

## Effectiveness of Prenatal Counseling Program on Childbirth Fear and Self-efficacy among Primigravidas

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### Abstract

**Background:** Fear of childbirth (FOC) is becoming more widely acknowledged as a critical psychological health issue among expectant mothers worldwide. **Aim:** To assess effectiveness of prenatal counseling program on improving childbirth fear and self-efficacy among primigravida women. **Design:** A pre- and post-test randomized controlled design with two groupings that are parallel was utilized. **Setting:** The research was conducted at the department of Obstetrics and Gynecology antenatal clinic at Damanhur Educational Hospital. **Subjects:** A purposive sample of 120 primigravidas was involved (60 in each group). **Tools:** Four tools were employed in the process of gathering data. **Tool (I)** Structured interviewing questionnaire, **Tool (II):** Wijma Delivery Expectancy/ Experience Questionnaire (WDEQ-A), **Tool (III)** Childbirth Self-Efficacy Inventory (CBSEI), **Tool (IV)** Childbirth preference. **Results:** The study group has lower childbirth fear with a mean of  $51.7 \pm 19.3$  compared to the control group mean of  $84.1 \pm 24.7$  and higher childbirth self-efficacy with a mean of  $247.9 \pm 26.6$  compared with the control group mean of  $213.8 \pm 32.8$ . **Conclusion:** There was an improvement in childbirth fear and childbirth self-efficacy among primigravidas following the counseling program that promoting preference of vaginal delivery over cesarean section. **Recommendations:** Prenatal counseling about labor and birthing process should be integrated into routine prenatal care among primigravidas.

**Keywords:** *Childbirth Fear, Prenatal Counseling Program, Primigravidas & Self-efficacy.*

### Introduction

Tokophobia or the fear of childbirth (FOC) is a disorder that impaired a pregnant woman's quality of life and is linked with feelings of limited capabilities in the face of childbirth. Although it is more common in primigravidas, it may also be associated with difficult past birth experiences. Depending on the definition and cutoff lines used in various studies applying the (W-DEQ) tool, the frequency of FOC varies between 5.5 and 26.2%. (Wahlbeck et al., 2020)

Pregnant women frequently experience tokophobia, or fear of childbirth, which can vary from a typical state to an intense or unhealthy fear. This is a socio-cultural health issue because women may become afraid after witnessing the birth experiences of others (friends or relatives, for example). Furthermore, it may have an effect on the ability of women to conceive and give birth. Some causes of fear include childhood trauma or previous experiences with sexual abuse, which makes them avoid getting pregnant and

giving birth even though they want a child. (Nguyen et al., 2021).

Primigravidas frequently experience FOC, which adversely affects the entire birthing process. According to studies, unchecked fear of delivery may lead to the need for an emergency or elective caesarean delivery, as well as the need for intervention during vaginal delivery. Fear of giving birth can lead to painful and prolonged labor. Fear of giving birth has been connected to unfavorable outcomes for mothers, such as high rates of caesarean sections and poor mental health after giving birth. If appropriate steps are not taken, women who experience severe anxiety during childbirth may come to believe that a caesarean section is their only option. (Çankaya & Şimşek, 2021)

The "childbirth self-efficacy" describes a pregnant women's beliefs in her ability to cope with labor stress. Research indicates that self-efficacy during childbirth is essential to determine how women

perceive labor pain and the whole delivery experience. (Simon et al., 2024).

Self-efficacy is an important part of childbirth, since self-efficacy impacts a woman's pain perception during labor and may lessen delivery fear. Self-efficacy during childbirth can encourage the woman to cope with childbirth, enabling the delivery to proceed as anticipated. Women with low self-efficacy felt anxious as well as nervous, significantly extended the procedure and increased suffering for both the woman and the fetus. (Dwiarini, 2022). High self-efficacy can reduce delivery fear, labor length and the need for pain medication. Women with a strong sense of self-efficacy were more likely to attempt vaginal birth. (Shakarami et al., 2021).

Usually, labor rooms are unfamiliar places where pregnant women must deal with the childbirth procedure. Fear of childbirth and low self-efficacy may be linked to this, making pregnant women doubt their capacity to handle labor. (AlSomali et al., 2023). Reduced self-efficacy and greater levels of fear of childbirth are common among Primigravida women compared to multiparous women. (Huang et al., 2024).

