

Effectiveness of Childbirth Preparation Classes on Primigravida Women`s Health Behavior

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ABSTRACT

Background: A pregnant woman's understanding and practice of healthy behaviors improves her health, achieves appropriate pregnancy outcomes, and enhances the mother and infant's quality of life. **Aim:** To evaluate the effectiveness of childbirth preparation classes on primigravida women`s health behavior. **Subjects and method: Design:** A quasi-experimental design was used. **Setting:** This study was conducted at DAR SAHET ELMAR`AA hospital in Port Said city. **Subjects:** Purposive sample of 66 primigravida women was included in this study. **Tools of data collection:** Two tools were used, A Health Behavior Inventory, and An observation checklist addressing intrapartum health behavior for women with normal labor. **Results:** The studied women demonstrated a significantly higher level of health behaviors during childbirth preparation ($P < 0.001$), with a reportedly high level (87.9%) of health behaviors regarding childbirth preparation in post-intervention than in the pre-intervention (13.6%). **Conclusion:** The childbirth educational class positively affects a primigravida woman's health behaviors regarding childbirth preparation. **Recommendations:** Designing and implementing childbirth preparation classes in various antenatal care settings during the third trimester of pregnancy, particularly for primigravidas.

Keywords: Childbirth Preparation classes, Health behaviors, Primigravida women`s.

INTRODUCTION

Pregnancy, as a specific event, has a wide range of physiological, psychological, and social consequences. Mothers must take on prenatal roles and pay closer attention to their family members' health (Inanir, Cakmak, Nacar, Guler & Inanir, 2015). Some first-time mothers are more concerned about adjusting to their new role as mothers and their responsibilities for baby care. These women are more likely to enrol in childbirth education classes (Jakubiec, Jagielska, Karmowski, Kubicka, Karmowski & Sobiech, 2014). Pregnant women's primary concern is finding a way to complete pregnancy and childbirth safely. Pregnant women should take some actions to achieve favorable outcomes in order to achieve this goal (Cyphers, 2017).

Childbirth preparation classes are important for the mother's physical and psychosocial preparedness, as well as for identifying Unexpected complications, such as gestational hypertension, postpartum haemorrhage, and infection, can all contribute to maternal mortality (Pinar, Avsar, & Aslantekin, 2018). Furthermore, childbirth preparation classes assist women in dealing with healthy and sanitary behaviours like regular pregnancy care, good nutrition, physical activity, and appropriate social support, all of which can improve pregnancy and childbirth outcomes (Gokyildiz, Alan, ElmasBostanc, & Kucuk, 2014). Unsuitable eating patterns, smoking, alcoholic drinks, an inability to cope with stress, and a passive lifestyle, these can all result in unfavourable outcomes such as preterm labour, elevated blood pressure during pregnancy, and a low birth weight (Sehati Shasaei & Sheibaei, 2015).

Nurses can assist pregnant women in overcoming their worries and fears while in labour. They answer pregnant women's questions respectfully and refer them to professional help. Midwives and nurses can help promote vaginal birth, prepare mothers to breastfeed, care for their infants, and encourage a healthier lifestyle for women during

pregnancy and after birth. (Hassanzadeh, Abbas-Alizadeh, Meedya, Charandabi & Mirghafourvand, 2019).

Significance of the study:

Antenatal education programmes frequently have a variety of goals, including influencing health behaviour, increasing women's trust in their abilities to give birth, preparing women for labor and delivery, preparing for motherhood, creating social bonds, and contributing to perinatal mortality and morbidity. As a result, education can be given during the prenatal period, births, postnatal period, or all three stages, and it encompasses all aspects of childbirth care and health. (Aji, 2018).

In the absence of medical indications, a variety of factors influence women's preferences for caesarean section (CS). Fear of experiencing pain, unpredictability about normal labour, and positive attitudes toward CS are all important factors in women's perceptions of CS as preferable (Colomar, Opiyo, Kingdon, Long & Nion, 2021).

