

Self-Management Model: Effect on Rural Women's Reproductive Health Behaviors and their Satisfaction after Legal Abortion

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Abstract

Background: Legal abortion has implemented several advantageous measures to prevent the birth of fetuses with congenital problems and to safeguard the health of high-risk moms. The self-management model is a realistic, evidence-based approach created to modify behavior, achieve self-management, and enhance abortion outcomes. **Aim** to investigate the effect of a self-management model on rural women's reproductive health behaviors and their satisfaction after legal abortion. **Design:** a quasi-experimental research design in which two groups were monitored both before and after interventions. **Settings:** The investigation was carried out at Menoufia University's Hospital and Shebin El-Koom Teaching Hospital. **Sample:** For this study, 140 rural women who had abortions were chosen as a purposive sample. **Instruments:** There were three instruments of data collection compromised by I: a structured interview questionnaire. II: reproductive health behavior questionnaire. III: patient satisfaction questionnaire. **Results:** The findings reveal that 87.1% of the study group had positive reproductive health behavior post-intervention compared to 28.6 % pre-intervention. In addition, 28.2% of the control group had positive reproductive health behavior post-intervention compared to 30% pre-intervention. Furthermore, 85.7% of the study group had greater satisfaction with model sessions for four weeks post-intervention compared to the control group. **Conclusion:** Rural women's reproductive health behaviors are positively impacted by the self-management model regarding legal abortion. Additionally, the rural women exhibited a higher satisfaction level regarding the self-management model after application of the self-management program. **Recommendations:** All aborted women should be given a brief Arabic handout detailing the advantages of a post-abortion care program based on the 5As management model at hospitals to minimize abortion-related morbidity and death.

Keywords: legal abortion, rural women's reproductive health behaviors and their satisfaction, and self-management model.

Introduction

Abortion is seen as a significant reproductive health issue, endangering mothers' lives and comfort (Ara et al., 2022). The phrase "legal abortion" describes the ending of a pregnancy due to fetal congenital defects and possible maternal death. Abortion protects the mother's health and prevents the delivery of fetuses with congenital deformities but also has its set of complications (Keegan et al., 2023).

With 42–63 abortion-related deaths per 100,000 women, abortion-related complications are the most prevalent yet preventable cause of maternal mortality, making up 8–18% of all maternal deaths worldwide (Pasquier et al., 2024). Many countries have established post-abortion care (PAC) programs to address the need for high-quality post-abortion care at all levels of the healthcare system, including rural and urban health institutions, to lower maternal mortality from abortion. The primary goals of these

programs are to identify and address sexual and reproductive health (SRH) needs, provide family planning counseling, and involve society and medical professionals in timely and appropriate treatment to prevent post-abortion complications (Riley et al., 2020).

Accordingly, giving women the right post-abortion care—which includes information, counseling, and support is essential to enhancing their reproductive health outcomes after abortions (Logie et al., 2022). Therefore, influencing health behavior through a variety of educational concepts and models may have two effects. According to individual capabilities, the 5A self-management model—also referred to as the behavior change model—is a successful tactic for promoting healthy habits (Dineen-Griffin et al., 2019).

Comprehensive sexual and reproductive health (SRH) education plays a crucial role in increasing patient satisfaction and promoting overall health and well-being. It provides information on safe sex practices, contraception, helping to prevent sexually

transmitted infections (STIs) and unwanted pregnancies, and enabling early detection of potential health issues. As, women with high risk sexual and reproductive behaviors have several reproductive health concerns, including unwanted pregnancy, abortion, STIs (Sexually transmitted infections), HIV, etc. In addition, different types of violence and threats against women (Cioffi et al., 2023). Therefore, healthcare providers can significantly enhance patient satisfaction and promote general health and well-being, which will result in healthier individuals and communities, by incorporating reproductive health education through a variety of educational concepts and models into patient treatment (Tibebu et al., 2024).

The self-management model (5 A's) is a nonmedical, evidence-based approach to behavior modification that enables women to achieve behavioral adjustments. The procedure consists of five critical steps: assessing, advising, agreeing, helping, and organizing. Step one involves evaluating each person's identified problems; step two involves giving advice based on the assessment's findings and informing the clients about their issues and the risks they pose; and step three involves reaching an agreement on an action plan that includes a set of reasonable goals. Some clients may need specialized education or counseling in the fourth phase, help that is offered by introducing them to counselors and providing them with in-person oral education or pamphlets. The fifth phase is arranging, which involves making phone calls and visiting the clinic or home to check on the progress of behavioral goals, practical planning, counseling, and encouragement to continue the intervention (World Health Organization, 2019).

The self-management model (5 A's) can be used by maternity nurses to help women who have abortions have better results. Nurses are essential in giving information and counseling, assisting with medical or surgical abortions, post-abortion care, and contraception services, as per the World Health Organization's recommendations for safe abortion care. Nurses have a diverse role in providing direct care to abortion patients, which includes gathering histories, doing physical exams, and considering reasons. They apply evidence-based research to deliver

competent, immediate treatment while reducing complications (Mohammed et al., 2022).

Significance of the study

Every year, around 73 million induced abortions occur across the world. Induced abortion occurs in three out of ten (29%) of all pregnancies and six out of ten (61%) of unexpected pregnancies (Truong et al., 2022). Unsafe abortions might be the result of subpar medical care. Unsafe abortions account for 8–13% of maternal deaths globally, making them a neglected health concern. There were an estimated 2,542 maternal fatalities in Egypt because of unsafe abortions. By 2030, maternal mortality rates are expected to drop from 216 to 70 per 100,000 live births, according to the Sustainable Development Goals (SDGs). To prevent maternal mortality from abortion, poor nations must enhance their healthcare systems (Gebremedhin et al., 2018).

As mentioned before, education is the key to changing people's habits, and the healthiest behaviors are those that adhere to educational planning and counseling. However, most of the post-abortion counseling does not address virtual client needs to manage other reproductive health behaviors; instead, it concentrates solely on post-abortion family planning (El-Kashif et al., 2020). There is also a need for additional research in post-abortion care, as there are few studies on the application of educational techniques of behavior modification in maternal health care. Therefore, the goal of the current study was to find out how women's reproductive health changed after legal abortion when an intervention based on the 5 A self-management model was implemented.

The aim of the study

To investigate the effect of the self-management model on rural women's reproductive health behaviors and their satisfaction after legal abortion is the study's goal.

Research hypotheses:

H1: After the self-management model is put into practice, it is expected that rural women will show higher levels of reproductive health behaviors than the control group.

H2: After the self-management model is put into practice, it is expected that rural women will be more satisfied with it than the control group.

Operational definitions:

Self-Management Model: an evidence-based, practical model designed to help rural aborted women change their health behavior and achieve self-management, as well as improve maternal outcomes. According to Mohammed et al. (2024), this paradigm comprises five steps: assess, advice, agree, assist, and arrange.

Reproductive Health Behaviors: it is referred to as the behavior related to the production of offspring and includes all aspects of post-abortion family planning counseling, sexually transmitted disease prevention, satisfactory sexual function and prevention of post-abortion complications (World Health Organization, 2017).

Method

Research Design: To accomplish the stated goal, this study employed a quasi-experimental research design with two groups (the study and control observed before and after interventions).

Research Settings: The investigation was carried out at Menoufia University's Hospital and Shebin El-Koom Teaching Hospital. The chosen hospitals represent a high attendance rate from the surrounding urban and rural areas and provide free services to public clients and provides care for women during pregnancy and labor, as well as for infertility and gynecological problems, in addition to family planning services.

Sample Type: For the study, a purposive sample was chosen.

Sample size: To fulfill the study's objectives, 140 rural aborted women satisfied the study's inclusion requirements and were included.

Sample size calculation:

The size of the sample calculation for this interventional study rendered 140 subjects (70 in each group) based on a 19.3 mean difference (the behavior's overall mean score was 107.42 ± 15.08 and 126.72 ± 3.01 at the two studied sessions prior to and two months following the intervention's start, respectively), with at least 80% power at a 95% two-sided significance level (Mirian et al., 2023).

