whether women and men continued their sexual interests and activities in their 80s and 90s if they did not have a severe physical and mental disability, 282 (57.6%) thought sexuality was neglected while healthcare professionals were taking a history from elderly patients in health institutions, and that 314 (64.1%) thought that the elderly should be given sexual health education (Table 2).

As seen in Table 3, a statistically significant relationship was determined between the school year of the students and the questions "Is sexuality a lifelong need?" and "Is sexuality an important factor affecting the quality of life of the individual?" ( $\chi^2 = 21.646$ ,  $p = 0.001$ ;  $\chi^2 = 24.811$ ,  $p = 0.000$ ). Students who responded 'yes' to these questions were mainly 4<sup>th</sup>-year students. As the school year increased, the number of students who responded "yes" to this question increased, as well (Table 3).

Also, a statistically significant relationship was found between the school year of the students and the questions "Do you think that the cessation of sexual activity in old age is due to psycho-social reasons as well as physiological reasons?", "Is the sexual activity in old age dangerous to health?", and "Are there any physical and mental benefits of sexual activity in old age?" ( $\chi^2 = 15.221$ ,  $p = 0.019$ ;  $\chi^2 = 22.284$ ,  $p = 0.001$ ;  $\chi^2 = 19.679$ ,  $p = 0.003$ , respectively). Participants who stated that they had no idea in response to these questions were predominantly 1<sup>st</sup>-year students (Table 3).

There was a statistically significant relationship between the school year of the students and the questions "Do you think older people isolate themselves from sexuality?", "Can women and men continue their sexual interests and activities in their 80s and 90s if they do not have severe physical and mental disabilities?" ( $\chi^2 = 30.147$ ,  $p = 0.000$ ;  $\chi^2 = 30.147$ ,  $p = 0.000$ , respectively). Regarding these two questions, it was determined that mostly 1<sup>st</sup> and 2<sup>nd</sup>-year students stated that they had no idea about the subject, and the majority of the 3<sup>rd</sup> and 4<sup>th</sup>-year students responded "yes" to these questions (Table 3).

Furthermore, a statistically significant relationship was found between the school year of the students and the questions "Do you think that sexuality is neglected while healthcare professionals are taking a history from elderly patients in health institutions?" and "Should elderly people be given sexual health training?" ( $\chi^2 = 94.757$ ,  $p = 0.000$ ;  $\chi^2 = 37.167$ ,  $p = 0.000$ , respectively). In both questions, it was determined that 1<sup>st</sup>-year students mostly stated they had no idea about the subject and that 4<sup>th</sup>-year students mostly responded "yes" (Table 3).

As seen in Table 4, there was a statistically significant relationship between students' sex and the questions "Is sexuality an important factor affecting the quality of life of the individual?" and "Are there any physical and mental benefits of sexual activity in old age?" ( $\chi^2 = 22.517$ ,  $p = 0.000$ ;  $\chi^2 = 13.691$ ,  $p = 0.001$ , respectively). In both questions, the proportion of females responding "yes" was higher than that of males (Table 4).

In the study, a statistically significant relationship was found between students' sex and the questions "Do you think elderly individuals isolate themselves from sexuality?" and "Can women and men continue their sexual interests and activities in their 80s and 90s if they do not

have severe physical and mental disabilities?" ( $\chi^2 = 15.819$ ,  $p = 0.001$ ;  $\chi^2 = 12.065$ ,  $p = 0.002$ , respectively). In both questions, it was determined that students who responded "no" were predominantly male (Table 4).

Besides, a statistically significant relationship was found between students' sex and the question "Should elderly people be given sexual health training?" ( $\chi^2 = 25.991$ ;  $p = 0.000$ ). It was determined that the proportion of females who responded "yes" to this question was higher than that of males (Table 4).