So, this study was done to offer childbirth education to assist pregnant women to apply health behaviors during pregnancy and labor process. As a result, it's critical to evaluate the effectiveness of educational program on adoption of childbirth health behavior for primigravida Women

AIM OF THE STUDY

The aim of this study was to evaluate the effectiveness of childbirth preparation classes on primigravida women's health behavior

Study Hypotheses:

Primigravida women who receive childbirth education classes will demonstrate health behavior in the labor process.

SUBJECT AND METHOD

I. Technical Design

Study Design:

A quasi-experimental design with one group (pre/post-intervention) was applied to achieve the research aims.

Study Settings:

This study was conducted at antenatal clinic and labor unit at DAR SAHET ELMAR`AA hospital in Port Said city..

Subjects:

Purposive sample 66 primigravida women. The following women were included: At 32 to 35 weeks of gestation, they ranged in age from 20 to 35 years old, able to read and write, and no medical or psychological problem.

Sample size:

Based on data from literature (El-Kurdy et al., 2017), considering level of significance of 5%, and power of study of 80%, the sample size was calculated using the following formula:

$$n = [(Z\alpha/2 + Z\beta)^2 \times \{2(SD)^2\}] / (\text{mean difference between the two groups})^2$$

where

SD = standard deviation

$Z\alpha/2$: This depends on level of significance, for 5% this is 1.96

$Z\beta$: This depends on power, for 80% this is 0.84

Therefore,

$$n = [(1.96 + 0.84)^2 \times \{2(15.68)^2\}] / (5)^2 = 65.90$$

Based on the above formula, the sample size was 66.

Tools for Data Collection:

Data was collected for this study by using the following tools in pre & post-intervention.

Tool (I): A Health Behavior Inventory “pre and post-intervention”:

A Health Behavior Inventory was designed by the researcher after reviewing literature (Haddadi, Ravanbakhsh, Saadati, Mohammadi & Nargesi, 2014; Kazemi, Hajian, Mameghani & Khob, 2018; Khatri, Sirohi, Dixit, Rai & Pandey, 2014; Podder, 2015). It was used to evaluate the health behaviors reported by the primigravida woman regarding the labor process and childbirth preparation. A Health Behavior Inventory was covered two main parts:

Part (1): demographic characteristics such as: age, level of education, working status etc.....

Part (2): women`s health behavior regarding diet in the third trimester of pregnancy: It included 10 items such as; Drinking plenty of water, Limiting caffeine, Minimizing preserved, canned food and fast food....etc.

Part (3): women`s health behavior regarding exercise and relaxation techniques in the third trimester of pregnancy: It involved 6 items such as; breathing exercises, Taking time every day to relax.....etc.

Scoring system: The items were to be checked as “Done/Not done”. A score of 1 was given to the “done” items, and zero to the “not done.” For each area, add the item scores and divide the total score by the number of items to get the mean score for the part. These scores were converted to percentiles, and means and standard deviations were calculated. The practise was thought to be satisfactory if 60% or more and unsatisfactory if <60%.

Tool (II): An observation checklist addressing intrapartum health behavior for women with normal labor (post-intervention):

This tool was formed by the researcher after reviewing related literature (Lamaze International, 2015; Lynna & Littleton-Gibbs, 2012; Podder, 2015), was reviewed by experts, and designed in the Arabic language to avoid misunderstanding. It consists of 14 items describing the woman`s health behavior during the labor process which extends from the first stage of labor to the fourth stage such as; using natural methods to relieve pain, emptying the bladder every 2 hours, breastfeeding within half an hour after birth.....etc.

Scoring system: The items were to be checked as “Done/Not done”. A score of 1 was given to the “done” items, and zero to the “not done.” The practice was considered satisfactory if 60% or more and unsatisfactory if <60%.

II. Operational design:

The operational design phase have included preparatory phase, pilot study, tool validity and reliability, and field work.