The sample size calculation formula is

$$Z_{\alpha/2} + Z_{\beta})^2 \times \{2(\hat{\sigma})^2\} = n / (\mu_1 - \mu_2)^2.$$

n is the sample size.

μ_1 is the pretest mean.

μ_2 = mean at post-test

$\mu_1 - \mu_2$ = Mean difference between pre- and post-tests.

$\hat{\sigma}$ = standard deviation

$Z_{\alpha/2}$: Depending on the significance level, this is 1.96.

Z_{β} for 5%. Power determines this; for 80%, it is 0.84.

Rural women who have had one or more consecutive abortions, are free from medical and gynecological problems, and agree to participate in the study; attending all intervention sessions and completing follow-up are among the admission criteria.

Instruments for data collection:

Instrument I: A questionnaire for a structured interview: The researchers created this instrument after reviewing relevant literature to collect the socio-demographic data of the participating women and their medical history (Hammood et al., 2020). The following two components made up the instrument:

Part I: Socio-demographic information: It included age, education, occupation and marriage duration.

Part II: Previous obstetric history: It included parity, gravidity, number, time, type, cause of abortion, number of living children, and contraceptive use.

Instrument II: Reproductive health behavior questionnaire: It was adopted from Mirian et al. (2023) to investigate reproductive health behavior after abortion and the contribution of model sessions towards adopting these behaviors. It included four parts:

Part I: Post abortion Family Planning Counseling Questionnaire: It was adopted from Abdulreshid & Dadi (2020). Six variables were incorporated in the family planning counseling tool (GATHER approach): greet, ask, tell, aid, explain, and return. Included in the greeting were the following: treat the woman with decency and kindness, determine whether counseling is suitable at this time, and provide the required seclusion. The client's medical history, desired fertility, past family planning usage, interest in and worries about family planning, and the length of time she and her partner had lived together were among the questions that were asked. Inform them of all family planning options, inquire about existing knowledge, explain the method's efficacy, explain how it operates, and discuss any potential negative effects. Included in the assistance was assisting the women in selecting a suitable approach. Describe the following:

Describe possible adverse effects and what to do if the lady encounters any issues or side effects. Included in the return: Give the woman directions for a follow-up appointment and reassure her that she can attend the same clinic if she needs guidance or medical care. There are five categories for each item: never, seldom, sometimes, often, and always.

Part II: Sexually Transmitted Infections Prevention Questionnaire: It was adopted from Tran et al. (2021) to assess women's knowledge regarding prevention of STDs after abortion. It consisted of 7 questions, including types, signs and symptoms, risk factors, consequences of STDs, and methods of prevention of STDs after abortion). The knowledge was assessed as known items or correct item took score (2), and don't know/incorrect item took score (1).

Part III: Satisfactory Sexual Function Questionnaire: It was adopted from Abdulreshid & Dadi (2020). Based on a self-management concept, this self-report questionnaire is frequently used in clinical practice as a screening tool to assess female sexual function both before and after instructional sessions. It included questions concerning orgasm, lubrication, desire, arousal, satisfaction, and pain—the six areas of sexual health. There are five categories for each item: never, seldom, sometimes, often, and always.

Part IV: Practical observational checklist of prevention and management of post-abortion complications: It was adopted from Mohammed et al. (2022) to assess the nursing care provided for rural women after abortion. Emotional support, infection control measures throughout labor, nursing care for dilatation and curettage, pain management, fundal assessment and uterine massage, and instructions for discharge were all part of it. It also involved obtaining the woman's history and evaluating her general health. One point was awarded for each practice completed successfully; 0 points were awarded for each practice completed poorly or not at all.

Scoring system: The final score was added up and converted to a percentage, as $< 60\%$ was considered negative reproductive health behavior and $\geq 60\%$ was considered positive reproductive health behavior.

Instrument III. Patient Satisfaction Questionnaire: It was adopted from El-Kashif

et al., (2020). Women's satisfaction with self-management model sessions was evaluated using it. A "women's satisfaction tool" System of scoring: Complete satisfaction, slightly satisfied, neutral, relatively unsatisfied, and fully unsatisfied are the five possible responses on a 5-point Likert scale. These will be 5, 4, 3, 2, and 1 in turn. While lower scores (less than 60%) indicate discontent with the process, higher numbers ($\geq 60\%$) show more pleasure/ or satisfaction.

Validity and reliability: Five experts from the Maternal and Newborn Health Nursing department reviewed the content validity of the items before they were included in the study to make sure they were relevant, comprehensive, and clear. The panel's evaluation of the sentence's appropriateness and intelligibility indicated that changes were made by "rephrasing and canceling." Internal consistency (Cronbach's $\alpha=0.868$) was another metric used to assess the reproductive health behavior questionnaire's dependability. While Cronbach's α coefficient (0.75) is used to evaluate the reliability of the patient satisfaction tool.

Administrative Approvals: The study was accepted by Menoufia University's Faculty of Nursing's Committee of Research and Ethics in January 2023, number (922). The heads of the obstetric and gynecological inpatient departments and outpatient maternity clinics received an official letter from the dean of Menoufia University's Faculty of Nursing asking that the study be conducted. Official authorization to conduct the study was received from the directors of the settings.

Ethical Considerations: To obtain the women's approval to be recruited for the study and their participation, the researchers gave them an introduction and described the nature of the study's objective. The study also considered methods to ensure confidentiality and informed consent. After being told before registering for the study, all the women provided their informed consent. Every woman was made aware that her participation in the research was entirely voluntary and that she might end it at any time. Every woman had the option to voluntarily decline taking part. They were permitted to inquire about any aspect of the study.

Pilot study: To evaluate the instruments' viability and application and understandability, a pilot study was carried out. Based on the selection criteria, it was performed on 14 women, or 10% of the entire sample. Considering the pilot study's results, the researcher changed a few of the questions. To ensure the stability of the results and make the required adjustments, all the women who participated in the pilot study were not allowed to participate in the study.

Fieldwork: The study was implemented through four phases, including a preparatory phase, an interviewing phase, an implementation phase and an evaluation phase.

1- Phase of preparation: After reviewing the most recent advanced national and international literature about the study, the researcher set up the instruments for gathering data. Except for satisfaction tools, which were only used four weeks after the intervention, all data-collecting instruments used pre-intervention data and then data collected eight weeks later. The self-management model was used to establish the contents of the teaching sessions regarding reproductive health behavior following an abortion. Various instructional techniques were chosen and educational materials, such as booklets, PowerPoint presentations about family planning methods, sexual transmitted disease prevention and female sexual function were prepared.

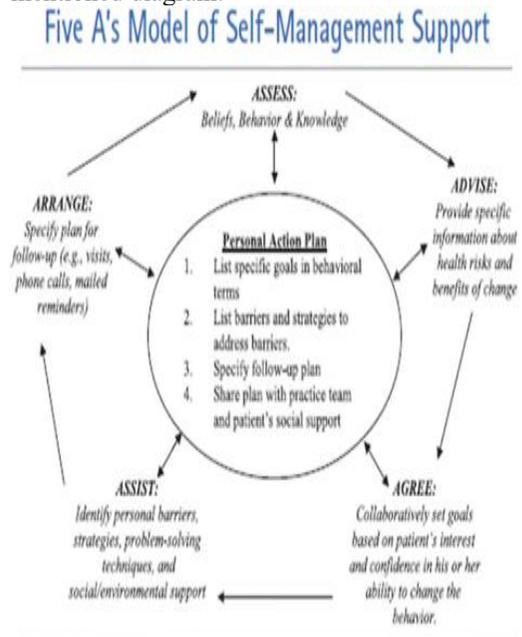
2- Interviewing phase: During this stage, the study group and the control group were interviewed by the researcher. The study was carried out following the control group's interview to prevent bias. On the first visit, the researchers gave a brief introduction and outline of the study's objectives. The researcher had to spend two months, from July to September of 2024, in the study location three days a week (Saturday, Monday, and Tuesday) from 9 to 1 pm to finish this phase. Six women with the previously stated sample criteria were questioned by the researcher each day based on their attendance sequences from the clinic registration book. Each interview took 20 to 30 minutes to complete after getting the participating women's informed permission and making sure they met the requirements for inclusion.