Prenatal counseling and educational programs are essential in promoting positive birth experiences by addressing fears and enhancing self-efficacy levels among expectant mothers. (Demirci et al., 2021). In the same context, Beydokhti et al. (2021) stated that antenatal counseling is beneficial in lowering the degree of anxiety and fear related to birthing and may raise the first time mothers' efficacy, as demonstrated by the results of five studies.

In a meta-analysis were conducted by Alizadeh-Dibazari et al., (2023) eighteen studies were analyzed to assess the influences of prenatal training on the severity of pain, childbirth anxiety, postpartum depression, and the general perception of childbirth. The results of the study showed that prenatal instruction was useful in lowering labor pain, postpartum depression risk, and dread of becoming pregnant. Additionally, Khan et al. (2023) found that prenatal education and counseling helped reduce mother anxiety by educating mothers and helping them create coping mechanisms.

The nurse has important role in decreasing childbirth fear and anxiety through providing calm and reassuring presence to offer psychological support, paying attention, and comprehending the worries of expectant mothers. Via making the experience more comfortable and manageable, the nurse can help lessen fear and anxiety by giving thorough and understandable information about the pregnancy and delivery process. In addition, a nurse during pregnancy and labor can help ease tension and stress by educating relaxation techniques like breathing

deeply, doing meditation, or visualizing. Additionally, the nurse is able to assist women feel more at ease and relaxed by helping with pain management during pregnancy and labor. Additionally, by creating an accepting and quiet setting delivery room, the nurse can assist in reduce anxiety and stress during the birthing procedure (Durmishi, 2024). In the line with Bilgin et al. (2024) stated that, role of nurse in strengthening social support and addressing factors like fear and anxiety during antenatal care is crucial in enhancing primigravida women's self-efficacy during labor and lowering their dread of it.

### Significant of the study

A key goal for all healthcare systems is to lower the number of caesarean sections and raise the quantity of normal vaginal births. According to a report, 48.2% of first-time pregnant women report having severe fear of childbirth and 62.6% of them want to give birth via caesarean section. These results are consistent with research conducted in other nations showing that fear of birthing plays a significant role in a woman's decision to give birth by caesarean section. (Webb et al., 2021). A comprehensive analysis revealing a worldwide prevalence of severe FOC of 6–10%. (Zhou et al., 2021). Furthermore, a recent research done in Egypt by (Elsharkawy, et al., 2024) reported that, FOC was found in 70.4% of women, ranging from mild to severe, with 11.3% of women exhibiting severe FOC.

Fear of childbirth is linked to challenges during delivery, difficulties adjusting psychologically after birth, and a preference for caesarean sections. Depression, anxiety, and PTSD following delivery may all result from fear of childbirth. It might also have an effect on the mother-child bond, raising the possibility of an early or underweight delivery (Lestari et al., 2023). How well-aware a pregnant woman is about childbirth is a major factor in how she handles her labor pains and her fear of giving birth. (Simon et al., 2024)

Therefore, effective interventions are needed to deal with the FOC and enhance self-efficacy to promote preference of vaginal delivery.

### Study aim

To assess effectiveness of prenatal counseling program on childbirth fear and self-efficacy among primigravidas.

### Research Hypothesis

**H0:** There was no effect of prenatal counseling program on fear of childbirth and self-efficacy among primigravidas.

**H1:** Primigravidas who participate in the prenatal counseling program will expected to have lower

scores in childbirth fear compared to the control group.

**H2:** Primigravidas who participate in the prenatal counseling will expected to have higher scores in childbirth self-efficacy compared to the control group.

**H3:** Primigravidas who participate in the prenatal counseling will expected to prefer vaginal delivery compared to the control group.

