



Determination of Nursing Students' Levels of Knowledge in Sexual Health/Reproductive Health during Emergency Status and Influencing Factors

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Abstract:

Objective: The aim is to determine nursing students' sexual/reproductive health knowledge levels and affecting factors in extraordinary situations.

Methods: This cross-sectional study was carried out with 356 nursing students between November-December 2023 at Bartın University of Health Sciences, Department of Nursing. Data were collected through a survey including the Introductory Information Form and the Sexual and Reproductive Health Knowledge Scale in Emergencies (SRHKSE).

Results: The mean age of nursing students was 20.53±2.57. The average score on the SRHKSE was 84.90±7.91. The sub-dimensions of the SRHKSE revealed the following average scores: women's health empowerment 46.17±4.72, material supply for implementing the minimum initial service package in emergencies 17.79±2.42, basic knowledge of the minimum initial service package in emergencies 10.07±1.27, and strategy and education for the minimum initial service package in emergencies 10.87±1.72. Nursing students who were female, in their 3rd year, had income exceeding expenses, had mothers with primary/secondary education, and had knowledge in reproductive and sexual health showed significantly higher SRHKSE scores ($p<.001$).

Conclusion: In our study, nursing students exhibited high levels of knowledge in sexual and reproductive health during emergency status. The levels of knowledge in sexual and reproductive health during emergency status were found to be affected by gender, academic year, income level, maternal education, and awareness of reproductive and sexual health. It is recommended to conduct different research on the subject and develop the literature.

Keywords: Nursing, Student, Emergency Status, Sexual/Reproductive Health, Knowledge

1.Introduction

Extraordinary situations are events that disrupt the everyday lives of individuals and communities. Disasters, outbreaks of diseases, and pandemics are some examples of extraordinary situations (1). The frequent occurrence of events such as conflicts, violence, and disasters globally over the last thirty years has led to a significant increase in the number of people adversely affected by extraordinary situations. Since it is unpredictable when and where extraordinary situations will arise, being prepared at all times is essential (2,3).

Access to Sexual and Reproductive Health (SRH) services is one of the fundamental human rights (4). Awareness of reproductive health needs in emergencies began in the mid-1990s, followed by the establishment of the Inter Agency Working Group for Reproductive Health (IAWG). The Minimum Initial Service Package (MISP), a guide for Reproductive Health service delivery in emergency environments, was created by the IAWG (5). MISP is recommended to be applied in the first 48 hours of the emergency (6). The main objectives of MISP are to facilitate the coordination of SRH services, reduce HIV transmission, minimize maternal and newborn morbidity and mortality, prevent and manage the

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consequences of sexual violence, and plan comprehensive SRH services in the post-crisis phase. During the implementation of MISP in extraordinary situations, problems such as insufficient awareness of emergencies and SRH knowledge, logistical difficulties, and weak/insufficient coordination may be encountered (7).

When the aims of MISP are examined, it is seen that the risk of sexual violence increases in unsafe environments. It is emphasized that the SRH rights of women, girls and boys should be protected in places where extraordinary situations occur (7). In emergency settings, sexually transmitted infections, including HIV, tend to increase and challenges may arise in accessing treatment and prevention services. Given that childbirth and miscarriages are unpredictable, uncontrollable events with uncertain locations and timing, providing hygienic environments for pregnant women is crucial during extraordinary situations. Furthermore, pregnant women may give birth prematurely due to the anxiety and worry experienced in extraordinary situations. Due to these reasons, it is reported that maternal deaths, which are still an important problem today, are 30% higher in crisis environments (4,8).

It is reported that there are an estimated more than 30 million women and girls of reproductive age living in environments where extraordinary situations occur, and all of them need access to SRH information and services (6,9). Following the extraordinary situations, women and girls in particular face serious SRH problems. Inadequate or interrupted access to SRH services increases the level of negative impact (10). In addition, in the environment where the extraordinary situation is experienced, disruption in the provision of services such as health, nutrition, shelter, and access to those services, as well as the decrease in necessary materials and logistics services, negatively affect SRH services (4). In terms of their impact on health, extraordinary situations, and their effects can create serious public health problems if, for example, disaster relief efforts and the provision of health services are negatively affected by the destruction of health institutions, damage to infrastructure, or interruptions in supply chains (3). In the delivery of health services, as always, nurses play a frontline role even in disaster situations. The student years are crucial for nurses to acquire knowledge and skills related to extraordinary situations and to raise awareness (11,12). This study aimed to determine the sexual and reproductive health knowledge level of nursing students in extraordinary situations and the affecting factors.