3-Planning phase: The instructional session content, which is based on the (5A') self-

management model, was created during this phase. The researchers first created educational sessions, and a post-abortion care booklet based on the requirements of women. The purpose of the booklet was to address women's post-abortion reproductive health behaviors and knowledge gaps. The booklet has colorful illustrations and figures throughout and is written in easy Arabic. It is divided into two chapters that cover abortion and reproductive health behavior, including post-abortion family planning counseling, sexually transmitted disease prevention, satisfying sexual function, and care and avoidance of problems following an abortion.

4-Implementation phase: (for the study group only):

An intervention based on the (5A') self-management paradigm was administered to the intervention group, and the implementation was conducted in five stages according to the mentioned diagram:



Slev et al. (2017). Online focus group research of nurses on eHealth and self-management support for patients and informal caregivers facing advanced cancer. *Palliative Care BMC*, 16, 1–12.

The initial stage (Assess): The research samples were evaluated at this stage according to their family planning history, medical history, and sociodemographic traits. Also, elements of reproductive health behavior were

assessed. Following an explanation of the study's purpose, one to three women (as a group) were interviewed one-on-one in person at this stage each day in accordance with the order of their arrival in the hospital registration book. After obtaining oral informed consent, the interview was held in a different location to protect study confidentiality. Each interview lasts for thirty minutes.

The second stage of the process (Advise):

Based on the information gathered in the preceding phase, the women were informed about elements of reproductive health behavior, which were represented in educational sessions. The researcher described the dangers of not practicing good reproductive health behaviors and the advantages of doing so, such as using family planning after an abortion, preventing STDs, adopting sexual function that is satisfactory, and practicing correct health habits after an abortion. Each participant received the instructions in plain language and through in-person interactions.

The third phase (Agree): This phase encompassed an agreement between rural aborted women and researchers regarding the selection of suitable behavioral goals and needs, considering the research samples' interests, as well as their readiness and capacity to behave better. Furthermore, the most critical educational requirements were the focus of educational interventions.

One week following the third stage of the research, **the fourth stage (Assist)** took place. Through three counseling sessions at University and Teaching Hospital outpatient clinics, the rural women who had abortions were given the instruction they needed regarding reproductive health behavior and its dimensions. The duration of each session will range between 30 and 45 minutes over a period of two weeks. The first teaching session was about general information regarding abortion as a definition, causes, signs and symptoms, types, diagnostic criteria, complication and treatment of abortion. The second teaching session concerned post-abortion family planning counseling using the GATHER approach and general information about STDs and their prevention after abortion. The third teaching session for the study group concerned a detailed description of the cycle of satisfactory sexual function and post-abortion discharge

plan. All participating women's phone numbers were gathered and incorporated into the assessment of intervention adherence for both the study group and the control group. The researchers used a PowerPoint presentation to emphasize certain points and facilitate knowledge acquisition. At the end of the counseling sessions for the study group, a booklet containing all materials about reproductive health behavior after abortion was given out to all participants.

The fifth stage (Arrange): During this phase, the reproductive health behaviors of the rural women who had abortions were observed to make sure the intended practical plans were carried out. To ensure that the rural aborted women performed the required action, telephone calls were made every day for the first two weeks, twice a week for the next two weeks, and once a week until the conclusion of the follow-up period. Participants were reminded to follow the guidelines for their intended behavior during these phone calls. Furthermore, every four weeks, participant progress was evaluated via phone calls, and the necessity of a referral was evaluated. Any necessary adjustments to the objectives or workable plan were decided upon. Furthermore, further education was given during the follow-up period if the participants needed it.

The control group's women were evaluated solely for their reproductive health behavior (pre-test) and got standard hospital care about abortion. The researchers did not intervene on their behalf. Each woman received a booklet about reproductive health behavior characteristics, and the researchers arranged for a post-test to be conducted over the phone or in the outpatient clinics two months later.

4-The evaluation phase: In this phase, instrument II was used to assess both groups' adherence to positive reproductive health through phone calls or in-person interviews two months following the intervention, but the patient's satisfaction tool was evaluated for four weeks' post-intervention using instrument III for the study and control group to assess patients' satisfaction toward (5A) self-management model sessions.

Statistical Analysis: SPSS version 25 was used to code and analyze the data. Descriptive statistics, including central tendency and

dispersion, were used to summarize the sample characteristics. The Kolmogorov-Smirnov test was conducted to check for normality. The research hypotheses were assessed using inferential statistics, such as independent t-tests and chi-square tests. A significant threshold of $p < 0.05$ was established.

Results:

The sociodemographic information for the groups under study is shown in Table 1. According to the table, 72.9% of the control group and 75.7% of the study group were in the 20-<30 age range. In terms of educational attainment, 50.0% of the control group and 57.1% of the study group were illiterate. Additionally, housewives made up 78.6% of the control group and 85.7% of the study group. Furthermore, 77.2% of the control group and 71.4% of the study group were married for less than five years or for two years.

The obstetric history of the groups under study is shown in Table 2. Regarding obstetric history, there is no statistically significant difference between the groups under study. In comparison to the control group, which had 34.2% of abortions, the study group had 42.9% of abortions, which is three times the number. Additionally, 85.8% of the control group and 85.7% of the research group had an abortion three months prior. Eighty-seven percent of the study group and eighty percent of the control group had known causes of abortion. Additionally, spontaneous abortions occurred in 78.6% and 80.0% of the study and control groups, respectively. Gravidity showed that 42.9% of the study group had two pregnancies, while 47.1% of the control group did the same. Otherwise, compared to 82.9% of the control group, 78.6% of the study group had given birth once. One live kid is present in 78.6% of the study group and 82.9% of the control group, respectively. Furthermore, 78.6% of the control group and 71.4% of the research group did not use any form of birth control.

The research and control groups' reproductive health behaviors regarding post abortion family planning counseling are shown in Table 3. Regarding reproductive health behavior toward post abortion family planning counseling prior to the intervention, there was no statistically significant difference among the participants in the study ($P > 0.05$); however,

there was a significant improvement in the post abortion family planning counseling score following the intervention, with a highly significant difference between the pre- and four-week post-implementation intervention scores ($P = < 0.000$).

Table 4 represents reproductive health behavior towards the sexually transmitted infections prevention in study and control groups. As demonstrated, there is a significant improvement in the reproductive health behavior toward the prevention of sexually transmitted infections following the intervention, with a highly statistically significant difference between the studied groups. Prior to the intervention, there was no statistically significant difference among the groups in terms of reproductive health behavior toward the prevention of sexually transmitted infections ($P > 0.05$).

Female sexual function in the study and control groups is shown in Table 5 both before and after instructional sessions based on the self-management paradigm. The table shows that following the self-management model-based teaching sessions, the study and control groups' female sexual function differed in a highly statistically significant way. Furthermore, there was no statistically significant difference between the study and control groups' pre-educational sessions in terms of female sexual function based on the self-management model ($P > 0.05$).

The nursing care given to rural women in the research and control groups for the prevention and treatment of post-abortion complications is shown in Table 6. It shows that following the self-management model-based educational sessions, there was a highly statistically significant difference ($P < 0.0001$) in the nursing care given to rural women for the prevention and management of post-abortion complications between the study and control groups. Furthermore, there was no statistically significant difference between the study and control groups' pre-educational sessions in terms of female sexual function based on the self-management model ($P > 0.05$).

The overall mean score for reproductive health behavior in research and control groups before and after the intervention is shown in Figure 1. It indicates that the study group's overall mean score for reproductive

health behavior was 51.48 ± 23.87 before the intervention and rose to 74.38 ± 21.38 after it. Additionally, that total mean reproductive health behavior score in the control group pre-intervention was 50.18 ± 22.82 and 48.64 ± 10.31 post-intervention.