## Methods

### Research design

Randomized controlled study with pre- and post-test design was applied in this research, with a control group and a parallel group receiving prenatal counseling. In order to measure the impact of prenatal counseling on FOC and self-efficacy, a parallel group, single-blind, randomized controlled study was conducted. Women didn't know which group they were assigned to it. Using a list of code numbers, an external person who was not a member of the research team was in charge of randomly assigning numbers; even numbers were assigned to the control group while odd numbers to the experimental group. Single-blind A type of clinical trial in which only the researcher doing the study knows which treatment or intervention the participant is receiving until the trial is over. A single-blind study makes results of the study less likely to be biased. This means that the results are less likely to be affected by factors that are not related to the treatment or intervention being tested.

### Setting

This research was carried out at the Obstetrics and Gynecology department, antenatal clinic at damanhur educational hospital, which is affiliated to the Ministry of Health in Egypt's Elbehira Governorate. This hospital was chosen specifically due to its large capacity in serving damanhur City and its surrounding areas, meeting the criteria set forth by the study.

### Sample

A purposive sample of 120 primigravidas was chosen to be a part of the research. They were divided randomly into two groups: 60 in the study group and 60 in the control group. Prenatal counseling was provided to the study group, while the control group received routine prenatal care only. Using the Epi-info statistical package, version 7.2, created by the Centre for Disease Control and Prevention (CDC), with 80 % power was used to determine the sample size. 2.5 values were chosen as the precision (D) permissible limit at 95% confidence level (CI), with an anticipated frequency of 10% and a worst acceptable prevalence of 25%.

### Inclusion criteria:

1. Primigravidas without mental illness and with a low-risk pregnancy to control several variables that could influence childbirth fear level.
2. 2-Between 20 to 28 weeks of gestation.

### Exclusion criteria:

Women who had history of infertility.

### Tools

**Four tools were utilized to collect information:**

**First tool: A structured questionnaire for interviews: It had two components.**

**Part 1:** It included personal data as the women's age, place of residence, degree of education, and occupation.

**Part 2:** It covered the women's obstetric data as gestational age, antenatal care attendance, sources of knowledge about labor and birth

**Second tool: Wijma Delivery Expectancy Questionnaire (W-DEQ)**

It was created by Wijma et al., (1998) and adopted by the researchers to evaluate the fears expectant women have regarding childbirth. The W-DEQ questionnaire consisted of 33 items as how do you think your labour and delivery will turn out as a whole? , What do you think you will feel during the labour and delivery? What do you think will happen when labour is most intense? , each evaluated using a Likert scale with six points from 0 (strongly agree) to 5 (strongly disagree). Points on the questionnaire vary from 0 to 165, with greater scores signifying increased fear about childbirth. A score of 66 or above suggests a significant fear of childbirth. Women are instructed to respond to the questions while imagining the process of labor and delivery and how they anticipate it will feel. Scores are assigned to items 2-4, 7-8, 11-12, 15,-19, 20,-24, 25-27, and 31. In reverse.

### Scoring system:

The level of childbirth fear was categorized as:

Low FOC:  $\leq 37$  Moderate: 38 to 65 High: 66 to 84 Severe:  $\geq 85$  (Alemu et al., 2024).

**Third tool: Childbirth self-efficacy inventory scale short form**

A condensed version was created by Ip et al. (2008) and adopted by the researchers in order to measure self-efficacy during childbirth. The two sub-dimensions of this scale are efficacy and outcome expectations. Every subscale had sixteen entries as Knowing that contractions are there and be ready for them, Use breathing during contraction, Think about relaxing. Depending on the scale's sub-dimensions, the lowest possible value is 16, and the highest possible value is 160. Pregnant women who had high score in each sub-dimensions are likely to have high expectation for both efficacy and outcome. Scores on the Likert scale has a range of 1 to 10. The outcome expectation sub-dimensions on the scale ranges from

1 (meaning "not helpful at all") to 10 (meaning "very useful"). Within the efficacy subscale, the first 13 items have a 1 indicating "completely confident" and a 10 indicating "not sure at all".

#### **Fourth tool: Childbirth preference**

It was created by researchers and evaluated using the following query: "What is your preferred method of childbirth? A) Vaginal delivery, B) caesarean section, and C) not decided. (Çankaya& Şimşek , 2021)

#### **Tools validity and reliability**

A panel of five professionals in the field of obstetrics & gynecology nursing, community health nursing as well as psychiatric & mental health nursing assessed the content validity of study tools. Cronbach's Alpha was utilized to evaluate the internal consistency of the tools. It was 0.89 for tool II and 0.9 for tool III.