Research Questions

- What are the SRH knowledge levels of nursing students in extraordinary situations?
- What are the factors affecting nursing students' SRH knowledge levels in extraordinary situations?

2.Methods

2.1.Design

Descriptive and cross-sectional research was conducted between November and December 2023 with students registered at Bartın University, Faculty of Health Sciences, Department of Nursing.

2.2.Participants

The population of the research consisted of 431 students studying at Bartın University, Faculty of Health Sciences, Department of Nursing. The sample population was calculated with the known sampling method. The Sample Size Calculator program was used to calculate the sample size. For the calculation of the sample size based on the population in the program, with a confidence level of 95% ($p=0.05$), and

considering the population as 431, the sample size was determined to be at least 204 students. The research was conducted with 356 students who met the inclusion criteria.

The inclusion criteria for the study were (1) Being an actively registered student in the Nursing Department of the Faculty of Health Sciences at Bartın University between November and December 2023, (2) Volunteering to participate in the research. The STROBE reporting checklist was followed in the study.

2.3.Data collection tools

The data were collected through a data collection form created through the Introductory Information Form and the Sexual and Reproductive Health Information Scale in Emergency Situations.

Introductory information form: This data form, prepared by the researchers in accordance with the literature, consists of 17 questions related to students' sociodemographic characteristics. These include age, gender, academic year, the longest place of residence, maternal education level, paternal education level, current place of residence, economic status, etc. (4,5,6,12).

Sexual and reproductive health knowledge scale in emergencies: Sexual and Reproductive Health Knowledge Scale in Emergencies (SRHKSE) was developed within by Cirban Ekrem and Kurt (2023) to assess the knowledge levels of nurses in sexual health and reproductive health during emergencies. The scale consists of 23 items and is of the five-point Likert type. Five items in the scale are reverse-coded (items 4, 8, 15, 18 and 23). The lowest possible score on the scale is 23, and the highest is 115. An increase in the obtained score indicates an increase in participants' knowledge of sexual and reproductive health related to extraordinary situations. The scale comprises four sub-factors, and a total score can be calculated. Cronbach's alpha value of the total scale was calculated as 0.896 (12). In this study, Cronbach's alpha value was calculated as 0.931.

2.4.Data collection

The data for the study were collected through a Introductory Information Form and the SRHKSE, both created by the researchers. The data collection form was shared with students during the educational process between November and December 2023, with permission obtained from the institution in the classroom setting. Students were requested to fill out the form at their convenience outside of class time and submit it to the researchers. The first page of the data collection form provided participants with information about the research. It was stated that by completing the data collection form, participants were confirming their participation in the study. The process of filling out the data collection form took approximately 10 minutes.

2.5.Statistical analysis

The statistical analyses of the study were conducted using the SPSS 26 software package. Descriptive statistics were utilized for the descriptive information of the participants. The normal distribution of the data was assessed using the Kolmogorov-Smirnov test. For variables demonstrating normal distribution, the Student's t-test was employed for comparisons between two groups, while the Oneway Anova Test was used for comparisons involving three or more groups. In cases where significant differences were found, the Bonferroni Test was used to identify the source of the differences. Pearson correlation analysis was utilized to determine the relationship between variables. A statistical significance level of $p < 0.05$ was accepted.

2.6.Ethical approval

Ethical approval was obtained from the Bartın University Social and Human Sciences Ethics Committee to conduct the research (Protocol Number: 2023-SBB-0666, Meeting Date: 16.11.2023). Institutional permission was received from the institution where the research was conducted. Informed consent was obtained from all participants included in this study. Throughout the research process, adherence to the principles of the Helsinki Declaration and Publication Ethics was maintained.

