

ORIGINAL ARTICLE

Effect of Sexual Counseling Training in Gynecological Cancers According to the PLISSIT Model on Midwifery Students' Awareness and Attitude: A Randomized Clinical Trial

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ABSTRACT

Background: It is very important to show health professionals and students that sexuality is important in women with gynecological cancer, to increase their awareness in this area and to ensure the formation of positive attitudes towards sexuality. This study aimed to determine the effect of sexual counseling training in gynecological cancers according to the PLISSIT Model on Midwifery students' Awareness and Attitude.

Methods: This randomized controlled study was conducted between May and November 2022 by midwifery students studying at Sakarya University in Turkey. 36 students were allocated to the control group and 38 to the intervention group using block randomization. The intervention group was given 3 sessions training based on the PLISSIT model, while the control group underwent no training. Data were collected before the training and one month after completing the intervention using the Gynecological Cancer Awareness Scale (GCAS) and Sexual Attitudes and Beliefs Scale (SABS). Data analysis was done using SPSS software version 22 with Chi square test, independent and paired t-test. A significance level of $P < 0.05$ was used.

Results: In the intervention group, a significant difference was found within the group in terms of the GCAS ($P < 0.001$), and SABS ($P < 0.001$) scores after the study. In the control group, there was no significant difference within the group in terms of the GCAS ($P = 0.16$) and SABS ($P = 0.26$) scores. There was a significant difference between the intervention and control groups in terms of GCAS ($P = 0.004$) and SABS ($P < 0.001$) scores one month after training.

Conclusion: It was found that sexual counseling training in gynecological cancers according to the PLISSIT Model was effective in creating awareness and positive attitudes in midwifery students.

Trial Registration Number: NCT05967104.

Keywords: Gynecologic neoplasms, Model, Sex education, Sexual behaviour, Sexual health

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INTRODUCTION

Gynecological cancers are malignant diseases of the ovaries, cervix, endometrium, vulva, vagina and fallopian tubes that make up the female reproductive system.¹ Global Cancer Observatory (GLOBACAN) 2022 data show that gynecological cancers rank fourth among the most common types of cancer among women in the world.² Gynecological cancers account for more than 100,000 incidences and 32,000 deaths per year.³ As a result of complications caused by gynecological cancer diagnosis and treatment, various aspects of women's life are adversely affected.⁴ Significant changes are taking place, especially in the area of sexuality.^{3,5} It is known that sexually active gynecological cancer cases often complain of dyspareunia, vaginal dryness, postcoital bleeding, deterioration in sexual arousal, lack of sexual desire, and genitopelvic pain.⁶⁻¹⁰

Sexual dysfunction can also result from changes in the female genital organs, such as vaginal stenosis, vaginal dryness, vaginal scar development, and vaginal atrophy.^{11,12} Sexual dysfunction is one of the most common and troublesome qualities of life issues faced by women with gynecological cancer, but it is rarely discussed among cancer patients, survivors, and health professionals.^{13,14} Therefore, a comprehensive assessment of sexual health from the first visit of patients should be carried out as a routine part of each examination.¹⁵ In this regard, health professionals need to apply resources that encourage effective, sensitive, communication with patients about sexual health problems.¹⁵

The PLISSIT model is one of the most popular strategies in the field of identifying and treating sexual issues.¹⁶ The model provides a safe, tolerant and therapeutic environment in the field of sexual concerns, encouraging referral to an appropriate specialist as needed. Permission (P), Limited Information (LI), Specific suggestions (SS), and Intensive Therapy (IT) are the four phases of the paradigm for addressing sexual issues. The first stage of this model is to allow patients to

share their thoughts and concerns about their sex life. In the second stage, individuals are informed about their thoughts and concerns about their sex life. In the third stage, patients are given special recommendations. Specific recommendations should be appropriate to each person's individual needs. At this point, health professionals need to know more about sexuality in order to give patient-specific information. The fourth stage involves the referral of the patient to the relevant specialist.¹⁶

This model enables healthcare professionals to develop effective strategies for addressing sexual concerns.^{12,17} In order for the model to be applied effectively, it is essential that the relevant health professionals be informed about the subject. In this context, it is very important to show health professionals and students studying in the field of health that sexuality is very important in women with gynecological cancer, raise their awareness in the field, and to ensure that their positive attitudes towards sexuality are formed. The aim of this study was to assess the effect of sexual counseling training in gynecological cancers according to the PLISSIT Model on Midwifery students' Awareness and Attitude.