**Table 1** The distribution of findings about the students

Variable (N=490)	n	%
<b>Department</b>		
Midwifery	193	39.4
Nursing	297	60.6
<b>School year</b>		
1	151	30.8
2	141	28.8
3	107	21.8
4	91	18.6
<b>Sex</b>		
Female	289	79.4
Male	101	20.6
<b>Age groups</b> [ $\bar{X} \pm S.S. \rightarrow 20,72 \pm 1,99$ (years) ]		
$\leq 19$	142	29.0
20-22	269	54.9
$\geq 23$	79	16.1
<b>Place of residence</b>		
Province	261	53.3
County	147	30.0
Village	82	16.7
<b>Level of income</b>		
Income < expenses	98	20.0
Income = expenses	337	68.8
Income > expenses	55	11.2
<b>Age groups of fathers</b> [ $\bar{X} \pm S.S. \rightarrow 46,22 \pm 5,91$ (years) ]		
34-49	351	71.6
>49	139	28.4
<b>Age groups of mothers</b> [ $\bar{X} \pm S.S. \rightarrow 49,98 \pm 6,04$ (years) ]		
34-49	248	50.6
>49	242	49.4
<b>Education level of mother</b>		
Illiterate	42	8.6
Primary school	311	63.4
Secondary school and above	137	28.0

**Education level of father**

Illiterate	13	2.7
Primary school	256	52.2
Secondary school and above	221	45.1

**Presence of an old person in the family**

Yes	206	42.0
No	284	58.0

**Table 2** Distribution of students' knowledge and opinions about sexuality in the elderly

Variable (N=490)	n	%
<b>Is sexuality a lifelong need?</b>		
Yes	276	56.4
No	109	22.2
No idea	105	21.4
<b>Is sexuality an important factor affecting the quality of life of the individual?</b>		
Yes	358	73.1
No	69	14.1
No idea	63	12.8
<b>Are there prejudices in society that sexuality in old age is dirty, ugly, and disgusting?</b>		
Yes	246	50.2
No	144	29.4
No idea	100	20.4
<b>Do you think that the cessation of sexual activity in old age is due to psycho-social reasons as well as physiological reasons?</b>		
Yes	260	53.1
No	117	23.8
No idea	113	23.1
<b>Is the sexual activity in old age dangerous to health?</b>		
Yes	73	14.9
No	206	42.0
No idea	211	43.1
<b>Are there any physical and mental benefits of sexual activity in old age?</b>		
Yes	162	33.1
No	87	17.7
No idea	241	49.2
<b>Do you think older people isolate themselves from sexuality?</b>		
Yes	171	34.9
No	133	27.1
No idea	186	38.0

**Can women and men continue their sexual interests and activities in their 80s and 90s if they do not have severe physical and mental disabilities?**

Yes		
No	116	23.7
No idea	161	32.8
	213	43.5

**Do you think that sexuality is neglected while healthcare professionals are taking a history from elderly patients in health institutions?**

Yes	282	57.6
No	85	17.3
No idea	123	25.1

**Should elderly people be given sexual health training?**

Yes	314	64.1
No	76	15.5
No idea	100	20.4

**Table 3** The relationship between students' school years and their knowledge and attitudes toward sexuality in old age

Variable (N=490)	School year	1 <sup>st</sup> year (n=151)	2 <sup>nd</sup> year (n=151)	3 <sup>rd</sup> year (n=107)	4 <sup>th</sup> year (n=91)	Statistical analysis* probability
		n,%	n,%	n,%	n,%	
<b>Is sexuality a lifelong need?</b>						
Yes		66 (%43.7)	78 (%55.3)	71 (%66.4)	61 (%67.0)	$\chi^2=21.646$ <b>p=0.001</b>
No		39 (%25.8)	33 (%23.4)	23 (%21.5)	14 (%15.4)	
No idea		46 (%30.5)	30 (%21.3)	13 (%12.1)	16 (%17.6)	
<b>Is sexuality an important factor affecting the quality of life of the individual?</b>						
Yes		104 (%68.9)	90 (%63.8)	86 (%80.4)	78 (%85.7)	$\chi^2=24.811$ <b>p=0.000</b>
No		21 (%13.9)	24 (%17.0)	17 (%15.9)	7 (%7.7)	
No idea		26 (%17.2)	27 (%19.2)	4 (%3.7)	6 (%6.6)	
<b>Are there prejudices in society that sexuality in old age is dirty, ugly, and disgusting?</b>						
Yes		82 (%54.3)	67 (%47.5)	49 (%45.8)	48 (%52.7)	$\chi^2=7.395$ <b>p=0.286</b>
No		34 (%22.5)	43 (%30.5)	39 (%36.4)	28 (%30.8)	
No idea		35 (%23.2)	31 (%22.0)	19 (%17.8)	15 (%16.5)	