#### **Ethical consideration:**

The Damnhur University Faculty of Nursing's Research Ethics Committee approved the study. With Code no. 93c .The manager of Damnhur University Hospital's antenatal Clinic provided his official consent. Women were told about the study's goal and nature prior to data collection. They should give written consent to participate in the study after knowing about its objective. They were informed that the data would remain secret also utilized solely for study intents. They were told that they were allowed to leave the research at any moment and that participation was entirely voluntary.

#### **Pilot study:**

It was carried out on 10% of the whole sample (12women) in order to assess the clarity and applicability of the questionnaire. Tools remained unchanged, so the pilot sample was incorporated into the whole sample.

#### **Field work:**

Data Collection of the study took about 6 months started at the beginning of January 2024 and was completed by the end of June 2024.It involved the following phases

#### **Planning phase:**

Researchers designed the counseling program and research methods during this phase based on a review of relevant literature. The aim of this counseling program was to provide women with information about normal labor to decrease their FOC and enhance their efficacy. The sessions' number, women's number in each session, the location, and the sessions' times were all determined. Additionally, teaching methods and materials were planned during this phase.

#### **Assessment phase.**

In this phase, the researchers assessed FOC and self-efficacy using **the W-DEQ** and the Childbirth Self-efficacy Inventory Scale for both groups. Furthermore, the researcher filled &completed the

tools and took care to simplify the questions so that they were understandable to women. Additionally, the researchers provided explanations whenever questions arose. The time spent filling out the questionnaire ranged from 35 to 45 minutes.

#### **Implementation phase:**

During this phase, the study group underwent counseling, while the control group received standard antenatal care. The researchers divided patients into six sub-groups, each of which included 10 patients. During the beginning of each session .The researchers gave a brief introduction; explain the goal and content of each session. A written consent to participate in the study was taken from the women. The counseling sessions were conducted in the antenatal clinic's waiting room. The program consisted of six sessions, each including a teaching component with pre-designed training materials in Arabic. The researchers delivered the curriculum to each group of women in the same manner, with each session lasting between 25 and 35 minutes. Participants were provided with an overview of the session objectives at the beginning of each session. Counseling sessions involved the distribution of leaflets, as well as hands-on materials. Each session concluded with feedback from the participants. Instructional methods during the program implementation included lectures, discussions, as well as the use of images, films, and posters for supplemental learning.

#### **The counseling sessions:**

**1<sup>st</sup> Session:** Welcome, introduction, goal clarification, open communication for acknowledgement, group integration, and the amount of time allocated for intervention sessions were all covered in the first session. The women are also being reminded to uphold the confidentiality of the research information, importance of adherence to meeting dates and times, and finishing all tasks assigned during each session.

**2<sup>nd</sup> Session:** The second session covered questionnaire completion, an overview of different birthing philosophies, discussing feelings and ideas regarding childbirth, identifying and recognizing birth-related feelings, birth fear dynamics, and figuring out the source of birth fear. .

**3<sup>rd</sup> Session:** Describing the neuroendocrine effects of birth fear on childbirth, providing a positive birthing experience free from fear of childbirth, role-playing, visualizing childbirth, and practicing mental control over the body.

**4<sup>th</sup> Session:** Recognizing labor symptoms, the medical practices used throughout labor, the roles that hormones play in labor, as well as coping mechanisms including (deep breathing exercise, mindfulness stress reduction, massage, meditation).

**5<sup>th</sup> Session:** Development of adaptability skills for becoming pregnant and having children (exercise



demonstration), mental and physical preparation for giving birth (diet and exercise), applications of exercises that prime the body for delivery, and practical applications of progressive relaxation techniques that can be employed during delivery and training the women to think more positively instead of negative thoughts and to avoid overestimating the risks associated with childbirth.

**6<sup>th</sup> Session:** Closing: Once the study participants were thanked for their cooperation, the researchers held an open discussion to learn the women's opinions about counseling sessions. Furthermore, concluding the sessions. Every expectant mother documented her program experience and the ways it changed her outlook on life. Every message was regarded as positive and demonstrated the program's psychological and physical efficacy.