MATERIALS AND METHODS

This research is a randomized-controlled study. This study was conducted between May 2022 and November 2022 in Sakarya University, Turkey. The research is based on the 3rd Phase of the Midwifery Department of a state university in the 2021–2022 academic year. The class consists of 85 students. The reason why 3rd-grade students are selected is that they have taken the gynecology course in the second year. The sample consists of individuals who meet the inclusion criteria. Inclusion criteria were midwifery student in 3rd-grade who had passed "Gynecology course", and consent to participate in the study. Exclusion criteria were incomplete questionnaires and unwillingness to participate in the study.

Initially, the first author (AD) found herself

in midwifery part 3. She introduced it to the students of the class. First, 9 out of 85 students were excluded from the study because they did not have the inclusion criteria (three students because they had never taken the gynecological course before, and six students because they did not want to take part in the study). Informed consent was obtained from 76 students before randomization. The study was carried out in two groups: the intervention group and the control group. Block randomization was performed using a computer-generated sequence by a person not involved in the intervention (intervention n:38, control n:38). During the study process, 2 students from the control group were excluded from the study because they did not fill out the questionnaires completely. Therefore, the control group ended with 36 people (Figure 1). Since we aimed to reach the entire population at the beginning of the study, no sample calculation was made. At the end of the study, the power of the sample was determined using G Power 3.1.9.7 software. After the power analysis using the scores of the groups after

the training from the gynecological cancers awareness scale, the effect size was 0.61, the type 1 error rate 5%, and the analysis power of the sample was found to be 91.9%.

The study data were collected using individual characteristic form, Gynecological cancer awareness scale (GCAS), and Sexual attitudes and beliefs scale (SABS).

GCAS developed by Alp Dal and Ertem (2017) to measure awareness about gynecological cancer.¹⁸ There are 41 items on the five-point Likert scale. 1: I strongly disagree, 2: I disagree, 3: I'm not sure, 4: I agree, and 5: It's seen to be firmly agreed. There are four sub-dimensions that make up this dimension: regular control and awareness of significant illness perception in gynecological cancers, knowledge of gynecological cancer risks, awareness of prevention from gynecological cancers, and early diagnosis and information awareness in gynecological cancers. The scale has a Cronbach Alpha score of 0.944, and its sub-dimensions range from 0.708 to 0.979. The scale is used to the final score, which ranges from 41 to 205.

