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Assessment nursing role of care provided to woman with placenta previa and their satisfaction in woman's Health Hospital

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Abstract
Back ground: Placenta previa is ones of the further dangerous complexities during pregnancy and is associated with several adverse maternal and fetal-neonatal complications. **Aim:** Assess peri partum nursing role for the woman with placenta previa and their satisfaction level, **Study design:** Descriptive study .This studies were conducted at Woman's Health Hospital, Assiut University, Emergency department and inpatient department. **Sample**: A convenience sample, 50 women with placenta previa **Tools:** Structured Interview Questionnaire& observation checklist were used**. Results:** Finding revealed that the Mean age was.31.16, all women was multiparty and their mean gestational age was.34.66 WKs, more than one quarter of women had hysterectomy, more than half of woman had abnormal fetal outcome and more than half of woman are dissatisfaction about care introduced. **Conclusion:** Nurses have very crucial role in the treatment of placenta previa, integration of nursing staff in the treatment of women with placenta previa is valuable and helps proper management. The maternal and fetal complication is high in the women who receiving the nursing care, so the patient's satisfaction regarding care introduced is less. **Recommendations:** Applied integrated nursing care would improve treatment success rate, decrease complications to the mother and fetal and upgrade nursing quality.

Keywords: Fetal complication, Maternal complication, Nursing care & Placenta previa.

Introduction

The placenta previa is ones of the further dangerous conditions during pregnancy and is associated with several adverse maternal and fetal-neonatal complications. Many of these are direct outcomes as maternal antepartum and intra-partum hemorrhage **(Silver, 2015)** it is enhance known causes that the massive hemorrhage during delivery in placenta previa are leading to the maternal and neonatal mortality and morbidity **(Ishibashi et al, 2018)**

The term of placenta praevia are utilized when the placenta lain closely overstayed on the internal os. For pregnancy at some more than 16 weeks of gestation the term low-lying placenta are used when the placental edge is less than 20 mm from the internal os on trans-abdominal or trans-vaginal scanning (TVS) **(RCOG, 2018),** the classification of Placenta previa is divided into four categories according to the distance from placental edge to internal os: low-lying placenta, marginal placenta, partial placenta, and total placenta previa, This classification system is useful in the management of cases of placenta previa. **(Ishibashi et al., 2018)**

The pathogenesis of the placenta previa would unidentified. One hypothesis is that the existence of areas of sub optimally vascularized endometrium in the upper uterine cavity due to previous surgery or pregnancies enhances implantation of trophoblastic or unidirectional growth of trophoblast toward the lower uterine cavity. Otherness presumption is that in particular broad flattens area of placental, as in multiple parities or in due to decrease utero placental perfusion and increases the possibility that the placenta will overlay or exceed on the cervical os. **(Lockwood & Russo, 2017)**

Placenta previa diagnosis by sonography is a simple, safe and accurate method. Trans- vaginal sonography might use to investigating placental localization any time in pregnancy when the placenta is believed to be dipped lying. Trans vaginal are noticeably more accurate than trans- abdominal sonography and safety well established. **(Bhutia Pet al., 2011)**

The risk factors related with a broadened risk of placenta previa are progressed maternal age, past abortion, grand multiparty, past history of Caesarian Section, and smoking amid pregnancy. Patients with placenta previa must minimize activity to avoid rebreeding. Moreover, examinations of pelvic and sexual intercourse must be avoiding. **(Almnabri et al., 2017)**

Nurses play a vital role in care for the patients with placenta previa at- antenatal, clinical evaluation, crucial thinking, decision making suitable preparation and appropriate emergency obstetric care and resource allocation must be rapid and suitable to enhance the likelihood of positive outcome of late

ante partum hemorrhage for mother, fetus and neonate as well as decreasing mortality and morbidity. **(Ranjana, 2016)**

The patient's satisfaction and nursing-sensitive quality indicators are imperative to improve the nursing quality. In clinical practice, more attention should be paid to PP and quality sensitive indicators of PP should be constructed and carried out to prevent its risk at an early stage. The key to improve the nursing quality of PP in obstetrics is to improve the evaluation method of nursing quality, construct sensitive indicators and evaluate the sensitive indicators outcome of PP **(Gao et al., 2018)**

Significance of the study:

The placenta previa remains a risk factor for various maternal complications. The prevalence rate varies between as high rate of 1 in 100 to as low rate as 1 in 1000 live births. These conditions in general are found in 0.4 % to 0.6 % of all births. Placenta previa is a rare disaster connected with high incidence of maternal morbidity and mortality. The incidence of placenta previa is increase because of the higher rate of caesarean section being done, and a trend of child bearing at a later age among the women. **(Arain et al., 2016)**

Placenta previa (PP) are the obstetric complications that take place in the second and third trimesters. It might lead to grievous morbidity and mortality to both the maternal and the fetal. It is consider one of the major causes of vaginal bleeding in the second and third trimesters. Placenta previa held about 0.4 % gravid women and it's a deaths rate of 0.03% **(Zakherah etal., 2018)**

Aim of the study: The aims of this study were to:

1. Assess peri partum nursing role for the woman with placenta previa
2. Assess the women's satisfaction regarding the care.