Preparatory phase:

It used books, articles, internet journals, and magazines to develop data collection tools based on relevant literature reviews and theoretical knowledge of many aspects of research, and it creates a handout for childbirth preparation that contain all of the above

covering points. The program had been completed.

Validity:

A jury of five experts in the field of obstetrics and gynaecological nursing reviewed the tools, and face and content validity was determined. The sheet was modified in response to the expert's remarks and suggestions.

Reliability:

The reliability of tools used in this study will use the Cronbach's alpha test (Cronbach's $\alpha = 0.87$). The reliability of tools reveals good reliability.

Pilot Study:

Following the development of the tool, a pilot study was conducted. It was administered to 10% of primigravida women. The intention of the pilot study was to evaluate the applicability and explain the viability of the tool, as well as to test the sequence of items to maintain continuity. It also assisted in estimating the time required to complete the tool, as well as determining any problems that might interfere with data collection, and determining the appropriate data and time for data collection. As a result of the pilot study, necessary changes were made. The study tools were revised, redesigned, and rewritten in response to the findings and acceptance of the final forms. The women who participated in the pilot study were not included in the study.

Field Work

Data was collected four days a week (Saturday, Monday, Tuesday and Thursday). The current study field work lasted sixteen months, from the beginning of May 2019 to the ending of September 2020. The work was divided into four stages (assessment, planning, implementation and evaluation).

Phase I: Assessment (Pre-intervention phase):

The researcher interviewed the primigravida women and introduced herself then invited them to participate the study. After their agreements to participate, written consent was obtained. To gain their cooperation, the researcher explained the purpose of the study. Each primigravida woman who met the inclusion criteria was interviewed separately. After that, the researcher explains to the participants the tools which include structured interview sheet regarding labor process and childbirth preparation, and asks them to answer the tools as consider a pre-intervention assessment.

Phase II: Planning

The researcher created an Arabic version of the childbirth preparation handbook and required to submit it to the study group. It contains the following details: Healthy nutrition during pregnancy, exercise during pregnancy and its benefits, different stages of childbirth and adaptation to it, and use non-pharmacological methods to overcome pain. The handbook was divided into theoretical and practical parts. Also, it was supplemented by photos for more illustration and to help the women understand the content. Each participant was given a handbook which is summarizing the content of childbirth preparation classes to guide them for self-practice at their home. Animation videos, social media, and slide presentations were used in the sessions.

Phase (III): Health education classes implementation

The researcher evaluated the teaching room in all study places after obtaining permission from the directors of study places.

Because of covid-19 precautions, pregnant women are appointed to childbirth preparation classes in groups of one to three.

They were given a structured prenatal education course that lasted about three hours and was divided into three classes of about 60 minutes each.

Each session included a theoretical information presentation, videos, warm-up and stretching exercises, relaxation exercises, and sharing thoughts and emotions about the class subject.

Sections 1 Firstly, the researcher illustrated aim, purpose of these classes, and then distributed the childbirth preparation handbook to participates. The content for the first class included: periodic follow-up and danger signs of pregnancy, nutrition in third trimester, and exercise in third trimester.

Section 2 was held after one week from first class. The content for the second class included: physiology and benefits of normal labor, premonitory symptoms of labor, difference between true and false labor pain, and stages and phases of labor.

Section 3 was held after one week from second class. The content for the third class included :

non-pharmacological coping measures with labor pain

Phase IV: Evaluation

At the ending of the third class, the researcher distributed a health behavior inventory

again and asks them to answer the tools as consider a post- intervention evaluation.

The researcher attended with participants during normal labor to evaluate woman`s intrapartum health behavior, and the researcher fill An observation checklist addressing intrapartum health behavior for women with normal labor.

III. Administrative design

The relevant authorities have given their formal approval for the conduct of this study. Before beginning the study, the Dean of the Faculty of Nursing at the University of Port Said have sent formal letter explaining the goal, and purpose of the study to the Directors of the aforementioned settings, requesting permission to proceed.