The overall levels of reproductive health behavior in the study and control groups before and after the intervention are shown in Figure 2. It represents 87.1% of the study group that had positive reproductive health behavior post-intervention compared to 28.6 % pre-intervention. In addition, 28.2% of the control group had positive reproductive health behavior post-intervention compared to 30% pre-intervention. It supports the first research hypothesis.

Table 7 represents the level of satisfaction of the participants' four weeks' post intervention related to the self-management model. It illustrates that the degree of satisfaction with the self-management model eight weeks after the intervention was significantly different ($P < 0.001$).

Figure 3 represents total satisfaction categories for research and groups. 85.7% of the study group had greater satisfaction with model sessions four weeks after the intervention than the control group (14.3%). It supports the second research hypothesis.

Table 1: Sociodemographic Information for the Groups Under Study (n = 140)

Variables	The study participants (n=140)				X ²	P value
	Study group (n=70)		Control group(n=70)			
	No.	%	No.	%		
Age						
<20	3	4.3%	5	7.1%	0.538	>0.05 ^{ns}
20-<30	53	75.7%	51	72.9%		
30-40	14	20.0%	14	20.0%		
Level of education						
Illiterate	40	57.1%	35	50.0%	1.603	>0.05 ^{ns}
Primary school	15	21.4%	20	28.6%		
Secondary school	10	14.3%	8	11.4%		
University	5	7.2%	7	10.0%		
Occupation						
Housewife	60	85.7%	55	78.6%	1.217	>0.05 ^{ns}
Working	10	14.3%	15	21.4%		
Marriage's duration						
2-<5 years	50	71.4%	54	77.2%	0.598	>0.05 ^{ns}
5- 8 years	10	14.3%	8	11.4%		
>8 years	10	14.3%	8	11.4%		

N.B. ns means there was not statistically significant

Table 2: Distribution of the groups under study according to their obstetric history (n=140)

Variables	The study participants (n=140)				X ²	P value
	Study group (n=70)		Control group (n=70)			
	No.	%	No.	%		
Number of abortions						
One time	15	21.4%	16	22.9%	2.366	>0.05ns
Two times	20	28.6%	20	28.6%		
Three times	30	42.9%	24	34.2%		
>3	5	7.1%	10	14.3%		
Timing of abortion						
≤3 months	60	85.7%	60	85.8%	0.001	>0.05ns
>3 months	10	14.3%	10	14.2%		
Causes of abortion						
Known	60	85.7%	56	80.0%	0.805	>0.05ns
Unknown	10	14.3%	14	20.0%		
Types of abortion						
Spontaneous	55	78.6%	56	80.0%	0.043	>0.05ns
Induced	15	21.4%	14	20.0%		
Number of living children						
None	5	7.1%	3	4.3%	8.671	>0.05ns
One	55	78.6%	58	82.9%		
Two	5	7.1%	6	8.6%		
Three	4	5.8%	1	1.4%		
> three	1	1.4%	2	2.8%		
Gravidity						
Twice	30	42.9%	33	47.1%	1.201	>0.05ns
Three Times	30	42.9%	24	34.3%		
> 3	10	14.2%	13	18.6%		
Parity						
None	5	7.1%	3	4.3%	8.671	>0.05ns
Once	55	78.6%	58	82.9%		
Twice	5	7.1%	6	8.6%		
Three times	4	5.8%	1	1.4%		
>3	1	1.4%	2	2.8%		
Contraceptive use						
Yes	20	28.6%	15	21.4%	0.952	>0.05ns
No	50	71.4%	55	78.6%		

N.B. ns means there was not statistically significant

Table 3 Distribution of the Study and Control Groups under study according to Postabortion Family Planning Counseling in reproductive Health Behavior (n=140)

Variables	The study participants (n=140)								X ²	P value
	Study group (n=70)				Control group (n=70)					
	Pre		Post		Pre		Post			
	No.	%	No.	%	No.	%	No.	%		
Greet										
never	1	1.4%	2	2.9%	1	1.4%	2	2.9%	X ² 1 0.568	P value1 >0.05ns
rarely	39	55.7%	9	12.9%	41	58.6%	48	68.5%	X ² 2 54.466	P value2 ≤0.001**
sometimes	18	25.7%	8	11.4%	19	27.2%	10	14.3%		
Often	6	8.6%	21	30.0%	4	5.7%	4	5.7%		
always	6	8.6%	30	42.8%	5	7.1%	6	8.6%		
Ask										
never	8	11.4%	2	2.9%	10	14.3%	11	15.7%	X ² 1 0.844	P value1 >0.05ns
rarely	41	58.6%	3	4.3%	39	55.7%	43	61.4%	X ² 2 103.266	P value2 ≤0.001**
sometimes	8	11.4%	1	1.4%	6	8.6%	12	17.1%		
Often	6	8.6%	34	48.5%	8	11.4%	2	2.9%		
always	7	10.0%	30	42.9%	7	10.0%	2	2.9%		
Tell										
never	18	25.7%	2	2.9%	28	40.0%	11	15.7%	X ² 1 4.747	P value1 >0.05ns
rarely	26	37.2%	2	2.9%	20	28.6%	43	61.4%	X ² 2 103.674	P value2 ≤0.001**
sometimes	12	17.1%	2	2.9%	14	20.0%	12	17.1%		
Often	7	10.0%	30	42.8%	4	5.7%	2	2.9%		
always	7	10.0%	34	48.5%	4	5.7%	2	2.9%		
Help										
never	25	35.6%	2	2.9%	25	35.7%	34	48.6%		
rarely	20	28.6%	3	4.3%	24	34.3%	20	28.6%	X ² 1 1.484	P value1 >0.05ns
sometimes	9	12.9%	3	4.3%	10	14.3%	3	4.3%	X ² 2 73.449	P value2 ≤0.001**
Often	9	12.9%	32	45.6%	7	10.0%	5	7.1%		
always	7	10.0%	30	42.9%	4	5.7%	8	11.4%		
Explain										
never	5	7.1%	3	4.3%	13	18.6%	13	18.6%	X ² 1 5.837	P value1 >0.05ns
rarely	30	42.9%	4	5.7%	33	47.1%	33	47.1%	X ² 2 66.990	P value2 ≤0.001**
sometimes	15	21.4%	3	4.3%	10	14.3%	11	15.7%		
Often	11	15.7%	50	71.4%	7	10.0%	7	10.0%		
always	9	12.9%	10	14.3%	7	10.0%	6	8.6%		
Return										
never	18	25.7%	2	2.9%	28	40.0%	15	21.5%	X ² 1 4.747	P value1 >0.05ns
rarely	26	37.2%	2	2.9%	20	28.6%	40	57.2%	X ² 2 85.649	P value2 ≤0.001**
sometimes	12	17.1%	2	2.9%	14	20.0%	5	7.1%		
Often	7	10.0%	44	62.8%	4	5.7%	5	7.1%		
always	7	10.0%	20	28.5%	4	5.7%	5	7.1%		

N.B. ns means there were not statistically significant differences; ** means there were highly statistically significant differences; X²1 & P value1 means before the intervention, and X²2 & P value2 means after the intervention

Table 4: Distribution of the Study and Control Groups' reproductive Health Behavior for the Prevention of Sexually Transmitted Infections under study (n=140)