**Do you think that the cessation of sexual activity in old age is due to psycho-social reasons as well as physiological reasons?**

Yes	77 (%51.0)	66 (%46.8)	66 (%61.7)	51 (%56.0)	$\chi^2=15.221$
No	28 (%18.5)	46 (%32.6)	21 (%19.6)	22 (%24.2)	<b>p=0.019</b>
No idea	46 (%30.5)	29 (%20.6)	20 (%18.7)	18 (%19.8)	

**Is the sexual activity in old age dangerous to health?**

Yes	24 (%15.9)	17 (%12.1)	15 (%14.0)	17 (%18.7)	$\chi^2=22.284$
No	42 (%27.8)	70 (%49.6)	49 (%45.8)	45 (%49.5)	<b>p=0.001</b>
No idea	85 (%56.3)	54 (%38.3)	43 (%40.2)	29 (%31.8)	

**Are there any physical and mental benefits of sexual activity in old age?**

Yes	34 (%22.5)	46 (%32.6)	42 (%39.3)	40 (%44.0)	$\chi^2=19.679$
No	23 (%15.2)	31 (%22.0)	19 (%17.7)	14 (%15.3)	<b>p=0.003</b>
No idea	94 (%62.3)	64 (%45.4)	46 (%43.0)	37 (%40.7)	

**Do you think older people isolate themselves from sexuality?**

Yes	44 (%29.1)	32 (%22.7)	55 (%51.4)	40 (%44.0)	$\chi^2=30.147$
No	41 (%27.2)	46 (%32.6)	27 (%25.2)	19 (%20.9)	<b>p=0.000</b>
No idea	66 (%43.7)	63 (%44.7)	25 (%23.4)	32 (%35.1)	

**Can women and men continue their sexual interests and activities in their 80s and 90s if they do not have severe physical and mental disabilities?**

Yes	27 (%17.9)	26 (%18.4)	35 (%32.7)	28 (%30.7)	$\chi^2=30.147$
No	52 (%34.4)	50 (%35.5)	29 (%27.1)	30 (%33.0)	<b>p=0.000</b>
No idea	72 (%47.7)	65 (%46.1)	43 (%40.2)	33 (%36.3)	

**Do you think that sexuality is neglected while healthcare professionals are taking a history from elderly patients in health institutions?**

Yes	48 (%31.8)	78 (%55.3)	86 (%80.4)	70 (%76.9)	$\chi^2=94.757$
No	29 (%19.2)	31 (%22.0)	11 (%10.3)	14 (%15.4)	<b>p=0.000</b>
No idea	74 (%49.0)	32 (%22.7)	10 (%9.3)	7 (%7.7)	

**Should elderly people be given sexual health training?**

Yes	71 (%47.0)	90 (%63.8)	81 (%75.7)	72 (%79.1)	$\chi^2=37.167$
No	30 (%19.9)	24 (%17.0)	11 (%10.3)	11 (%12.1)	<b>p=0.000</b>
No idea	50 (%33.1)	27 (%19.2)	15 (%14.0)	8 (%8.8)	

\* "Pearson- $\chi^2$  cross tabulations" were used to examine the relationship between two qualitative variables. P <0.05 was accepted as the statistical significance value.