Ethical consideration

Before obtaining written consent to participate in the study, the purpose of the study was explained to the participants. A brief overview of the study was given to participants in order to reassure them that all information obtained would be kept strictly confidential and used only for the purpose of the study. Participants were informed that they could participate in or opt out of the study at any time. For identification purposes, code numbers rather than participant names were used. This safeguard ensured that the participants' identities would not be revealed in public reports.

IV. statistical design

Data was sorted, organised, coded, and transferred into specially designed formats for computer entry. SPSS version 22 was used for the statistical analysis. Frequencies and percentages were used to describe qualitative data. The Chi-square test was used to examine the relationship between categorical variables (χ^2).

Level Significance:

- The obtained results were considered significant at p-value 0.05 and highly significant at p-value 0.001, with p-values greater than 0.05 considered non-significant.

RESULTS

The present study revealed, age of the women participating in the study ranged between 25-35 years, and more than half were housewives, had secondary education. Also, shows approximately three quarters of the women studied were satisfied with household income and living in urban areas.

Table (1): demonstrates in the pre-intervention, near three quadrants of studied women (74.2%, 72.7%, and 74.2%) had not doing health behavior regarding diet as drink plenty of water, limit caffeine, and minimize preserved, canned food and fast food respectively; While in post-intervention this findings differences as , more than three quarters (75.8%, 84.8%, and 75.8% respectively) doing the previous health behaviors. So, there was a highly statistically significant improvement in post-intervention than pre (P-value <0.001).

Table (2): shows few of studied women 4.5%, and 10.6% were doing exercises in pre-intervention (squat exercises, and Breathing exercises respectively) versus 31.8%, and 84.8% doing the previous exercises in post-intervention. According to relaxation techniques, the least of pregnant women in pre-intervention (25.8%, 19.7%, and 10.6% respectively) were doing relaxation techniques such as (Taking time every day to relax, taking a warm bath before bed, and do a massage for the abdomen and the rest of the body.). While, more than half were doing relaxation techniques post-intervention (81.8%, 74.2%, and 63.6% respectively). The difference observed is highly statistically significant (P <0.001).

Table (3): shows that the majority of health behaviors were doing by women during the 1st and 2nd Stage of Labor except, moving and walking in the 1st stage and crying out loud with the onset of severe pain in the 2nd Stage (63.6% &63.6% respectively). The same table reveals that, more three quadrants of women were doing the health behaviors during 3rd and 4th Stage of Labor as; do not bearing down during the delivery of the placenta, taking warm drinks within 1-2 hours after birth and breastfeeding within half an hour after birth (81.8%, 90.9% &81.8% respectively).

Figure (1): Shows there was a highly statistically significant improvement after the intervention than before (P-value < 0.001) about total health behavior among studied women. As the higher level of total health behavior in pre-intervention was (13.6%) this percentage increased to (87.9%) in post-intervention.

Figure (2): illustrates the mode of delivery, only 16.7% had a normal delivery

Figure (3): demonstrates that, more than two third (67.3%) of studied women had emergency section.

Figure (4): presents that the malpresentation represent (62.2%) in studied women with emergency section. Less than fifth (18.9%) had cephalopelvic disproportion, while (8.1%, and 5.4%) had fetal distress, and cord prolapse respectively. came at the last of these reasons an equal number (2.7%) suffer from prolonged labor, placenta abruption.