Variables	The study participants (n=140)								X ²	P value
	Study group (n=70)				Control group (n=70)					
	Pre		Post		Pre		Post			
	No	%	No	%	No	%	No	%		
Asks the women whether they are aware that STIs include HIV, genital herpes, hepatitis B, gonorrhea, syphilis, and chlamydia.										
know	55	78.6%	10	14.3%	57	81.4%	50	71.4%	X ² 1 0.179	Pvalue1>0.05ns
don't know	15	21.4%	60	85.7%	13	18.6%	20	28.6%	X ² 2 46.667	Pvalue2≤0.001* *
Itching, burning, a sense of discomfort around the external genitalia, diarrhea, vomiting, and genital discharge of any kind (mucous, cottage cheese-like, purulent, greenish, or stinky) are all indications or symptoms of sexually transmitted infections.										
know	60	85.7%	5	7.1%	57	81.4%	65	92.9%	X ² 1 0.468	P value1>0.05ns
don't know	10	14.3%	65	92.9%	13	18.6%	5	7.1%	X ² 2 102.857	P value2≤0.001**
Do you know that STI risk factors include multiple sexual partners, partners have multiple sexual partners										
know	65	92.9%	4	5.7%	60	85.7%	55	78.6%	X ² 1 1.867	P value1>0.05ns
don't know	5	7.1%	66	94.3%	10	14.3%	15	21.4%	X ² 2 76.196	P value2≤0.001**
PID, infertility, mother-to-child transmission (MCT), HIV, gonorrhea, syphilis, and cervical cancer (caused by the human papillomavirus) are among the consequences of STIs.										
know	52	74.3%	17	24.3%	50	71.4%	52	74.3%	X ² 1 0.144	P value1>0.05ns
don't know	18	25.7%	53	75.7%	20	28.6%	18	25.7%	X ² 2 35.007	P value2≤0.001**
Are you able to explain methods of prevention of STIs and health sexual styles										
know	53	75.7%	15	21.4%	52	74.3%	50	71.4%	X ² 1 0.038	P value1>0.05ns
don't know	17	24.3%	55	78.6%	18	25.7%	20	28.6%	X ² 2 35.179	P value2≤0.001**
Did you know that raw tissues (such as the uterine lining, cervix, vulva, or vagina) and unprotected intercourse make women at risk for STI infection just after an abortion?										
know	61	87.1%	15	21.4%	63	90.0%	60	85.7%	X ² 1 0.282	P value1>0.05ns
don't know	9	12.9%	55	78.6%	7	10.0%	10	14.3%	X ² 2 58.154	P value2≤0.001**
Can you explain why condoms are the only family planning method that can stop STI infections from spreading?										
know	61	87.1%	20	28.6%	63	90.0%	55	78.6%	X ² 1 0.282	P value1>0.05ns
don't know	9	12.9%	50	71.4%	7	10.0%	15	21.4%	X ² 2 35.179	P value2≤0.001**

N.B. ns means there were not statistically significant differences; ** means there were highly statistically significant differences; X²1 & P value1 means before the intervention, and X²2 & P value2 means after the intervention

Table 5: Distribution of Female Sexual Function in the Study and Control Groups regarding reproductive health behavior Prior to and Following Educational Sessions Based on the Self-Management Model(n=140)

Variables	The study participants (n=140)								X ²	P value
	Study group (n=70)				Control group (n=70)					
	Pre		Post		Pre		Post			
	No.	%	No.	%	No.	%	No.	%		
How frequently do you engage in sexual activity?										
never	1	1.4%	1	1.4%	2	2.9%	3	4.3%	X ² 1 4.709 X ² 2 69.544	P value1>0.05ns P value2≤0.001**
rarely	31	44.3%	2	2.9%	35	50.0%	30	42.8%		
sometimes	35	50.0%	2	2.9%	25	35.7%	20	28.6%		
often	1	1.4%	30	42.9%	4	5.7%	11	15.7%		
always	2	2.9%	35	49.9%	4	5.7%	6	8.6%		
How often do you desire to engage in sexual activity?										
never	20	28.6%	5	7.1%	15	21.4%	15	21.4%	X ² 1 23.333 X ² 2 54.033	P value1>0.05 P value2≤0.001**
rarely	25	35.7%	5	7.1%	27	38.6%	30	42.9%		
sometimes	15	21.4%	5	7.1%	18	25.7%	13	18.6%		
often	5	7.1%	35	50.0%	4	5.7%	8	11.4%		
always	5	7.1%	20	28.6%	6	8.6%	4	5.7%		
How often do you become sexually aroused?										
never	13	18.5%	5	7.1%	10	14.3%	9	12.9%	X ² 1 1.411 X ² 2 57.980	P value1>0.05ns P value2≤0.001**
rarely	49	70.0%	4	5.7%	50	71.4%	42	60.0%		
sometimes	2	2.9%	50	71.4%	4	5.7%	15	21.4%		
often	2	2.9%	9	12.9%	3	4.3%	1	1.4%		
always	4	5.7%	2	2.9%	3	4.3%	3	4.3%		
Do you have adequate vaginal lubrication during sexual activity?										
never	15	21.4%	5	7.1%	17	24.3%	15	21.4%	X ² 1 3.060 X ² 2 38.524	P value1>0.05ns P value2≤0.001**
rarely	15	21.4%	5	7.1%	20	28.6%	20	28.6%		
sometimes	20	28.6%	10	14.3%	21	30.0%	20	28.6%		
often	10	14.3%	20	28.6%	5	7.1%	10	14.3%		
always	10	14.3%	30	42.9%	7	10.0%	5	7.1%		
How often do you experience orgasm?										
never	20	28.6%	5	7.1%	25	35.7%	20	28.6%	X ² 1 2.894 X ² 2 33.484	P value1>0.05ns P value2≤0.001**
rarely	12	17.1%	5	7.1%	15	21.4%	17	24.2%		
sometimes	16	22.9%	10	14.4%	13	18.6%	16	22.9%		
often	8	11.4%	25	35.7%	9	12.9%	10	14.3%		
always	14	20.0%	25	35.7%	8	11.4%	7	10.0%		
How often do you have painful orgasms?										
never	3	4.3%	18	25.7%	2	2.9%	16	22.9%	X ² 1 6.357 X ² 2 3.061	P value1>0.05ns P value2≤0.001**
rarely	10	14.3%	25	35.7%	2	2.9%	21	30.0%		
sometimes	20	28.6%	13	18.6%	21	30.0%	10	14.3%		
often	17	24.2%	7	10.0%	20	28.5%	12	17.1%		
always	20	28.6%	7	10.0%	25	35.7%	11	15.7%		
How often do you engage in sexual thoughts (thinking about sex, sexual fantasies)?										
never	15	21.4%	19	27.1%	20	28.6%	17	24.3%	X ² 1 5.714 X ² 2 1.279	P value1>0.05ns P value2≤0.001**
rarely	20	28.6%	19	27.1%	28	40.0%	25	35.7%		
sometimes	15	21.4%	18	25.8%	12	17.2%	15	21.4%		
often	10	14.3%	7	10.0%	5	7.1%	7	10.0%		
always	10	14.3%	7	10.0%	5	7.1%	6	8.6%		

N.B. ns means there were not statistically significant differences; ** means there were highly statistically significant differences; X²1 & P value1 means before the intervention, and X²2 & P value2 means after the intervention

Table 6: Nursing Care for Rural Women in Study and Control Groups to Prevent and Manage Post-Abortion Complications (n=140)

Variables	The study participants (n=140)								X ²	Pvalue
	Study group (n=70)				Control group (n=70)					
	Pre		Post		Pre		Post			
	No.	%	No.	%	No.	%	No.	%		
Taking history and general assessments of women										
satisfactory	50	71.4%	15	21.4%	48	68.6%	50	71.4%	X ² 1 0.136	P value1≤0.001
unsatisfactory	20	28.6%	55	78.6%	22	31.4%	20	28.6%	X ² 2 35.179	P value2≤0.001**
Emotional support is provided										
satisfactory	55	78.6%	10	14.3%	14	20.0%	52	74.3%	X ² 1	P value1>0.05ns
unsatisfactory	15	21.4%	60	85.7%	56	80.0%	18	25.7%	48.038 X ² 2 51.067	P value2≤0.001**
Infection control at the labor sitting										
satisfactory	49	70.0%	17	24.3%	50	71.4%	50	71.4%	X ² 1 0.034	P value1>0.05ns
unsatisfactory	21	30.0%	53	75.7%	20	28.6%	20	28.6%	X ² 2 31.172	P value2≤0.001**
Fundal assessment and uterine massage										
satisfactory	42	60.0%	5	7.1%	45	64.3%	50	71.4%	X ² 1 0.273	P value1>0.05ns
unsatisfactory	28	40.0%	65	92.9%	25	35.7%	20	28.6%	X ² 2 60.642	P value2≤0.001**
Nursing care for D and C										
satisfactory	40	57.1%	15	21.4%	41	58.6%	52	74.3%	X ² 1 0.029	P
unsatisfactory	30	42.9%	55	78.6%	29	41.4%	18	25.7%	X ² 2 39.186	P value1 >0.05ns P value2≤0.001**
Pain management through pain medication if cramping is present										
satisfactory	40	57.1%	4	5.7%	45	64.3%	46	65.7%	X ² 1 0.749	P value1>0.05ns
unsatisfactory	30	42.9%	66	94.3%	25	35.7%	24	34.3%	X ² 2 54.880	P value2≤0.001**
Discharge instructions										
satisfactory	50	71.4%	5	7.1%	48	68.6%	50	71.4%	X ² 1 0.316	P value1>0.05ns
unsatisfactory	20	28.6%	65	92.9%	22	31.4%	20	28.6%	X ² 2 60.642	P value2≤0.001**