**Table 4** The relationship between students' sex and their knowledge and attitudes toward sexuality in old age

Variable (N=490)	Sex	Female (n=389)	Male (n=101)	Statistical analysis probability
		n. %	n. %	
<b>Is sexuality a lifelong need?</b>				
Yes		227 (%58.3)	49 (%48.5)	$\chi^2=5.484$
No		78 (%20.1)	31 (%30.7)	p=0.064
No idea		84 (%21.6)	21 (%20.8)	
<b>Is sexuality an important factor affecting the quality of life of the individual?</b>				
Yes		297 (%76.3)	61 (%60.4)	$\chi^2=22.517$
No		40 (%10.3)	29 (%28.7)	<b>p=0.000*</b>
No idea		52 (%13.4)	11 (%10.9)	
<b>Are there prejudices in society that sexuality in old age is dirty, ugly, and disgusting?</b>				
Yes		203 (%52.2)	43 (%42.6)	$\chi^2=4.043$
No		113 (%29.0)	31 (%30.7)	p=0.132
No idea		73 (%18.8)	27 (%26.7)	
<b>Do you think that the cessation of sexual activity in old age is due to psycho-social reasons as well as physiological reasons?</b>				
Yes		212 (%54.5)	48 (%47.5)	$\chi^2=1.566$
No		90 (%23.1)	27 (%26.7)	p=0.457
No idea		87 (%22.4)	26 (%25.8)	
<b>Is the sexual activity in old age dangerous to health?</b>				
Yes		53 (%13.6)	20 (%19.8)	$\chi^2=2.644$
No		164 (%42.2)	42 (%41.6)	p=0.267
No idea		172 (%44.2)	39 (%38.6)	
<b>Are there any physical and mental benefits of sexual activity in old age?</b>				
Yes		129 (%33.2)	33 (%32.7)	$\chi^2=13.691$
No		57 (%14.6)	30 (%29.7)	<b>p=0.001*</b>
No idea		203 (%52.2)	38 (%37.6)	

**Do you think older people isolate themselves from sexuality?**

Yes	151 (%38.8)	20 (%19.8)	$\chi^2=15.819$
No	93 (%23.9)	40 (%39.6)	<b>p=0.000*</b>
No idea	145 (%37.3)	41 (%40.6)	

**Can women and men continue their sexual interests and activities in their 80s and 90s if they do not have severe physical and mental disabilities?**

Yes	93 (%23.9)	23 (%22.8)	$\chi^2=12.065$
No	114 (%29.3)	47 (%46.5)	<b>p=0.002</b>
No idea	182 (%46.8)	31 (%30.7)	

**Do you think that sexuality is neglected while healthcare professionals are taking a history from elderly patients in health institutions?**

Yes	230 (%59.2)	52 (%51.5)	$\chi^2=2.993$
No	62 (%15.9)	23 (%22.8)	p=0.224
No idea	97 (%24.9)	26 (%25.7)	

**Should elderly people be given sexual health training?**

Yes	270 (%69.4)	44 (%43.6)	$\chi^2=25.991$
No	47 (%12.1)	29 (%28.7)	<b>p=0.000*</b>
No idea	72 (%18.5)	28 (%27.7)	

\* "Pearson- $\chi^2$  cross tabulations" were used to examine the relationship between two qualitative variables. P <0.05 was accepted as the statistical significance value.

**Discussion**

Although sexuality is a lifelong need, there are views in society that elderly individuals are asexual or that sexuality should not be experienced in the elderly. There are also false prejudices that elderly people do not have physical attractiveness. These thoughts and prejudices may also be reflected in the attitudes of health professionals (Sinković, & Towler, 2018). In this study, nearly half (56.4%) of the students who will become health professionals in the future evaluated sexuality as a lifelong need, and as the school year increased, the number of students who thought this way was observed to increase. On the other hand, the rates determined in the study showed that students did not have enough knowledge on the subject. However, current evidence reveals that sexuality is a need that normally exists in all humans and continues throughout life (Wilschut et al., 2021; Bauer et al., 2013). In their study on students of the medical and psychology department (n = 100), Snyder and Zweig (2010) similarly determined that students' knowledge about the sexuality of the elderly was inadequate (Snyder, & Zweig, 2010). Doherty et

al. (2011) determined that obstacles to addressing the sexuality of elderly people in the rehabilitation of coronary heart patients were lack of education (85%) and knowledge (58%) among health professionals (Doherty et al., 2011).