3.Results

Table 1 displays the demographic characteristics of nursing students. The mean age of nursing students is 20.53 ± 2.57 , and 71.6% of them are female. Among nursing students, 29.8% are in the 2nd year, 62.1% have an income equal to their expenses, 47.2% have mothers with primary/middle school education, 37.1% have fathers with primary/middle school education, 77.2% have non-working mothers, 62.9% have working fathers, 33.1% reside in the city for the longest duration, 28.1% reside in the Karadeniz (Black Sea) region for the longest duration, 71.6% currently reside in dormitories, 80.6% do not smoke, 86.8% do not consume alcohol, 57.3% do not engage in physical exercise, and 71.1% do not have a romantic partner (Table 1).

Table 1. Demographic characteristics of nursing students (n=356)

Variables	$\bar{X} \pm SD$	
Age (year)	20.53 ± 2.57	
	n	%
Gender		
Female	255	71.6
Male	101	28.4
Academic year		
Year 1	99	27.8
Year 2	106	29.8
Year 3	83	23.3
Year 4	68	19.1
Income status		
Income less than expenses	90	25.3
Income equal to expenses	221	62.1
Income greater than expenses	45	12.6
Mother's education level		
Literate	30	8.4
Primary/Middle School	168	47.2
High school	114	32.0
University and above	44	12.4
Father's education level		
Literate	14	3.9
Primary/Middle School	132	37.1
High school	127	35.7
University and above	83	23.3
Mother's working status		
Working	66	18.5
Not working	275	77.2
Retired	15	4.2
Father's employment status		
Working	224	62.9
Not working	38	10.7
Retired	94	26.4
Residence in the settlement unit where you have lived the longest		
Village/Town	52	14.6

District	99	27.8
City	118	33.1
Metropolitan Area	87	24.4
Geographic region of the settlement unit where you have lived the longest		
Aegean Region	16	4.5
Marmara Region	56	15.7
the Mediterranean region	29	8.1
Central Anatolia Region	85	23.9
Black Sea region	100	28.1
Southeastern Anatolia Region	46	12.9
Eastern Anatolia Region	24	6.7
Current place of residence		
At home with friends	46	12.9
At home with family and relatives	45	12.7
home alone	10	2.8
in dormitory	255	71.6
Smoking status		
Yes	69	19.4
No	287	80.6
Alcohol consumption status		
Yes	47	13.2
No	309	86.8
Physical exercise status		
Yes	152	42.7
No	204	57.3
Do you have a partner/lover?		
Yes	103	28.9
No	253	71.1

Note: \bar{X} : Mean, SD: Standard deviation, n: Number, %: Percent

Table 2 illustrates the SRH related characteristics of nursing students. It was observed that 59.2% of nursing students who have a partner/lover can discuss SRH; 83.4% have no prior sexual intimacy experience, and 82.6% are knowledgeable about SRH. Among those knowledgeable about SRH, 34.3% identified books/magazines/TV and family/teachers as their sources of information. Furthermore, 61.0% have not taken any courses on SRH, 58.4% believe that SRH services should be provided to university students at school, and 44.7% think that the quality of SRH services provided to university students should be easily accessible (Table 2).

Table 2. SRH related characteristics of nursing students (n=356)

Variables	n	%
If you have a partner/lover, ability to discuss SRH		
Yes	61	59.2
No	42	40.8
Previous experience of sexual intimacy		
Yes	59	16.6
No	297	83.4
Knowledge about SRH		
Yes	294	82.6
No	62	17.4
If you have knowledge about SRH source of information*		
Friend	89	25.0
Book/magazine/TV	122	34.3
Family/Teachers	122	34.3
Health personnel	73	20.5
Other	55	15.4
Taking courses on reproductive/sexual health		

Yes	139	39.0
No	217	61.0
Opinion on where SRH services should be provided to university students*		
In hospitals	102	28.7
In maternal and child health and family planning centers	82	23.0
At school	208	58.4
Only in independent counseling centers that provide education on reproductive/sexual health	62	17.4
In counseling centers at universities	106	29.8
Other	32	9.0
Opinion on the quality of SRH services provided to university students*		
Confidentiality should be maintained for applications and discussions	153	43.0
Should cover both counseling and treatment services	118	33.1
It should be provided in an easily accessible location	159	44.7
Both personal and group services should be available	138	38.8
Service times must be convenient for students.	118	33.1
Services should be provided by female experts for women and male experts for men	62	17.4
Other	20	5.6

Note: n: Number, %: Percent

* More than one option is marked.