N.B. ns means there were not statistically significant differences; ** means there were highly statistically significant differences; X²1 & P value1 means before the intervention and X²2 & P value2 means after the intervention

Figure 1 shows the overall mean score for reproductive health behavior before and after intervention in the study and control groups.

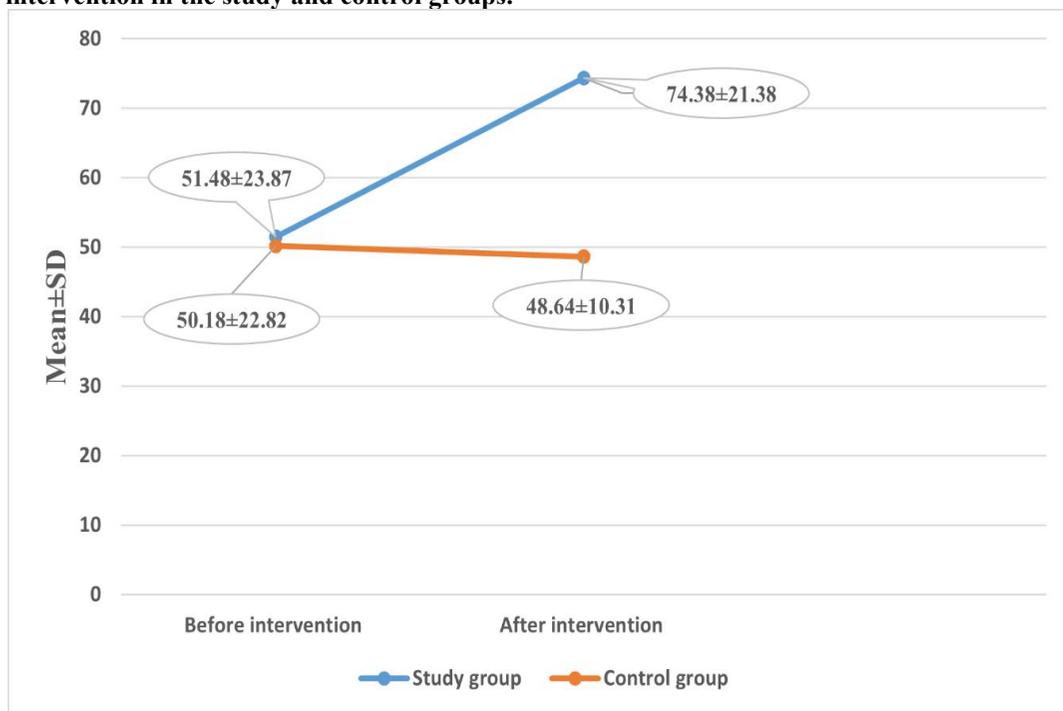


Figure 2: Pre- and post-intervention total levels of reproductive health behavior in the study and control groups

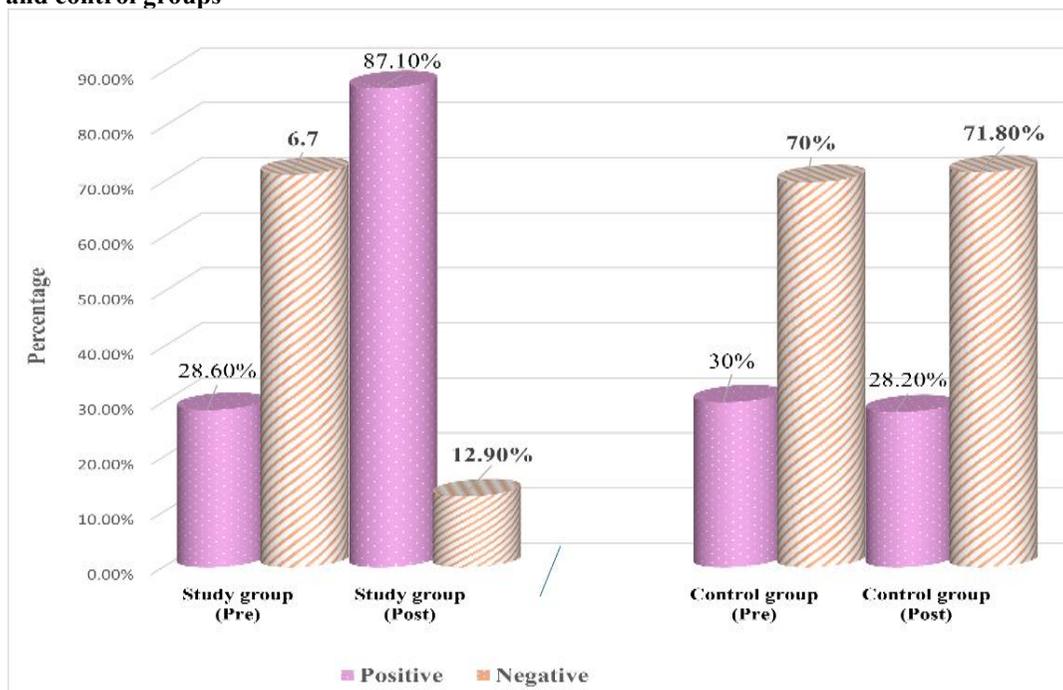
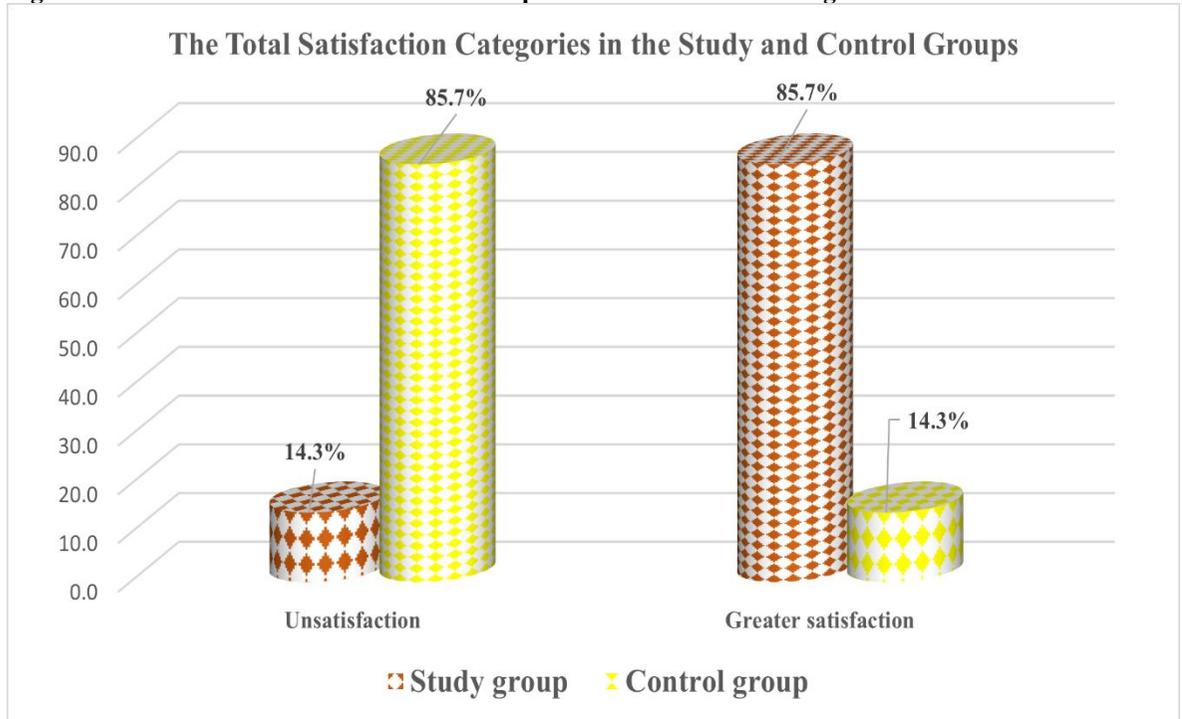