In our study, 358 (73.1%) of the students thought that sexuality affected the quality of life of the individual. There was a statistically significant relationship between students' school year and sex and the question "Is sexuality an important factor affecting the quality of life of the individual?" It was determined that students who responded "yes" to this question were predominantly female and 4<sup>th</sup>-year students, and that the number of students who responded "yes" to this question increased as the school year increased. Sexuality, one of the fundamental elements of the quality of life, can be important in maintaining human relationships and ensuring the feeling of being an integral part of society (Cybulski et al., 2018). Addressing elderly sexuality comprehensively is critical to the education, improvement of clinical care, and well-being of this growing population (Srinivasan et al., 2019).

Sexuality can be suppressed due to psycho-social factors during the aging process. The physical changes brought about by aging can also reduce sexual function and sexual desire. The cultural structure and prejudices of society can also lead to resistance in the acceptance of sexuality in old age. For these reasons, the elderly can be affected and live according to the beliefs and expectations of society (Karakartal, 2020). In our study, the examination of students' responses to the questions "Do you think that the cessation of sexual activity in old age is due to psycho-social reasons as well as physiological reasons?", "Is the sexual activity in old age dangerous to health?", and "Are there any physical and mental benefits of sexual activity in old age?" indicated that the rate of those who had no knowledge of these issues and who had negative attitudes toward sexuality of the elderly was high and that as the school year increased, the level of knowledge and positive attitudes toward elderly sexuality increased. Sexuality can be suppressed not only for physiological reasons but also for psychological or sociological reasons in old age, and this situation can lead to a decrease in the quality of life. Many older adults are sexually active (Reyhan, Ozerdogan, & Arik, 2018). In a study on 6,869 elderly individuals, Smith et al. (2021) reported that the well-being level of sexually active elderly individuals was higher. It is emphasized that older individuals are not asexual and that frequent and trouble-free sex life is associated with improved well-being (Smith et al., 2019). Gender identity is associated with self-esteem, and when rejected, it can have detrimental effects on elderly individuals' self-esteem, social relations, and mental health (Cybulski et al., 2018).

Elderly individuals need to express their sexual activity verbally or behaviorally to facilitate their adaptation to healthy aging and support their general well-being. Aging can affect physical health as well as sexual health, and may cause sexual problems to increase. However, the belief of society that sexuality does not or should not continue in old age may cause the elderly not to talk about their problems related to sexuality (Karakartal, 2020). In this case, it becomes difficult for elderly people to seek help for their sexual life-related problems. Elderly sexuality can also be ignored and neglected by healthcare professionals (Reyhan, Ozerdogan, & Arik, 2018; Mahieu Casterle, & Acke, 2016). A statistically significant difference was found between the

school year of students and the questions "Do you think that sexuality is neglected while healthcare professionals are taking a history from elderly patients in health institutions?" and "Should elderly people be given sexual health training?" In both questions, it was determined that first-year students mostly did not have an opinion about the subject and that fourth-year students mostly responded "yes" to these questions. In addition, when male students were compared with female students, they were found to respond "no" to the question "Should elderly people be given sexual health training?" at a higher rate. In a study with geriatricians, Balami (2011) reported that the sexual history was generally not taken. While sexual history is important for the early detection of problems, it will also provide advice and information about normal functioning. In addition, taking sexual history will provide an environment for the elderly to express their concerns and a holistic approach to their care (Balami, 2011). Sexual health education can help highlight the often neglected aspect of older people's sexual rights and needs (Villar et al., 2017; Chen, Jones, & Osborne, 2017). Sexual problems are common in old age (Træen et al., 2017). However, older people avoid seeking help for sexual problems due to sexual stigma, including shame, disturbance about talking about sexuality, and lack of knowledge (Syme, & Cohn, 2016). Therefore, health professionals' knowledge on sexual health and patient education and counseling in the elderly before and after graduation should be improved, and their ability to identify a fairly common spectrum of clinically treatable sexual problems should be developed (Reyhan, Ozerdogan, & Arik, 2018; NeJhaddadgar et al., 2020).