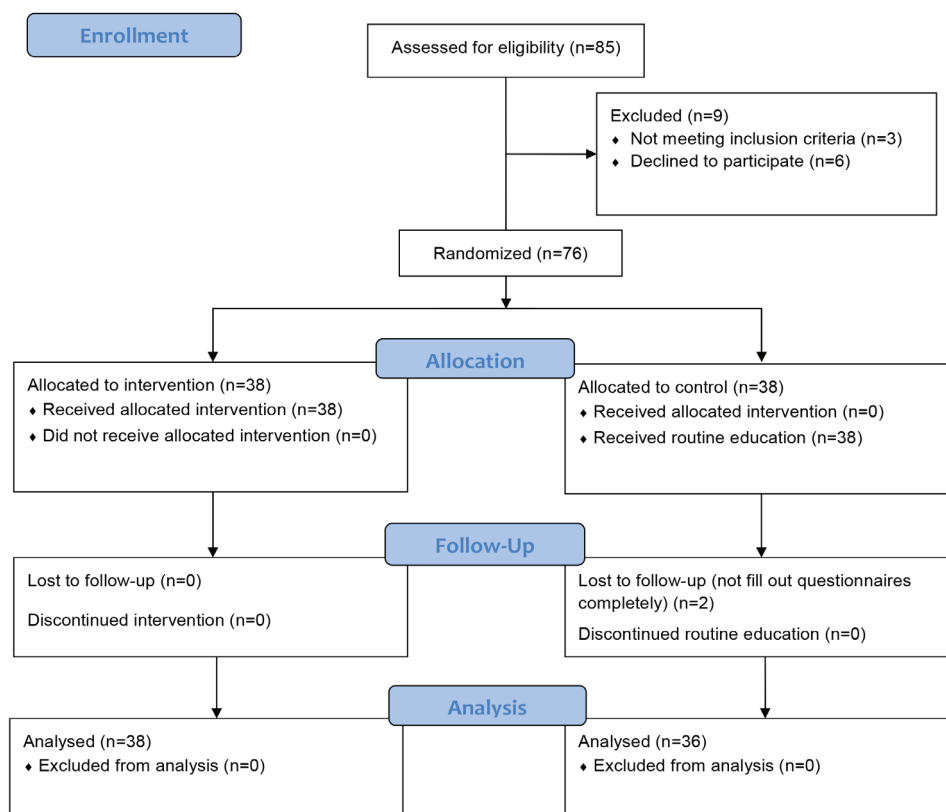


Figure 1: CONSORT flowchart of the study

The amount of awareness rises along with the scale score.¹⁸ The Cronbach Alpha value of the scale was found to be between 0.947 and 0.948. Additionally, exploratory factor analysis method was applied to reveal the construct validity of the scale. Based on the result of the Bartlett test ($P < 0.001$), it was determined that the sample size was sufficient for factor analysis. The most commonly used rotation method in the application of factor analysis was the varimax method. As a result of factor analysis, the variables were grouped under 4 factors with a total explained variance of 60.53%. According to the alpha and explained variance value regarding its reliability, it was understood that the GCAS is a valid and reliable tool.¹⁸

SABS was developed by Magnan and Reynolds in 2006.¹⁹ It was translated into Turkish by Ayhan et al. in 2010 and its validity and reliability in nursing students was confirmed.²⁰ The SABS contains 12 items scored using six-point likert scale, each scored on a scale of 1-6, and 7 of these items (questions 1, 2, 4, 6, 8, 10 and 12) are scored inversely. After the conversion to the inversely scored items, the expressions given 1-3 points

can be converted into dichotomous data as “I agree” and the expressions are given 4-6 points as “disagree”. The total score of SABS, which is obtained by collecting the item points, varies between 12-72. High scores from SABS items and the grand total. It shows that the negative belief and attitude toward assessing patient sexuality/providing sexual counseling is increasing and that there are more obstacles in evaluating sexual problems and providing counseling for it. Cronbach’s Alpha value reported for SABS is 0.73.²⁰ This value was determined as 0.851 in the current research.

In order to improve the educational content, researchers conducted a literature review on gynecological cancers, sexual problems in gynecological cancers, and sexual counseling.²¹⁻²⁴ The training content was created after the literature review (Table 1).

The students were randomly divided into two groups of intervention and control. The training for the intervention group was conducted in 3 sessions of 45 minutes each, one session each week, organized by the first author (AD) on different days from the presence of the control group due to decreased possibility of information flow between

Table 1: The content of sexual counseling training sessions in gynecological cancers according to PLISSIT model

No.	Subject	Contents	PLISSIT (model)	Duration
1	Gynecological cancers, Prevalence, etiology, treatment process and subsequent changes	<ul style="list-style-type: none"> Gynecological cancers, prevalence, etiology, screening, diagnosis and treatment methods Physical changes; weakness, genital changes, pain, changes in the urinary and excretory system Sexual changes; lubrication, desire, desire, orgasm, satisfaction, pain, satisfaction Psychological changes; body image, sexual attitude, level of depression, marital relationship. 	Permission	20 min
	Psychosocial status in terms of gynecological cancer and sexuality	<ul style="list-style-type: none"> Effects of gynecological cancer diagnosis and treatment on sexuality Situations that affect sexuality in this process (psychosocial situations, myths) 	Limited Information	25 min
2	Regulation of sexual function	Suggestions for solutions to sexual problems <ul style="list-style-type: none"> Physical strategies Spiritual strategies Social strategies 	Specific Suggestions	45 min
3	Controversy/Sexual Evaluation of consultancy	<ul style="list-style-type: none"> Case reports examining sexuality in women with gynecological cancer, discussion of the subject with qualitative studies, Determination of coping strategies with the situation, the importance of referring to the specialist therapist in case of need 	Intensive Therapy	45 min