**Evaluation phase:**

To assess the effectiveness of the prenatal counseling program on improving the childbirth fear level and self-efficacy of the women, a post-test was conducted four weeks after prenatal counseling using the same tools for both groups through phone calls.

**Statistical analysis of data**

Using computer software, the Statistical Package for Social Studies (SPSS) version 27, data entry and statistical analysis were performed. Suitable descriptive statistics have been used for quantitative variables, such as frequencies, and percentages for qualitative variables, means, and standard deviations. Chi-square test and student t-test were used to compare the variables between two groups. To estimate the proximity association between variables, the correlation coefficient (r) test was used. Statistical significance was considered at p-value <0.05 for all the tests used.

**Results**

**Table (1): Frequency Distribution of Studied Women Regarding to Personal Data in both groups (N=120):**

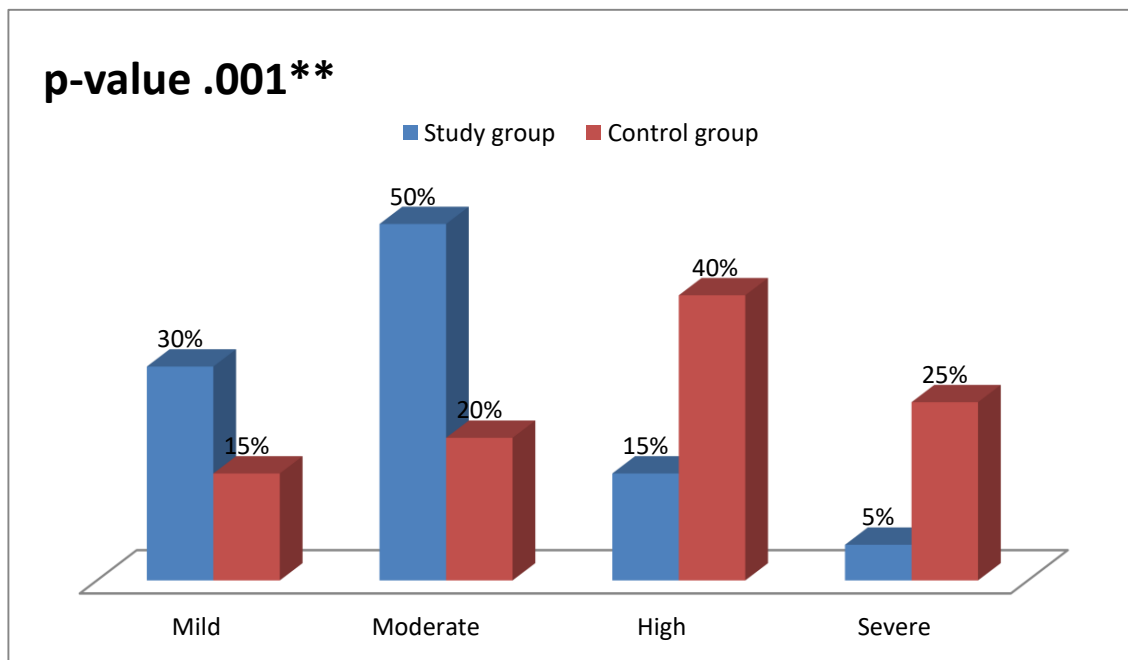
Variable	Study (N=60)		Control (N=60)		p-value
	No.	%	No.	%	
<b>Age</b>					0.127
<b>M ± SD</b>	30.96 ±5.367		29.22±5.911		
<b>Residence</b>					.836
▪ Urban	22	36.6	23	38.3	
▪ Rural	38	63.4	37	61.7	
<b>Education</b>					.027
▪ Read and write	1	1.7	1	1.7	
▪ Basic education	4	6.6	18	30	
▪ Secondary	36	60	27	45	
▪ University	19	31.7	14	23.3	
<b>Working status</b>					.517
▪ Employed	40	66.7	43	71.7	
▪ Unemployed	20	33.3	17	28.3	