Table (1): Frequency distribution of women`s health behavior regarding diet in third trimester of pregnancy in pre and post- intervention (N= 66)

	Pre-intervention				Post-intervention				Chi-Square	
	Done		Not Done		Done		Not Done		X ²	P
	n	%	n	%	n	%	n	%		
Diet										
Drink plenty of water.	17	25.8	49	74.2	50	75.8	16	24.2	33.008	<0.001*
Drink milk and its derivatives	30	45.5	36	54.5	60	90.9	6	9.1	31.429	<0.001*
Limit caffeine.	18	27.3	48	72.7	56	84.8	10	15.2	44.410	<0.001*
Eat small, frequent meals.	13	19.7	53	80.3	48	72.7	18	27.3	37.335	<0.001*
Lots of vegetables and fruits.	27	40.9	39	59.1	61	92.4	5	7.6	39.409	<0.001*
Eat food containing protein daily.	24	36.4	42	63.6	60	90.9	6	9.1	42.429	<0.001*
Eat grains.	19	28.8	47	71.2	52	78.8	14	21.2	33.190	<0.001*
Limit snacks and spicy foods.	25	37.9	41	62.1	53	80.3	13	19.7	24.570	<0.001*
Minimize preserved, canned food and fast food.	18	27.3	48	72.7	50	75.8	16	24.2	25.491	<0.001*
Read the label on cans.	17	25.8	49	74.2	51	77.3	15	22.7	35.063	<0.001*

Table (2): Frequency distribution of women`s health behavior regarding exercise and relaxation techniques in third trimester of pregnancy in pre and post- intervention (N= 66)

	Pre- intervention				Post- intervention				Chi-Square	
	Done		Not Done		Done		Not Done		X ²	P
	n	%	n	%	n	%	n	%		
Exercise										
1. Walking	23	34.8	43	65.2	57	86.4	9	13.6	36.681	<0.001*
2. squat exercises	3	4.5	63	95.5	21	31.8	45	68.2	16.500	<0.001*
3. Breathing exercises	7	10.6	59	89.4	56	84.8	10	15.2	72.908	<0.001*
Relaxation Techniques										
4. Taking time every day to relax.	17	25.8	49	74.2	54	81.8	12	18.2	41.724	<0.001*
5. Taking a warm bath before bed	13	19.7	53	80.3	49	74.2	17	25.8	39.418	<0.001*
6. Do a massage for the abdomen and the rest of the body.	7	10.6	59	89.4	42	63.6	24	36.4	39.759	<0.001*

Table (3): Frequency distribution of intra-partum health behavior for women with normal labor (N=11)

	Done		Not Done	
	n	%	n	%
During 1st Stage of Labor				
Going to the hospital when recognizing the true signs of labor.	10	90.9	1	9.1
Bring all reports and investigations while going to the hospital.	11	100.0	0	0.0
Using natural methods to relieve pain	10	90.9	1	9.1
Prepare for every contraction by taking a deep breath.	10	90.9	1	9.1
Relaxation between the contraction and the next contraction.	11	100.0	0	0.0
Move and walk during this stage as the membranes has not rupture.	7	63.6	4	36.4
Empty the bladder every 2 hours.	10	90.9	1	9.1
During 2nd Stage of Labor				
Taking proper position for effective bearing down.	11	100.0	0	0.0
Take a deep breath, hold it, and push it down.	11	100.0	0	0.0
Crying out loud with the onset of severe pain.	7	63.6	4	36.4
During 3rd Stage of Labor				
Do not bearing down at this stage during the delivery of the placenta.	9	81.8	2	18.2
Crying out loud with the onset of severe pain.	8	72.7	3	27.3
During 4th Stage of Labor				
Take warm drinks within 1-2 hours after birth.	10	90.9	1	9.1
Breastfeeding within half an hour after birth.	9	81.8	2	18.2