the groups. In each session, training was organized based on the PLISSIT framework. After randomization, the questionnaires were completed by the students who were included in the intervention and control group at the beginning and one month after the completion of the study. The students in the control group were not given any training within the scope of the study and only had information about gynecological cancers and sexuality in the gynecology course content. However, in order to comply with ethical principles, after the study ended, the training information was presented to the control group online. In this study, blinding was performed for data collection and data analyses stages.

The statistical analysis was performed using IBM SPSS version 22. The Kolmogorov-Smirnov test was used to assess how well

the data fit the normal distribution. The data were subject to parametric testing after the Kolmogorov-Smirnov test revealed that they had a normal distribution. The chi-square test was applied to analyze the categorical data. The means were compared between the two groups using independent sample t-test, while intra-group before-and-after comparisons were made using the paired sample t-test. A P value < 0.05 was considered as significant.

The study protocol was reviewed by Sakarya University Ethics Committee (E-619233333-050.99-131175) and ethical approval permission was obtained. All participants signed a written informed consent at baseline and were assured of data confidentiality, voluntary participation, and the right to withdraw from the study without any effect on their educational process.

Table 2: Comparison of baseline characteristics between intervention and control group participants in the study

Variables	Control Group	Intervention Group (n)	P value*
	N (%)	N (%)	
Mother's education level			
Illiterate	2 (5.6)	3 (7.9)	0.08
Primary school	26 (72.2)	21 (55.3)	
Middle school	2 (5.6)	11 (28.9)	
High school and above	6 (13.9)	3 (5.3)	
Father's education			
Primary school	11 (30.6)	12 (31.6)	0.95
Middle school	7 (19.4)	7 (18.4)	
High school and above	18 (50)	19 (50)	
Income status			
Income less than expenses	5 (13.9)	1 (2.6)	0.20
Balanced income with expense	26 (72.2)	31 (81.6)	
Income more than expenses	5 (13.9)	6 (15.8)	
Chronic disease status			
Yes	7 (19.4)	8 (21.1)	0.86
No	29 (80.6)	30 (78.9)	
Family history of cancer			
Yes	14 (38.9)	10 (26.3)	0.24
No	22 (61.1)	28 (73.7)	
Self-control of genital organs			
Yes	30 (83.3)	30 (78.9)	0.63
No	6 (16.7)	8 (21.1)	
Receiving education about gynecological cancers before			
Yes	28 (77.8)	27 (71.1)	0.50
No	8 (22.2)	11 (28.9)	
Receiving sexual health education before			
Yes	16(44.4)	12 (13.6)	0.25
No	20(55.6)	26 (68.4)	

*Chi square test

Table 3: Comparison of Gynecological Cancers Awareness Scale and Sexual Attitude and Beliefs Scale between and within the control and intervention groups

Variable	Control group Mean±SD	Intervention group Mean±SD	P value*
Gynecological Cancers Awareness Scale			
Pre-Training	165.03±19.54	163.03±14.05	0.613
One month after training	165.19±19.5	177.16±14.43	0.004
P value**	0.16	<0.001	
Sexual Attitudes and Beliefs Scale			
Pre-Training	34.19±5.24	33.53±5.49	0.594
One month after training	34.86±5.77	29.37±5.92	<0.001
P value**	0.26	<0.001	

*Independent t test; **Paired t test

RESULTS

The participants' age ranged from 20 to 23 years, and the mean was 21.08±0.87 years. The distribution of some characteristics of the intervention and control groups is shown in Table 2. The majority of participants in the control and intervention groups had previously undergone education about gynecological cancer (77.8% vs 71.1%) and had not received sexual health education before (55.6% vs 68.4%), respectively. There was no statistically significant difference between the intervention and control groups in terms of the baseline characteristics ($P>0.05$).