**Table (2): Frequency Distribution of Studied Women according to Obstetrical Data (N=120):**

Obstetric Variables	Study group (N=60)		Control group(N=60)		p-value
	No.	%	No.	%	
<b>Gestational age</b>					0.265
<b>Mean ± SD/ weeks</b>	30.7 (5.6)		31.7 (4.8)		
<b>Do you have regular antenatal care</b>					.123
Yes	47	78.3	49	81.7	
No	13	21.7	11	18.3	
<b>How many antenatal visits from beginning of the pregnancy</b>					.123
1-3 visits	47	78.3	49	81.7	
4 or more visits	13	21.7	11	18.3	
<b>Primary source of knowledge regarding labor and birth</b>					.211
Websites	4	6.7	3	5	
Social media	37	61.7	35	58.3	
Relatives and friends	11	18.3	12	20	
Health care provider	8	13.3	10	16.7	

**Table (3): Mean and Standard deviation of Childbirth Fear of both groups in pre- and post-program intervention (N=120):**

Childbirth fear	Study (N=60)	Control (N=60)	p-value
	M± SD	M± SD	
Before intervention	76.4 ±15.9	74.1±15.7	.453
After intervention	51.7±19.3	84.1±24.7	.001**



**Figure (1): Total Childbirth fear levels in the study and control groups after prenatal counseling**

**Table (4): Mean and Standard deviation of Childbirth Self-efficacy of both groups in pre and post program intervention (N=120):**

Childbirth self-efficacy		Study (N=60)	Control (N= 60)	p-value
		M± SD	M± SD	
Before intervention	Outcome expectancy	131.2±22.5	134.6 ±17.2	.360
	Efficacy expectancy	89.6±31.2	90.7 ±28.7	.984
	Total self-efficacy	220.8 ±43.6	225.3± 32.9	.623
After intervention	Outcome expectancy	147.3±10.5	128.6 ±19.2	.001**
	Efficacy expectancy	100.6±24.7	85.7 ±27	.002**
	Total self-efficacy	247.9±26.6	213.8± 32.8	.001**

**Table (5): Preferred Mode of Delivery in the studied women of both group (N=120)**

			Study (N=60)		Control (N=60)		P-value
			NO.	%	NO.	%	
Preferred type of delivery	Pre intervention	Vaginal	15	25	17	28.3	0.839
		Cesarean	22	36.7	24	40	
		Un decided	23	38.3	19	31.7	
	Post intervention	Vaginal	38	63.3	19	31.7	0.001**
		Cesarean	17	28.3	29	48.3	
		Un decided	5	8.4	12	20	

**Table (6): Correlation between Childbirth fear scores and Childbirth Self-efficacy scores before intervention (N=120)**

		Childbirth fear	Child birth self-efficacy
Childbirth fear	R	1	-.940
	P-		.000**
Childbirth self-efficacy	R		1
	P-		

**Table (1):** Illustrates the personal data for both groups. Regarding personal data, an analysis of two groups revealed no statistically significant differences. The study group's mean age was  $30.96 \pm 5.367$ , while the control group was  $29.22 \pm 5.91$ . In the study group, the women lived in rural areas at a rate of 63.4% and 61.7%, respectively. In terms of education, 60% and 45% both the research and control groups' female participants, respectively, are secondary school graduates. Conversely, 66.7% and 71.7% of the female participants in the study and control groups, respectively, are workers.

**Table (2):** Shows the obstetrical data for both groups. It finds that the mean of gestational age was  $30.96 \pm 5.367$  and  $29.22 \pm 5.911$  in the study and control group respectively. Regarding antenatal care visits 78.3% and 81.7% of the study and the control group respectively regularly attend prenatal care and had four or more prenatal visits. Conversely, social media was the primary source of information about labor and delivery for the study group as well as the control group (61.7% and 58.3%, respectively), followed by friends and family (18.3% and 20% respectively).

**Table (3):** Clarifies fear of childbirth's mean and standard deviation before and after program in the two groups. there is no statistically significant difference in both group's fear of childbirth before program with p-value .453, while after intervention there is significant statistical difference between both groups with  $p = 0.001$ , where the study group has lower childbirth fear with a mean of  $51.7 \pm 19.3$  compared to the control group mean of  $84.1 \pm 24.7$ .