The relationship between nursing students' SRHKSE and their total and sub-dimension score averages is shown in Table 3. Nursing students' average score on SRHKSE total score is 84.90 ± 7.91 . The average scores for the sub-dimensions were as follows: Women's Health Empowerment 46.17 ± 4.72 , Material Supply for Implementing the Minimum Initial Service Package in Emergencies 17.79 ± 2.42 , Basic Knowledge of the Minimum Initial Service Package in Emergencies 10.07 ± 1.27 , and Strategy and Training for the Minimum Initial Service Package in Emergencies 10.87 ± 1.72 (Table 3).

Table 3. The relationship between nursing students' SRHKSE and their total and sub-dimension score averages (n=356)

Variables	$\bar{X} \pm SD$
Women's Health Empowerment	46.17 ± 4.72
Material Supply for Implementing the Minimum Initial Service Package in Extraordinary Situations	17.79 ± 2.42
Minimum Initial Service Package Basic Information in Extraordinary Situations	10.07 ± 1.27
Minimum Initial Service Package Strategy and Training in Extraordinary Situations	10.87 ± 1.72
SRHKSE Total	84.90 ± 7.91

Note: \bar{X} : Mean, SD: Standard deviation

The distribution of the total and sub-dimension mean scores of the SRHKSE according to the personal and SRH related characteristics of nursing students is showed in Table 4. When the gender of nursing students and the sub-dimension and total score averages of the scale were compared, it was found that the female students' sub-dimensions and total score averages of strengthening women's health and minimum initial service package strategy and training in extraordinary situations were higher compared to male nursing students, and the difference was statistically significant ($p < .05$). When the sub-dimension and total score averages of the scale were compared with the class levels of the nursing students, it was seen that the sub-dimensions and total score averages of the 3rd year students were higher than those of the 2nd year nursing students and the difference was statistically significant. Additionally, the 1st year students had higher scores in the Women's Health Empowerment subscale and total score compared to 2nd year nursing students and the difference was statistically significant. Moreover, the 4th year students had higher total scores compared to 2nd-grade nursing students, and the difference was statistically significant ($p < .05$). When the income status of nursing students was

compared with the subscale and total scores of the scale, it was found that students with income higher than expenses had higher scores in the Women's Health Empowerment and Extraordinary Situations Minimum Initial Service Package Strategy and Education subscales, as well as in the total score, compared to students with income equal to expenses. Moreover, students with income higher than expenses had higher scores in the Extraordinary Situations Minimum Initial Service Package Material Procurement subscale and total score compared to students with income less than expenses, and the difference was statistically significant ($p < .05$). When the mothers' educational levels of nursing students were compared with the subscale and total scores of the scale, it was found that students with mothers who graduated from primary school or middle school had higher scores in the Women's Health Empowerment subscale and total score compared to students with mothers who graduated from high school, and the difference was statistically significant ($p < .05$). When the nursing students' knowledge about SRH and the sub-dimension and total score averages of the scale were compared, the sub-dimensions and total score averages of the students who had knowledge about SRH were lower than the knowledge level of the sub-dimensions and total score averages of the Women's Health Empowerment and Extraordinary Situations Minimum Initial Service Package Strategy and Education subscales, as well as in the total score, compared to students without knowledge, and the difference was statistically significant ($p < .05$) (Table 4).

Table 4. The distribution of the total and sub-dimension mean scores of the SRHKSE according to the personal and SRH related characteristics of nursing students (n=356)