In the intervention group, a significant difference was found within group in terms of the GCAS ($P<0.001$) and SABS ($P<0.001$) scores after the study. In the control group, there was no significant difference within the group in terms of the GCAS ($P=0.16$) and SABS ($P=0.26$) scores. There was a significant difference between the intervention and control groups in terms of GCAS ($P=0.004$) and SABS ($P<0.001$) score one month after training (Table 3).

DISCUSSION

Gynecological cancers cause significant changes in women's sexual life, and the care in this process should be done holistically by health professionals. The awareness and attitude of midwifery students, who are the health professionals of the future, are very important.

The current study focused on training of midwifery student for sexual counseling with

women with gynecological cancers according to PLISSIT Model. It was found that while the total score of GCAS after training in the intervention group increased, there was no significant change in the control group. In the literature, only one study was found which examined gynecologic cancer awareness of health sciences students. In a descriptive study conducted by Kiyak and Burucu, gynecologic cancer awareness of students and related factors were determined. They found that the level of gynecologic cancer awareness of the students was above the intermediate level, and that the factors affecting the level of awareness were diagnosis of a current chronic disease, place of residence, smoking, a family history of cancer, and the closeness of the person with a family history of cancer.²⁵ In another study, students' gynecologic cancer knowledge was found to be moderate.²⁶ In a study examining the nursing students' awareness of cervical cancer, it was found that their level of knowledge on the subject was insufficient and their awareness was low.²⁷

In another descriptive study conducted to evaluate the nursing students' knowledge about breast and cervical cancer, it was found that students' awareness was low and their knowledge was insufficient.²⁸ All studies showed that these students did not have enough knowledge and needed a training intervention which is responsive to their educational needs and can improve their awareness. This was confirmed in the current study.

Studies evaluating the effectiveness of different trainings on gynecologic cancer

given to health sciences students were examined. In a randomized controlled study conducted to determine the effect of training based on the theory of planned behavior (TPB) on the intention to be vaccinated against human papillomavirus (HPV), it was found that the level of knowledge about HPV increased in the intervention group which received TPB-based training and positively affected awareness.²⁹ As shown in this study, the provision of education including the prevalence, etiology, prevention, treatment, screening-diagnosis methods, and management of gynecological cancers is an expected result that will increase the level of knowledge of students and increase their level of awareness on the subject.

While the total post-training SABS scores of the students in the intervention group decreased, there was no significant change in the control group. This suggests that negative attitudes and beliefs about sexual care are reduced in the intervention group after training. In the same line with our results, it was reported in Gürel and Taşkın's study that the SABS scores of the students who took sexual health courses were lower than the students who did not take them.³⁰ Another study found that attitudes toward sexuality were positively influenced by individuals who received sexual health education.³¹ Similarly, Fonner et al. states that positive attitudes develop in students who receive sexual health education.³²

In the literature, it has been shown that sexuality education based on the PLISSIT model of women with breast and gynecologic cancer improves the women's sexuality,^{17, 33-37} body image,³⁸ and general quality of life³⁹ and positively affects spousal relationships.^{37, 38} A meta-analysis incorporating 9 randomized controlled trials based on the PLISSIT model indicated that a significant improvement in sexual function was achieved.⁴⁰ Studies have been conducted to show that education based on the PLISSIT model in women with cancer improves the sexual function. The findings of the studies revealed the necessity

of training of health providers regarding the model for sexual counseling of women with gynecological cancers. In the current study, it was found that sexual counseling training in gynecological cancer according to the PLISSIT Model of students led to increased awareness and development of a positive attitude towards sexual counseling to gynecological cancer patients. The issue is a very important prerequisite to sexual counseling of these patients during delivery of services by midwives.

As a strong point, with the training prepared in line with the PLISSIT model, the importance of sexuality in the care of women with gynaecological cancer was emphasised, and the awareness of student midwives on the subject was raised. This study has some limitations. Since the sample of the study consisted of students studying in the same department of the university, cross-contamination may not have been prevented.

CONCLUSION

The results showed that sexual counseling training in gynecological cancer according to the PLISSIT Model was effective in the formation of awareness and positive attitudes in midwifery students. It is recommended that education should be done for students studying other health sciences majors in order to provide better sexual counseling to women with gynecological cancers.

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