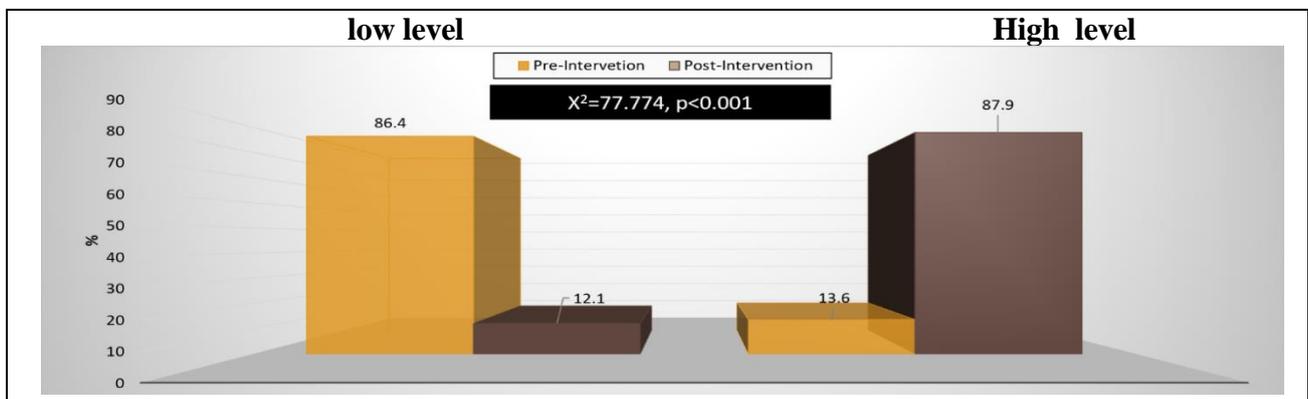


Figure (1): Comparison of total behavior level between pre- and post-intervention

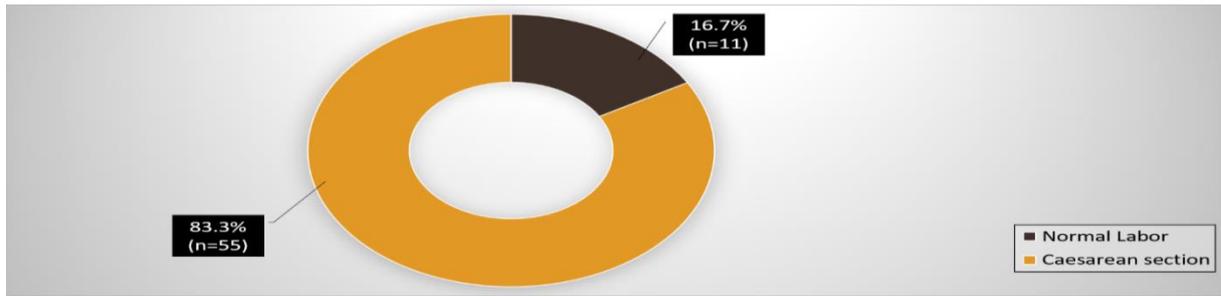


Figure (2): Mode of delivery among studied women (N=66)

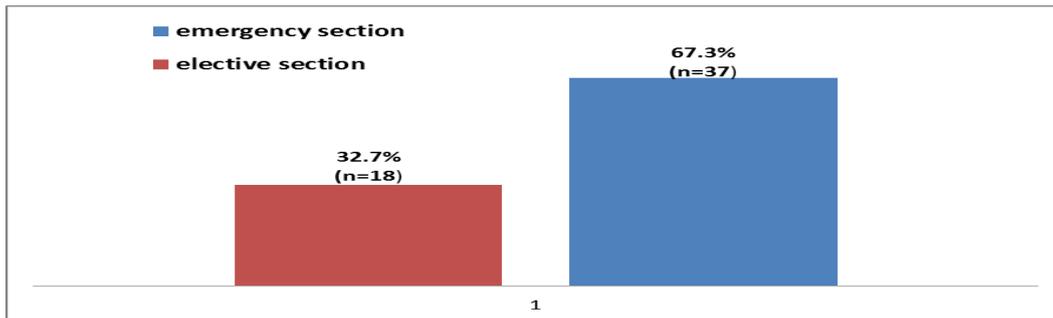


Figure (3): Types of caesarean section delivery among studied women (N=55)