Table (7) Distribution of the Study and Control Groups' Level of satisfaction four weeks post-intervention related to self-management model (n=140)

Variables	Study group		Control group		X ²	P value
	No.	%	No.	%		
Post abortion intervention model sessions corrected misconceptions related to abortion						
completely unsatisfied	2	2.9%	30	42.9%	80.271	≤0.001**
relatively unsatisfied	3	4.3%	25	35.7%		
neutral	5	7.1%	5	7.1%		
somewhat satisfied	10	14.3%	5	7.1%		
complete satisfaction	50	71.4%	5	7.1%		
The post abortion intervention model sessions' language was clear, easy to understand, and effective.						
completely unsatisfied	5	7.1%	35	50.0%	84.013	≤0.001**
relatively unsatisfied	3	4.3%	25	35.7%		
neutral	3	4.3%	3	4.3%		
somewhat satisfied	4	5.7%	3	4.3%		
complete satisfaction	55	78.6%	4	5.7%		
The aim of the post abortion intervention model sessions matched their content.						
completely unsatisfied	2	2.9%	50	71.4%	104.399	≤0.001**
relatively unsatisfied	2	2.9%	10	14.3%		
neutral	3	4.3%	5	7.1%		
somewhat satisfied	3	4.3%	3	4.3%		
complete satisfaction	60	85.6%	2	2.9%		
The post-abortion intervention model sessions were conducted in a comfortable setting with adequate lighting and ventilation.						
completely unsatisfied	5	7.1%	45	64.3%	66.692	≤0.001**
relatively unsatisfied	5	7.1%	10	14.3%		
neutral	7	10.0%	5	7.1%		
somewhat satisfied	8	11.4%	5	7.1%		
complete satisfaction	45	64.4%	5	7.1%		
The number of participants was suitable for the place of training						
completely unsatisfied	6	8.6%	30	42.9%	45.213	≤0.001**
relatively unsatisfied	4	5.7%	10	14.3%		
neutral	4	5.7%	10	14.3%		
somewhat satisfied	9	12.9%	10	14.3%		
complete satisfaction	47	67.1%	10	14.3%		
The implemented post-abortion intervention model sessions contribute to the development and updating of patient's information regarding abortion						
completely unsatisfied	1	1.4%	40	57.1%	101.032	≤0.001**
relatively unsatisfied	3	4.3%	20	28.6%		
neutral	2	2.9%	3	4.3%		
somewhat satisfied	2	2.9%	3	4.3%		
complete satisfaction	62	88.5%	4	5.7%		
The session's schedule did not interfere with the hospital's working plan						
completely unsatisfied	5	7.1%	30	42.9%	58.857	≤0.001**
relatively unsatisfied	5	7.1%	20	28.6%		
neutral	10	14.3%	10	14.3%		
somewhat satisfied	5	7.1%	5	7.1%		
complete satisfaction	45	64.4%	5	7.1%		
It was suggested that post-abortion intervention model sessions be repeated in the future on a different patient and in different contexts.						
completely unsatisfied	4	5.7%	25	35.7%	58.381	≤0.001**
relatively unsatisfied	5	7.1%	25	35.7%		
neutral	10	14.3%	10	14.3%		
somewhat satisfied	10	14.3%	5	7.1%		
complete satisfaction	41	58.6%	5	7.1%		
The learning process is facilitated by instructional strategies and media.						
completely unsatisfied	2	2.9%	30	42.9%	76.391	≤0.001**
relatively unsatisfied	3	4.3%	25	35.7%		
neutral	10	14.3%	5	7.1%		
somewhat satisfied	5	7.1%	3	4.3%		
complete satisfaction	50	71.4%	7	10.0%		
Total mean satisfaction score	39.41± 9.73		17.51± 10.53		12.771	≤0.001**

Figure 3: The Intervention and Control Groups' Total Satisfaction Categories.

Discussion:

Abortion is considered a stressful and contentious issue globally (Ong et al., 2023). To foster an atmosphere where women and girls can seek safe, evidence-based abortion treatment without fear, it is helpful to spread accurate, fact-based information on sexual and reproductive health, including self-management techniques. Self-management model, which stands for assess, advise, agree, assist, and arrange, is essentially a series of behavioral interventions that support self-management among rural women with abortions (ZareMobini et al., 2022). So, the purpose of this study was to assess how a self-management approach affected the reproductive health practices of rural women and their satisfaction after legal abortion.

The current research's findings made it clear that regarding the socio-demographic data of the studied groups, most of the studied groups were at the age between 20 and < 30 years old because spontaneous abortion is linked to the physical, emotional, and social trauma that woman in this age group experience. These results are in line with a

study by Ibrahim et al. (2018) that assessed how family planning counseling affected post-abortion women's knowledge and use of contraceptive methods and reported that most women in the age group were twenty to thirty-five years resided in rural regions and housewives. Furthermore, this outcome is consistent with the findings of Eldabae et al. (2019), who investigated risk factors for spontaneous abortion at Assiut University's Woman's Health Hospital, who found that a high percentage of them were between twenty and thirty-five years old.

However, these findings contradicted those of Quenby et al. (2021), who studied the miscarriage matters: the epidemiological, physical, psychological, and economic costs of loss of pregnancy. This study claimed that a maternal age of more than thirty years was a threshold age for spontaneous abortion.

Regarding the studied women's educational level, the current research indicated that most of the studied groups were illiterate. The rationale for this outcome showed that a woman with poor levels of education is not aware of the significance of preconception care, prenatal care, family planning services, and

pregnancy warning signs and symptoms that can result in spontaneous abortion. This result is supported by Väisänen (2019 or 2015), who studied the relationship between education and induced abortion for three adult cohorts in Finland. According to population studies, women with only a basic education had a significantly higher chance of having an abortion than other women. This difference may be due in part to the fact that women with higher education levels have better access to family planning services.

This outcome is consistent with the findings of Jiang et al. (2023), who investigated the variables linked to spontaneous abortion in the Chinese population. The researchers discovered that the likelihood of spontaneous abortion was inversely correlated with educational achievement and said that women with lower levels of education were more likely to have preterm birth, stillbirth, and abortion in a study entitled "Pregnancy loss and risk of all-cause mortality in Chinese women: findings from the China Kadoorie biobank".

Regarding the studied women's occupations, the current research indicated that the studied groups were rural and most of them were housewives. It may be because rural women assist their husbands in their homes. They work long hours in the kitchen, standing for extended periods of time and lifting heavy goods. Abortion and brief exposure to high air pollution levels can result from this physical strain. It was linked to the use of farm equipment, and burning agricultural waste could contribute to air pollution in rural regions. Furthermore, this finding is consistent with that of Eldabae et al. (2019), who investigated risk factors for spontaneous abortion at Woman's Health Hospital, Assiut University. The researchers discovered that the majority of women who experienced spontaneous abortion were housewives and from rural regions. On the contrary, Park et al. (2017), who investigated the incidence of abortion and its negative consequences among Korean working women, found that working women are more likely to have an abortion than non-working women. Furthermore, Sulistyorini et al. (2023) found that spontaneous abortion was more common in urban than rural areas in the study named "Indonesian Women's Miscarriage

Probability by Socioeconomic, Demographic, and Health Factors."