Variables	SRHKSE Total	Women's Health Empowerment	Material Supply for Implementing the Minimum Initial Service Package in Extraordinary Situations	Minimum Initial Service Package Basic Information in Extraordinary Situations	Minimum Initial Service Package Strategy and Training in Extraordinary Situations
	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$	$\bar{X} \pm SD$
Gender					
Female	85.49 \pm 7.63 ^a	46.55 \pm 4.46 ^a	17.83 \pm 2.39	10.03 \pm 1.17	11.09 \pm 1.79 ^a
Male	83.43 \pm 8.44 ^b	45.22 \pm 5.21 ^b	17.69 \pm 2.49	10.17 \pm 1.48	10.35 \pm 1.42 ^b
Test / p value	2.232 ^t / .026 b<a	2.424 ^t / .016 b<a	.472 ^t / .637	-.920 ^t / .358	3.672 ^t / .000 b<a
Academic year					
Year 1	85.77 \pm 7.46 ^a	46.58 \pm 4.19 ^a	18.03 \pm 2.17	10.13 \pm 1.37	11.03 \pm 1.63 ^a
Year 2	82.79 \pm 8.80 ^b	44.71 \pm 5.48 ^b	17.43 \pm 2.56	10.17 \pm 1.23	10.48 \pm 1.74 ^b
Year 3	86.14 \pm 8.11 ^c	46.81 \pm 4.75 ^c	18.04 \pm 2.49	10.10 \pm 1.27	11.20 \pm 1.67 ^c
Year 4	85.43 \pm 6.16 ^d	47.10 \pm 3.54 ^d	17.69 \pm 2.43	9.79 \pm 1.15	10.84 \pm 1.82 ^d
Test / p value	3.775 ^F / .000 b<a, b<c	5.214 ^F / .002 b<a, b<c, b<d	1.420 ^F / .237	1.389 ^F / .246	3.189 ^F / .024 b<c
Income status					
Income less than expenses	84.17 \pm 8.70 ^a	45.96 \pm 5.23 ^a	17.49 \pm 2.48 ^a	9.84 \pm 1.36	10.88 \pm 1.90 ^a
Income equal to expenses	84.52 \pm 7.88 ^b	45.91 \pm 4.72 ^b	17.75 \pm 2.42 ^b	10.11 \pm 1.18	10.74 \pm 1.65 ^b
Income greater than expenses	88.29 \pm 5.30 ^c	47.89 \pm 3.07 ^c	18.58 \pm 2.18 ^c	10.33 \pm 1.43	11.49 \pm 1.62 ^c
Test / p value	4.879 ^F / .008 a<c, b<c	3.455 ^F / .033 b<c	3.150 ^F / .044 a<c	2.525 ^F / .082	3.556 ^F / .030 b<c
Mother's education level					

Literate	83.50±6.32 ^a	45.90±3.78 ^a	17.30±2.07	9.80±1.24	10.50±1.33 ^a
Primary/Middle School	86.17±6.89 ^b	46.90±4.15 ^b	17.97±2.39	10.13±1.29	11.16±1.67 ^b
High school	83.67±9.35 ^c	45.25±5.38 ^c	17.74±2.45	10.04±1.37	10.63±1.82 ^c
University and above	84.25±7.96 ^d	45.95±5.18 ^d	17.57±2.68	10.09±0.88	10.64±1.81 ^d
Test / p value	2.813 ^F / .039 c<b	2.901 ^F / .035 c<b	.862 ^F / .461	.603 ^F / .614	3.100 ^F / .027
Taking courses on SRH					
Yes	85.37±7.45 ^a	46.44±4.38 ^a	17.81±2.42	10.10±1.25	11.03±1.69 ^a
No	82.69±9.58 ^b	44.92±5.94 ^b	17.71±2.42	9.95±1.35	10.11±1.70 ^b
Test / p value	2.438 ^t / .015 b<a	2.320 ^t / .021 b<a	.285 ^t / .776	.811 ^t / .418	3.882 ^t / .000 b<a

Note: \bar{X} : Mean, SD: Standard deviation, n: Number, %: Percent, F: One-way Anova Test

4. Discussion

One of the most significant factors that negatively affects the future and well-being of university students is risky behavior related to SRH. Taking initiatives to prevent risky behaviors related to SRH, coupled with an increase in knowledge on the subject, serve as a protective factor against adverse outcomes (13,14). SRH goes beyond knowledge and behavior and reflects the motivation and competence to access SRH-related information, understand, evaluate, and apply the acquired information to manage the problems experienced in SRH (15,16). As the quality and accessibility of SRH information directly affect university students' capacity to access, understand, evaluate, and apply SRH information to maintain their SRH, SRH may be negatively affected, especially in adverse extraordinary situations encountered in an ever-changing world (6,17). Negative impact status varies depending on SRH knowledge levels and many variables.