**Figure (1):** Total Childbirth fear levels in control and the study groups after intervention, It reveals a highly significant statistical difference between both groups with  $p = 0.001$ .

**Table (4):** Clarifies mean and standard deviation of childbirth self-efficacy dimensions before and after program in both groups. It reveals no significant statistical difference between the control and study groups in relation to childbirth self-efficacy before intervention with p-value .623, while after intervention there is highly statistical significant difference between the two groups with  $p = 0.001$ , where after intervention, the study group has higher childbirth self-efficacy with a mean of  $247.9 \pm 26.6$

compared with the control group mean of  $213.8 \pm 32.8$ .

**Table (5):** Displays preferred mode of delivery in the control and the study group. It reveals that, there is no statistically significant difference before intervention with p-value 839. However there is considerable statistical significance in the difference between the two groups after intervention, with p-value 001. Where the greatest proportion of the both groups preferred Cs before prenatal counseling (36.7% , 40%) respectively , while the highest percentage of the study group preferred vaginal delivery after prenatal counseling 63.3% compared to 31.7 % in the control group.

**Table (6):** Demonstrates the correlation between total child birth fear score and total child birth self-efficacy score before intervention and it reveals a negative significant correlation between total child birth fear score and total child birth self-efficacy score with  $r = (-.940)$  and p-value (.000) .

## Discussion

Fear of childbirth (FOC) is a term used to describe unfavorable beliefs that a mother may have during her pregnancy, during childbirth, and after childbirth. FOC is especially common in primigravidas. Fear of giving birth can influence a primigravida's choice of delivery method and whether or not to request an elective caesarean section when there are no medical reasons to do so. There aren't many studies in this field. Consequently, this research was made to assess effectiveness of prenatal counseling program on improving childbirth fear and self-efficacy among primigravida women.

Regarding childbirth fear between the intervention and control groups, the current investigation didn't find any statistically significant differences prior to prenatal counseling. However, following prenatal counseling, the study group experienced diminished mean childbirth fear than the control group, with a high significant difference between the two groups. This result was consistent with **Eleke et al., (2023)** who asserted that the study group's FOC differed significantly from that of the control group; in a research carried out to assess impact of prenatal group discussions on expectant mothers' anxiety about giving birth in a tertiary hospital in Nigeria.

Also **Mousavi et al., (2021)** who found that, after receiving prenatal counseling the research participants demonstrated a notable reduction in the childbirth fear in contrast to the group under control; in a research study performed to assess "the effect of supportive group therapy on pregnant women's fear of giving birth". Similarly, **Ghaffari et al., (2022)** who reported that after midwifery-led counseling, the experimental group exhibited a noteworthy diminished in FOC in contrast to the group under control; in a study conducted to evaluate a smartphone-based randomized controlled trial examined the impact of midwifery-led counseling on expectant fathers' anxiety about giving birth.

Additionally, supported with **Rúger-Navarrete et al., (2023)** who reported that the study group, with prenatal counseling, showed reduced of childbirth fear compared to the control group, leading to a potentially improved childbirth experience; in a study entitled as "childbirth fear during pregnancy as a risk factor for an unpleasant birthing experience".

The previous current findings highlighted the value of prenatal counseling for lowering fear during childbirth, emphasizing the importance of such interventions in improving the childbirth experience since prenatal counseling helps expectant mothers understand the birthing process better. This can alleviate anxiety and build confidence, making them feel more prepared and less fearful about childbirth.

Regarding the childbirth self-efficacy, the present research results reveal no statistically significant differences prior to the intervention, but there was an extremely considerable variation between the control and study groups following the intervention, with the experimental group having elevated degrees of of childbirth self-efficacy than the control group. Researches carried out by **Ishrat et al., (2023)**, **Wanyonyi et al., (2023)** **AlSomali et al.,(2023)**, & **Frankham et al., (2024)** all focused on assessing the impact of prenatal counseling and education on childbirth self-efficacy. The results consistently indicated that women who received prenatal counseling had significantly elevated degrees of childbirth self-efficacy compared to those who obtained routine medical care. Specifically, the intervention groups in these studies demonstrated increased self-efficacy scores post-intervention, indicating a positive effect of prenatal counseling on maternal confidence in coping with childbirth. These findings highlight the importance of programs for regular prenatal education in enhancing maternal self-efficacy and preparing women for the challenges of labor and delivery.