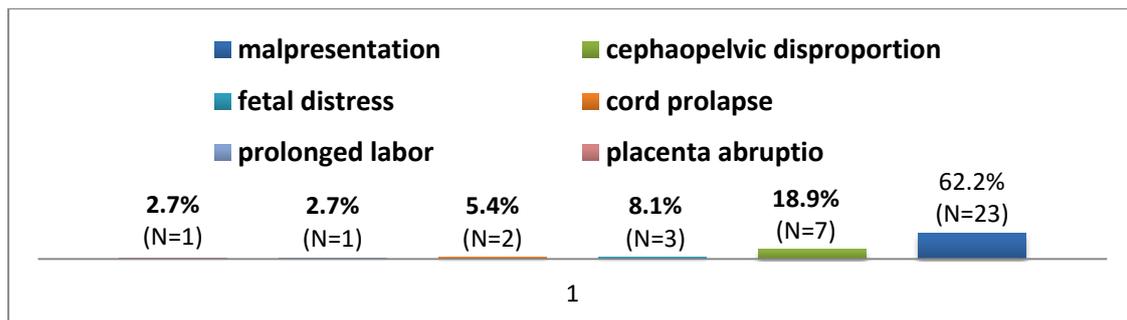


Figure (4): Frequency Distribution of emergency caesarian delivery reasons (N= 37)

DISCUSSION

Attending antenatal classes during the prenatal period appears to be advantageous in achieving more optimal pre- and postnatal outcomes; furthermore, actual group activities facilitate experience exchange and emotional support from other women in similar life circumstances. (Kacperczyk, 2019).

Munkhondya, Msiska, Kabuluzi, and Yao (2020) recommended in their study that professional childbirth instruction be strengthened during antenatal care to outperform traditional childbirth counselling. According to Zinsser, Stoll, and Gross (2016), who conducted a cross-sectional study on midwives' attitudes toward supporting normal childbirth in Germany, senior midwives should be given additional training to teach

junior staff how to develop clinical skills to support normal physiologic childbirth and to minimise unnecessary obstetric interventions.

The current study hypothesized that, the women who receive childbirth education program will have improved health behavior about childbirth preparation and labor process. The study highlighted that, there was a highly statistically significant improvement after intervention compared to before intervention. This may be due to the fact that women who attended three sessions of childbirth preparation classes learned how to develop proper health behaviours such as eating a healthy diet, performing important exercises, and having useful skills that increased their self-esteem and decreased their anxiety throughout the entire childbirth process. It is also essential to learn how to cope with labour pain. As a result, the hypothesis is accepted in this study.

According to women's health behavior regarding diet, exercise and relaxation techniques in the third trimester of pregnancy in pre- and post-intervention, this study showed significant improvement in post-intervention as more than two-thirds of women practiced correct behaviors about (dietary, relaxation techniques and exercises). This is in line with the findings of Kaunda et al., (2021) discovered that increased nutritional knowledge was only related to increased dietary diversity in intervention women who often improved their dietary perceptions and behaviour.

Another study found that the majority of women who took childbirth classes were pleased with them and found them to be very useful. These women were most satisfied with the facilitator's performance, the utility of relaxation methods and breathing exercises, and the overall impact of the classes (Ricchi et al., 2019), which is consistent with the current study's findings.

According to the Ministry of Health and Population [MOHP] (2015), Egypt's CS rate went up from 28% in 2008 to 52% in 2014. In 2014, the CS rate in Port Said Governorate was 77 %. A cross-sectional study conducted in California by Afshar et al. (2017) suggested that birth plans and birth preparation classes could be used as quality improvement methods to reduce rates of C.S. In addition, Farahat, Mohamed, Abd Elkader, and El-Nemer (2015) discovered that birth planning helps to increase the rate of normal labor.

Unfortunately, the results of this study indicated a higher incidence of cesarean section among the women studied, with more than three-quarters having a cesarean section compared to less than a fifth having normal labor. This result corresponding with result of the study by Maroufizadeh et al. (2018) which found that near three quadrants of women was CS.

The reasons for cesarean section varied in this study; malpresentation came at the foreground, followed by cephalopelvic disproportion, after that fetal distress and cord prolapse, came at the last of these reasons an equal number suffer from prolonged labor, placenta abruption.