The majority of nursing students in the study could discuss SRH if they had a partner/lover, had no previous experience of sexual intimacy, were knowledgeable about SRH, had not taken a course on SRH, believed that SRH services should be provided to university students, and expressed the opinion that the quality of SRH services for university students should be easily accessible. In a study conducted by Seid et al. (2022), it was found that 73.1% of nursing students had not received sexual health education, and 46.3% discussed sexuality with their friends (18). The majority of nursing students in the study could discuss SRH if they had a partner/lover, had no previous experience of sexual intimacy, were knowledgeable about SRH, had not taken a course on SRH, believed that SRH services should be provided to university students, and expressed the opinion that the quality of SRH services for university students should be easily accessible. In a study conducted by Seid et al. (2022), it was found that 73.1% of nursing students had not received sexual health education, and 46.3% discussed sexuality with their friends (18). In the study by Senturk Erenel and Cicek Ozdemir (2020), it was revealed that 95% of nursing students knew about sexual health, 50% believed that the existing information about sexual health was partially sufficient, and 74.8% of those with knowledge considered school courses (related to sexuality and sexual health) as a source of information (19). Koçoğlu et al.'s (2022) study reported that 93.2% of nursing students had knowledge about SRH. Among those with knowledge, 53.8% obtained information from family/teachers, 61.2% believed that SRH services should be provided to university students at school, 69.1% expressed the need to provide SRH services to youth while maintaining confidentiality about applications and discussed topics and 86.4% stated that SRH services should be provided by a well-equipped healthcare professional (20). In the study conducted by Karakurt and Köse Tuncer (2022), it was found that 66.2% of university students did not receive sexual health education, and among those who did, 91.2% obtained information through the internet (21). In the study conducted by Dışsöz et al., 83.9% of nursing students were able to share their SRH problems,

90.5% did not have sexual intimacy before marriage, 68.7% did not receive information about SRH health, and It was determined that 97.4% of them thought that SRH education should be provided in schools (22). In the study by Üstgörül et al. (2020) examining the gender perceptions and sexual attitudes of university students, 55.4% of them had received information about sexuality before, 70.7% believed that sexual health education should be given by a specialist physician, 66.9% of them thought that sexual health education should be given by a specialist physician (23). It was determined that most of the students wanted the sexual health course to be mandatory. While most studies conducted in our country reported that university students did not have access to sufficient information about sexuality, this study concluded that the students had sufficient information. The difference is thought to be influenced by the existence of a course on SRH at the university where the study was conducted.

The impact of mass disasters on sexual function has always been a subject of debate. Concerns arise regarding the behavioral anxiety, feelings of fear, and even panic caused by extraordinary situations such as mass health problems like pandemics and natural disasters (earthquakes, floods, etc.), as well as the measures taken to control these extraordinary situations, leading to adaptation disorders and the onset or exacerbation of depression (24). It has been determined that SRH training given to nurses and midwives in emergency situations in Turkey increases the level of knowledge (25). Except this, it is predicted that these will have effects on sexual function and satisfaction, and it is thought that the problems that may be experienced can be alleviated with an increase in the level of knowledge about SRH. In Turkey, the level of knowledge regarding SRH in extraordinary situations that are difficult to predict and manage, such as the COVID-19 pandemic, earthquake, and flood has not been investigated before. In this study, it was determined that nursing students have high levels of knowledge about SRH in extraordinary situations, including women's health empowerment, providing material supply for the minimum initial service package in emergencies, basic knowledge of the minimum initial service package in emergencies, and strategies and education related to the minimum initial service package in emergencies. There is no existing study in the national and international literature that specifically examines the knowledge level of SRH in extraordinary situations. Therefore, the findings of this study are considered original and contribute to the literature by providing support in this aspect.

This study reveals that knowledge levels about SRH in extraordinary situations are influenced by gender, class, income level, maternal education, and the status of being informed about SRH. In a study by Koçoğlu et al. (2022), it was found that individuals with knowledge about SRH had more favorable attitudes toward reproductive health compared to those without knowledge (20). In another study by Üstgörül et al. (2020), as well as in the research conducted by Evcili and Golbasi (2017), it was reported that university students aged 22 and older, living in urban areas, with mothers having education levels of middle school or higher, and having employed mothers, exhibited higher levels of sexual health knowledge (23,26). Upon reviewing the literature, no study specifically investigating the factors affecting the knowledge level of SRH in extraordinary situations was found. There are only a few studies that have examined the factors influencing sexual health knowledge. The findings of this study contribute to the literature by presenting a different perspective and providing support to existing knowledge.