Based on this information, it is not possible to ignore sexuality in elderly people today, when the elderly population is increasing gradually (Ciraci-Yasar, & Hintistan, 2020). In our study, 50.2% of the students stated that there were prejudices in society that sexuality in old age was dirty, ugly, and disgusting. In parallel to our findings, Apak and Yilkan (2020) stated that students' thoughts about elderly sexuality were generally negative and that they used metaphors, such as slow, painful, bad, etc. (Apak, & Yilkan, 2020; Syme, & Cohn, 2016). Depending on the prejudices of society that sexuality is funny and/or disgusting in old age, elderly individuals can internalize this perception and avoid the continuation of their

sexual desires and keep away from sexual behaviors (Karakartal, 2020).

In this study, which evaluated students' knowledge and attitudes toward elderly sexuality, it was found that 1<sup>st</sup>-year students mainly had no idea about the subject, knowledge and positive attitudes increased as the school year increased, and that female students had more positive attitudes than males. When the curriculum of these students was examined, it was found that the courses and subjects related to old age and sexuality, though limited, were taught, but elderly sexuality was not included. As the school year increased, the level of knowledge and positive attitudes toward the sexuality of the elderly increased, showing that the topics covered during their education and possibly their contact with elderly patients positively affected the knowledge level and attitudes of students, though limited. Similarly, in their study with 732 nursing students, Wilschut et al. (2021) reported that first-year students had the lowest and 4<sup>th</sup>-year students had the highest level of knowledge on elderly sexuality (Wilschut et al., 2021). In their study with 375 students, Gewirtz-Meydan et al. reported that 1<sup>st</sup>-year students had the least knowledge and the most conservative attitudes toward elderly sexuality and that there was no difference between female and male students in terms of attitudes. Increasing knowledge about sexuality and encouraging positive attitudes can be achieved through educational programs (Gewirtz-Meydan, Even-Zohar, & Bat-Tzion, 2017). Naar et al. (2019) reported in their study with 41 undergraduate students that educating students helped to close the knowledge gap on issues related to elderly sexuality (Naar et al., 2019). When these studies were examined, it was found that the increase in knowledge about the sexuality of the elderly positively affected attitudes, as well. To make students feel responsible and competent in this regard, it is necessary to focus on collecting and disseminating information and role modeling (Wilschut et al., 2021).

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**Conclusion and Recommendations:** In this study, it was found that as the school year of students increased, their knowledge about sexuality in the elderly increased and their negative attitudes toward the topic decreased. The more students know about sexuality, the more positive their attitudes can be. Considering that

elderly population is increasing worldwide, it can be recommended that topics related to elderly sexuality should be added to the curriculum of midwifery and nursing students, who will provide health counseling in the future, and that they should routinely evaluate sexual function in their clinical practices. Thus, it will be possible to contribute to the improvement of the quality of life by finding solutions to the sexual problems of the elderly. In the study group, it was found that male students had more negative attitudes toward the sexuality of the elderly than female students. There is a need for qualitative studies that will shed light on the understanding of this gender-based difference in attitude and also examine the causes of negative attitudes toward the sexuality of the elderly.

**Limitations of the study:** The fact that the data were obtained based on the verbal declaration and that the data collection tools included questions with sexual content was within the limitations of the study. In the literature, there are limited number of studies in the field of sexual health of elderly people and the difficulties they face. Therefore, the discussion part could not include adequate number of related studies.

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