Study from Alshabanah et al. (2017) contrary to the findings of this study, as more than one third were elective section, then placenta previa, then fetal distress, after that loss of fetal movement and eclampsia, finally malpresentation, macrosomic fetus, and labor dystocia.

It is clear from the previously mentioned studies that elective cesarean section is at the forefront of the causes of cesarean delivery. This may be due to misconceptions, anxiety, fear of normal labor, and the belief that cesarean section is easy.

Regarding intrapartum health behavior for women with normal labor in the present study. Almost all health behavior has done perfectly in the labor process. The majority of women used natural methods to relieve pain, taking the proper position for effective bearing down, and initiated breastfeeding within half an hour after birth. In congruence with this, a study was conducted to evaluate the effectiveness of a video-assisted childbirth education program on knowledge, intrapartum behavior, maternal and fetal outcomes among primigravida mothers in selected hospitals in Pune city. The findings show that the primigravida mother complied with the expectant intrapartum behaviour at the time of reporting to the labour room for delivery as well as throughout the labour process (Podder, 2015).

Similarly, in a quasi-experimental study of 132 primiparous women in Turkey, the findings revealed that women who attended childbirth preparation classes reacted positively to their labour pains and began breastfeeding earlier than the control group (Pinar et al., 2018).

CONCLUSION

Based on the findings of this study, it is conceivable to conclude that an educational class that has a positive effect on a primigravida woman health behaviors regarding childbirth preparation. There was an obvious improvement in studied women higher level of health behaviors about childbirth preparation in post- intervention than the pre-intervention.

RECOMMENDATION

In the light of the results of the present study, the following recommendations are suggested:

- 1- Encouraging nurses to attend national and international congresses, seminars, and workshops to be aware of childbirth class.
- 2- Childbirth preparation classes should be included as part of routine prenatal care, and all pregnant women should be encouraged to attend.
- 3- Educational materials such as booklets and pamphlets should be developed for pregnant women according to their beliefs, attitudes, and cultures.

Further studies:

-It is strongly advised to replicate similar specific studies using large probability samples and different settings.

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تأثير فصول التحضير للولادة في السلوك الصحي للمرأة الحامل للمرة الأولى

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الخلاصة

إن تبني المرأة الحامل للسلوكيات الصحية يؤدي إلى تحسن صحتها وتحقيق نتائج حمل مناسبة وكذلك تحسين حياة الأم والرضيع. هذا وكان الهدف من الدراسة هو تقييم تأثير فصول التحضير للولادة في السلوك الصحي للمرأة الحامل للمرة الأولى. وقد تم استخدام تصميم شبه تجريبي. هذا وقد أجريت هذه الدراسة في عيادات رعاية الحوامل بالمراكز الطبية التابعة للتأمين الصحي الشامل بمدينة بورسعيد. وقد اشتملت عينه الدراسة علي (66) من النساء الحوامل للمرة الأولى . هذا وقد تم جمع البيانات باستخدام: جرد السلوك الصحي ، وقائمة للملاحظة تتناول السلوك الصحي أثناء الولادة للنساء ذوات الولادة الطبيعية. وقد أسفرت نتائج الدراسة علي أن تراوحت أعمار النساء بين 25 و 35 سنة، أظهرت العينة المدروسة مستوى عالي من السلوكيات الصحية أثناء التحضير للولادة، مع ظهور مستوى مرتفع (87.9%) من السلوكيات الصحية فيما يتعلق بالتحضير للولادة بعد التدخل مقارنة بما قبل التدخل (13.6%). وقد اوصت الدراسة بتصميم وتطبيق فصول التحضير للولادة في الثلث الثالث من الحمل خاصةً للحوامل للمرة الأولى في أماكن رعاية ما قبل الولادة.

الكلمات المرشدة : السلوكيات الصحية ، النساء الحوامل للمرة الأولى ، دروس التحضير للولادة.