5.Conclusions and Recommendations

In the study, nursing students' knowledge levels of SRH in extraordinary situations are high, and their knowledge levels are influenced by gender, class, income level, maternal education, and the status of being informed about SRH.

In light of these results, it is recommended that nurses and educators specializing in women's health provide nursing students with SRH education tailored for extraordinary situations. Additionally, incorporating courses related to sexual health into the curriculum as mandatory subjects, organizing health education sessions for healthcare professionals on SRH during extraordinary situations, creating standardized content through the development of guidelines and consensuses for SRH in extraordinary situations, and integrating them into health policies are suggested. It is recommended that researchers conduct further studies with a high level of evidence on this subject.

Limitations

It is thought that this study offers a crucial evidence explaining the level of knowledge about SRH of nursing students in extraordinary situations and the influencing factors for our country. The limited number of studies conducted on SRH in extraordinary situations in our country and the published studies related to the SRHKSE have restricted the discussion section.

Article Information Form

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References

1. Koç Akgül S. Olağanüstü durumlar, iletişim ve habercilik yaklaşımları. TRT Akademi. 2017;2(3):6-47.
2. Askew I, Khosla R, Daniels U, Krause S, Lofthouse C, Say L, et al. Sexual and reproductive health and rights in emergencies. Bull. World Health Organ. 2016;94(5):311. <https://doi.org/10.2471/BLT.16.173567>
3. Canbulat Ş. Doğal afetler ve olağanüstü durumlarda görülen salgın hastalıklar. Tarsus Üniversitesi Uygulamalı Bilimler Fakültesi Dergisi. 2023;3(1):47-64.
4. Singh NS, Smith J, Aryasinghe S, Khosla R, Say L, Blanchet K. Evaluating the effectiveness of sexual and reproductive health services during humanitarian crises: A systematic review. PLoS ONE 2018;3(7):1-19. <https://doi.org/10.1371/journal.pone.0199300>
5. Krause SK, Chynoweth SK, Tanabe M. Sea-change in reproductive health in emergencies: How systemic improvements to address the MISP were achieved. SRHM. 2017;25(51):7-17. <https://doi.org/10.1080/09688080.2017.1401894>
6. Stephens JH, Lassa JA. Sexual and reproductive health during disasters: A scoping review of the evidence. IJDRR. 2020;50:101733.
7. Inter Agency Working Group. Chapter 3: Minimum initial service package (MISP), 2018. <https://iawgfieldmanual.com/manual/misp#introduction> Accessed Date: 5 December 2023.
8. Beek K, Drysdale R, Kusen M, Dawson A. Preparing for and responding to sexual and reproductive health in disaster settings: evidence from Fiji and Tonga. Reprod Health. 2021;18(1):1-13. <https://doi.org/10.1186/s12978-021-01236-2>
9. Roxo U, Linda Mobula M, Walker D, Fincht A, Yeiser S. Prioritizing the sexual and reproductive health and rights of adolescent girls and young women within HIV treatment and care services in emergency settings: A girl-centered agenda. Reprod Health. 2019;16(Suppl 1): <https://doi.org/10.1186/s12978-019-0710-0>
10. Singh NS, Smith J, Aryasinghe S, Khosla R, Say L, Blanchet K. Evaluating the effectiveness of sexual and reproductive health services during humanitarian crises: A systematic review. PLoS ONE. 2018;13(7):e0199300. <https://doi.org/10.1371/journal.pone.0199300>
11. Cirban Ekrem E. Afetlerde cinsel sağlık/üreme sağlığı ve hemşirelik yaklaşımı. İçinde: Gülcan D, editör. Sağlık & Bilim: Hemşirelik. İstanbul: Efe Akademi Yayınları; 2021. p. 115-124.
12. Cirban Ekrem E, Kurt A. Developing the sexual and reproductive health knowledge scale in emergencies. EJOG. 2023;289:177-182. <https://doi.org/10.1016/j.ejogrb.2023.08.392>
13. Berkman ND, Sheridan SL, Donahue KE, Halpern DJ, Crotty K. Low health literacy and health outcomes: An updated systematic review. Ann Intern Med. 2011;155(2):97-107, <https://doi.org/10.7326/0003-4819-155-2-201107190-00005>
14. Champion JD, Harlin B, Collins JL. Sexual risk behavior and STI health literacy among ethnic minority adolescent women. Appl Nurs Res. 2013;26:204-209. <http://dx.doi.org/10.1016/j.apnr.2013.06.003> PMID:23867137
15. Hailegebreal S, Gilano G, Seboka BT., Sidelil H, Awol SM, Haile Y, et al. Prevalence and associated factors of early sexual initiation among female youth in East Africa: Further analysis of recent demographic and health survey. BMC Women's Health. 2022;22(1):1-9.
16. Vongxay V, Albers F, Thongmixay S, Thongsombath M, Broerse JEW, Sychareun V, et al. Sexual and reproductive health literacy of school adolescents in Lao PDR. PLoS ONE. 2019;14(1):e0209675.
17. Rajabi E, Khankeh H, Ranjbar M, Mousavi M, Norouzi M, Farokhi M. Evaluation of women's reproductive health status after the 2017 earthquake in Kermanshah, Iran. Health in Emergencies and Disasters Quarterly. 2022;7(4):183-192. <http://dx.doi.org/10.32598/hdq.7.4.271.2>
18. Seid K, Kebede T, Dessalegn N, Ejara Y, Moga F, Daniel M, et al. Nursing students' attitudes and beliefs regarding sexual healthcare in Ethiopia: An online cross-sectional study. PLoS ONE. 2022;17(12):e0278760. <https://doi.org/10.1371/journal.pone.0278760>