These findings can be explained as prenatal counseling enhances childbirth self-efficacy by equipping expectant mothers with essential

knowledge, coping strategies, and emotional support. Through comprehensive education on the stages of labor and pain management techniques, women gain a clearer understanding of what to expect, reducing the fear and increasing their self-efficacy.

Concerning the preferred mode of delivery, the current findings revealed no statistical significant difference between both groups before intervention while, following the intervention there was a highly statistically significant difference between the study and control groups where the study and control group's highest percentages preferred Cs delivery before prenatal counseling but the highest percentage (two thirds) of the study group contrasted with one third of the control group preferred vaginal delivery following prenatal counseling. This finding is consistent with **Firouzan et al., (2020)** who found after brief telephone-counseling psychoeducational intervention, a greater number of the intervention group's female members indicated that they preferred vaginal birth. Also **Shirzad et al.,(2024)** who reported that, prenatal counseling interventions especially via mobile apps, increase women's likelihood of choosing vaginal delivery over cesarean section, enhancing self-efficacy and intention for this birthing method ; in a study conducted to assess counseling interventions utilizing in-person training as opposed to mobile apps regarding the mode of delivery for expectant mothers.

Additionally, **Andaroon et al., (2020)** who reported individual counseling during pregnancy increases positive attitudes towards natural childbirth, reduces decisional conflict, and promotes the preference for natural delivery among nulliparous women; in a study conducted to assess influence of individual therapy on attitudes and decision-making conflict in nulliparous women's delivery decision.

According to researchers, this can be explained that self-efficacy and fear of childbirth among primigravidas affect their choice with respect to the method of delivery.

Regarding the correlation between total child birth fear score and total child birth self-efficacy score, the present research revealed a negative significant correlation between total child birth fear score and total child birth self-efficacy score where pregnant females with higher childbirth self-efficacy generally experience less fear of childbirth. This result agrees with **Huang et al., (2022)** who found that total FOC score and childbirth self-efficacy score are significantly negatively correlated during labor ( $R^2 = -0.354$  to  $-0.155$ ,  $p < 0.01$ ) ; in a study conducted to evaluate correlation between childbirth fear and childbirth self-efficacy during labor. Similarly to **Daryani et al., (2022)** who reported a negative correlation between total FOC score and total



childbirth self-efficacy score, indicating that as fear increases, self-efficacy decreases in pregnant females; in a research entitled as the predictors of fear of childbirth and its self-efficacy among adolescent and adult pregnant women in health centers of Urmia-Iran. Additionally supported with **Bilgin et al., (2024)** who reported that total childbirth fear score negatively correlates with pregnant women's overall childbirth self-efficacy score; in a study conducted to analyze the predictive Power of self-efficacy on pregnant women's FOC . Also **Saeedi et al., (2019)** who reported the same result; in a study conducted to assess the association between primipara women's fear and self-efficacy during labor.

This result underscores the importance of addressing and mitigating fear through education, support, and empowerment strategies in prenatal counseling, as reducing fear can enhance self-efficacy and potentially lead to more positive childbirth experiences.

### Conclusion

There was an improvement in fear of childbirth and childbirth self-efficacy among primigravidas following prenatal counseling that promoting preference of vaginal delivery over cesarean section evidenced by the pretest and post-test childbirth fear, childbirth self-efficacy scores and the preferred mode of delivery in the control and study group.

### Recommendations

1. Routine prenatal care should include prenatal counseling regarding labor and the birthing process.
2. Nurses should be trained to give pregnant women counseling to improve the knowledge and attitude of primigravidas about the normal mode of delivery
3. Educational resources, like booklets and pamphlets, should be created for expectant mothers, particularly primigravidas, taking into account their cultural beliefs, attitudes, and methods of childbirth.
4. Psycho-educational nursing intervention should be extended to all primigravida women to lessen their fear of childbirth and enhance their physical state, psychological and overall childbirth experience.
5. Future studies on nurses' understanding of how to manage a fear of childbirth and how that fear affects the outcomes for both mothers and fetuses could be conducted.

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