The current study found a highly statistically significant difference between the groups under study before and eight weeks after the implementation of the intervention, indicating a significant improvement in the post-abortion family planning counseling score, which is the first dimension of reproductive health behavior. These results imply that to prevent over-reliance on abortion to prevent unintended pregnancies, post-abortion family planning counseling is a crucial component of comprehensive abortion care. The subsequent need for abortion can be decreased by providing contraceptive information, services, and referrals together with abortion services for unintended pregnancies.

These results are in line with a study by Ibrahim et al. (2018) that assessed how family planning counseling affected post-abortion women's knowledge and use of contraceptive methods in Egypt. Because post-abortion family planning counseling programs raise post-abortion women's awareness of when fertility returns, who found that women who received family planning counseling regarding the use of contraceptive methods after abortion used family planning considerably more than those in the non-counseling group.

Arshad et al.'s (2023) study also supports similar findings: "Improving safe post-abortion care practices: A study on interventions implemented by Ipas Pakistan." According to their findings, increasing access to post-abortion family planning counseling and safe post-abortion treatment may help lower the rate of unsafe abortions, unwanted pregnancies, and related maternal death.

The current research reported that there was a marked improvement in the reproductive health behavior towards the sexually transmitted infections prevention post-intervention. The lack of a national plan and healthcare facilities and lower educational attainment can all contribute to the low level of knowledge about STIs prior to the intervention in the current study. A high level of knowledge score after the intervention reflects the need for implementing educational programs as self-management initiatives to raise women's awareness of STIs and their preparedness for screening for them.

These findings are consistent with research conducted by Gaber & Abouelkomsan (2021) on the "An assessment of married women's knowledge of STDs in the Menoufia Governorate of Egypt." The findings revealed that many of the respondents answered less than half of the questions correctly, and this emphasizes the lack of knowledge among the studied females. The women might be engaging in sexual activity without accurate information, which would result in risky practice and adverse effects such as STDs and unwanted pregnancy. In addition, research by Amin et al., (2021) on "The Impact of Educational Intervention on a Sample of Egyptian Women's Knowledge and Attitudes Regarding STDs at the Primary Care Level." The findings concluded that there was a considerable improvement in the low levels of knowledge of STIs prior to the educational intervention.

Furthermore, an educational program based on the theory of planned behavior can successfully raise the scores of STD knowledge and attitude, according to a study by Shamsolahi et al. (2022 or 2021) on the impact of the program on married women's preventive behaviors of sexually transmitted diseases.

Regarding the satisfied sexual function, the present study discovered that women's overall scores on the female sexual function index significantly improved eight weeks following the use of the self-management model. These results demonstrate the efficacy of the current research intervention and may be utilized to support the study hypothesis.

These results align with a study by Golbabaei et al. (2022) that found that sexual performance was decreased in half of the women who experienced repeated pregnancy loss. Additionally, the majority of these women reported having less sexual desire, yet they had little trouble with vaginal lubrication. The study's findings support the necessity of referring women who experience repeated miscarriages to fertility clinics and offering them advice on sexual health. "Sexual Function in Women with Recurrent Pregnancy Loss" is the title of the study.

Additionally, a study by Basson & Gilks (2018) entitled "Women's sexual dysfunction associated with psychiatric

disorders and their treatment" found that women who had multiple induced abortions linked to depression reported a higher loss of sexual desire. The study was carried out in Italy.

In contrast, Pohjoranta et al. (2018) found that sexual well-being does not significantly change following pregnancy termination, and the Female Sexuality Questionnaire index did not change during the follow-up for their study on sexual well-being following first-trimester pregnancy termination. Its high and positive correlation with quality of life, relationship status, and frequency of sexual activity may help to explain these findings. Sexual well-being is inversely correlated with anxiety.

The findings of this study indicated that there was a statistically significant difference in the post-abortion care level before and after two months of the self-management model. These results were consistent with those of Mohammed et al. (2022), who found that in a study titled "Effectiveness of Implementing Evidence-Based Practices Guideline on Nurses' Performance Regarding Caring for Aborted Women," nurses' practices regarding abortion care significantly improved after applying evidence-based guidelines as compared to the pretest.

Furthermore, the current study was comparable to a study conducted by Ahmed (2018), which demonstrated that nurses' practices were significantly improved in the posttest compared to the pretest in terms of abortion care (care of admission and assessment, psychological care, client encouragement to ask questions, care on discharge and follow-up, client rest, and giving appropriate information).

The current study's findings, however, did not align with those of a study conducted in 2020 by Hammood, Kadhim, and Washeel on the "awareness of nurse midwives" toward post-miscarriage care at Bint Al-Huda Hospital in Al-Nasiriya City. The study found that nurses' performance in handling, assessing vaginal bleeding, providing emotional support, monitoring vital signs, explaining the patient's procedure, and hand washing was lacking. Since most of the nurses in this sample did not participate in any post-miscarriage education programs, they only perform well on three of

the ten performance criteria required for women's care following a miscarriage.

Furthermore, this outcome was consistent with El-Kashif et al.'s (2020) study entitled "Effect of Evidence-Based Counseling on Improving Rural Patients' Information, Health Behavior, and Their Satisfaction Regarding Habitual Abortion." The researchers revealed that most of the participants were satisfied with attending counseling sessions since they improved their misconceptions about healthy behavior. This was because the counseling sessions were conducted in person, which made it easy to correct participants' unhealthy behavior and misconceptions.

The intervention group's overall mean score for reproductive health behavior and its dimensions were noticeably higher than it was prior to the intervention two months after the intervention, according to the findings. The control group's overall mean score for behavior and its dimensions did not, however, alter significantly between the two periods. These results imply that the self-management training program significantly improved the intervention group's reproductive health-related behaviors.

These results were in line with those of Mirian et al. (2023), who found that volunteer women's reproductive health outcomes might be improved by self-management of abortion care and post-abortion sequelae. Furthermore, in a study titled "Effectiveness of self-managed abortion during the COVID-19 pandemic: Results from a pooled analysis of two prospective, observational cohort studies in Nigeria," Egwuatu et al. (2022) found that although self-management of abortion was effective, it was more effective when accompanied by support-advisory groups.

In their study "Self-managed abortion: a systematic scoping review," Moseson et al. (2020) found that volunteer women's reproductive health outcomes improved when they self-managed abortion care and post-abortion complications. The intervention group's reproductive health-related behaviors were more positively impacted by the self-management program based on the 5A's self-management model regarding abortion than the control group.

Conclusion:

The present study's results indicate that the 5A's self-management model is an effective self-care technique that prioritizes individual collaboration in fostering favorable reproductive health outcomes. Furthermore, the self-management model regarding legal abortion has a positive effect on reproductive health behaviors among rural women. This includes various domains such as post-abortion family planning counseling, sexually transmitted disease prevention, satisfactory sexual function and prevention of post-abortion complications. It supports the first research hypothesis. Additionally, the current research findings indicated that rural women exhibited a higher satisfaction level regarding the self-management model after application of the self-management program, confirming the second research hypothesis. Therefore, the findings of this research supported the research hypotheses.

Recommendations:

The following suggestions are made considering the current research findings:

- Create and put into action a post-abortion self-management program that is clinically appropriate and incorporated into rural women's normal practices for those who are having a legal abortion.
- As a crucial component of post-abortion treatment, family planning counseling services are advised and need to be expanded.
- The obstetrics department should create strategies, such as frequent training sessions and unique standardized methods booklets, to continuously increase rural women's satisfaction with post-abortion care.
- All rural women who have abortions at hospitals should receive a brief Arabic leaflet explaining the advantages of abortion self-management based on the 5 A's approach.

Suggestions for future studies:

- Maternity nurses and other healthcare workers should be equipped with a 5A's-based self-management program to update their knowledge about abortion management strategies.
- To generalize the study's results, more studies with large sample sizes and diverse geographic locations are required
- Additional research is required to assess the impact of self-management programs regarding rural women's quality of life after abortion.

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