19. Sentürk Erenel A, Cicek Ozdemir S. Attitude and behaviors of senior nursing students in assessment of sexual health. *Sex Disabil.* 2020;38:503–514. <https://doi.org/10.1007/s11195-020-09642-3>
20. Koçoğlu F, Kocaöz S, Kara P. Hemşirelik öğrencilerinin üreme sağlığı tutumlarının belirlenmesi. *Ordu University J Nurs Stud.* 2022;5(3):355-364. <https://doi.org/10.38108/ouhcd.932843>
21. Karakurt P, Köse Tuncer S. Üniversite öğrencilerinin cinsel sağlığa yönelik tutumlarının belirlenmesi: Hemşirelik öğrencileri örneği. *Gevher Nesibe Journal of Medical & Health Sciences.* 2022;7(20):131-139. <http://dx.doi.org/10.5281/zenodo.713359>
22. Dişsiz M, Akkurt Yalçıntürk A, Sümer G, Tavşan C, Dede S, Durmuş Ş, et al. Hemşirelik öğrencilerinin cinsel sağlık konusundaki bilgi düzeyleri ve görüşleri. *Zeynep Kâmil Med J.* 2020;51(2):78-83. <https://doi.org/10.16948/zktpb.691007>
23. Üstgörül S, Önür H, Tekin Önür H. Üniversite öğrencilerinin toplumsal cinsiyet algıları ile cinsel tutumlarının incelenmesi. *Al Farabi-Injosos.* 2020;5(3):77-87.
24. Omar NA, Nazri MA, Ali MH, Alam SS. The panic buying behavior of consumers during the COVID-19 pandemic: Examining the influences of uncertainty, perceptions of severity, perceptions of scarcity, and anxiety. *J Retail Consum Serv.* 2021;62:102600. <https://doi.org/10.1016/j.jretconser.2021.102600>
25. Cirban Ekrem E, Kuş T, Erkmén E, Dursun N. The investigation of the impact of education on sexual health/reproductive health knowledge levels of nurses and midwives in extraordinary situations – Evidence from Turkey. *Eur J Clin Exp Med.* 2023;21(4):802-811. <https://doi.org/10.15584/ejcem.2023.4.22>
26. Evcili F, Golbasi Z. Sexual myths and sexual health knowledge levels of Turkish university students. *Sex Cult.* 2017;21:976–990. <https://doi.org/10.1007/s12119-017-9436-8>