Research Question:

What is the level of woman satisfaction about the received care?

Study design:

This study was a descriptive Design

Research Setting:

The study was conducted in Woman's Health Hospital, Assiut University, emergency department with logistic capacity 8beds, and inpatient department (the fourth and fifth turn) with logistic capacity approximately 100 beds. These units provide services for all women who are resident in Assiut city and neighboring city and villages.

Sample:

A convenience sample was used, a total sample of (50) woman with placenta previa, the process of diagnosis these women done according to guideline of **(Royal College of Obstetricians & Gynaecologists, 2018)** from the time of admission and the follow up done through peri partum period at the previous mentioned settings. The process of data collection and implementation consumed, in the period from the beginning of February 2019 to the end of June 2019, through this period the researcher picks up these women depending on the following of women and the logistic capacity to the hospital.

Sample Size:

The sample size was calculated using the EPI info 2000 statistical package. The calculation was done using the expected frequency of placenta previa from previous studied using 95%confidence interval, 80% power of the study, 5.0% prevalence of placenta previa and the worst acceptable result 5%. The sample size calculated according to the above criteria was 48 women. However, 50 women were attempted in this research work to avoid non response rate.

Inclusion criteria:

All women with placenta previa at any medical condition and accepted to participate.

Tools of the study:

Tool I-A structured Interview Questionnaire:

These questionnaires were developed by the investigator after reviewing of literature. This tool was divided into **2** main parts.

Part (1) personal data:

Includes: names, age, parity, obstetric history, past history and current data.

Part (2) baseline and assessment data of the women:

Blood loss amount, mode of delivery, fetal out comes, maternal out comes, women satisfaction

Tool II- An observation checklist Questionnaire:-

It was concerned with the care given to the women with placenta previa according to guideline of **(RCOG)**, and divided into three main parts: preoperative, intraoperative and postoperative.

Part (1) pre-operative Questionnaire: included assessment of women general condition, vital signs (Blood pressure, Pulse, Respiration and Temperature), Hemoglobin level, Platelets, amount of blood loss and reserved fluid.

Part (2) Intra-operative Questionnaire: Included assessment of gestational age at operation, vital signs, amount of blood loss, hypothermia and management of hypothermia

-Part (3) Post-operative Questionnaire: Included mode of delivery, hysterectomy, maternal progress, complication, fetal progress, complication (e.g. IUGR& Fetal death) and woman satisfaction about care introduced in the hospital

Tool III-Satisfaction Questionnaire:

The adopted scoring system was as follow:

The researcher in collaboration with supervisors had designed and adopted a scoring system for estimation of the women satisfaction in the present study. According to this system, a scoring system was designed; the score of satisfaction item summed-up and then converted into a percent score.

Score Interpretation: The score done after evaluation to the woman satisfaction through asking the woman what about their accepted and satisfied about the care provided in the hospital in peri- patum period which interpreted as following:

1. Satisfied
2. Dissatisfied

Phase 1:Preparation phase:

A written approval taken from director of Woman's Health Hospital to conduct this study and oral consent taken from the women in the study. The purpose and nature of the study was explained for directors and every interviewed women, Participant women have ethical right to accept or refuse participation in the study, the information that obtained are confidential and used only for the purpose of the study

Validity and Reliability:

The content validity was used to assess the study tools. Item-Level Content Validity Index (I-CVI) calculated by a panel of five experts rating each scale's items to its relevance to the construct of health care. The grading were on a 4- point scale with a response format of 1 = not relevant to 4 = highly relevant.The I- CVI for each item was computed based on the percentage of experts giving a sorting of 3 or 4, indicating item relevance. The content validity index for the total scale (S-CVI) measured by averaging the I- CVI replies from the five experts and divided by the number of items, were equal to 96. A sorting of 90 is regarded to be an accepted criterion for an S-CVI.

Pilot study

A pilot study was carried out before starting data collection on 10% of women (5 women) data of the 5 women and the observational questionnaire were included in the study.

Phase II :- Implementation phase:

- All women with placenta previa, admitted during the period of data collection, were selected as research subjects. According to different conditions
- 50 women receiving routine nursing care were this occurs in days of Sunday, Tuesday and Thursday.
- The process of data collection and caring implementation starting from 8:30am to1:30pm.
- Before the start of the study, oral consent was obtained from the women.
- The researcher introduced her-self to all women and staff member working in the departments and explained the purpose and importance of the study hence.
- The researcher observed the women under routine nursing care during preoperative, intra operative and postoperative period

The implementation of care:

Before implementation of the operation, the researcher checked all the steps of care provided by the health care team as:

1. Complet assessment at admission
2. Medication prescription as patient's condition
3. Full laboratory investigation
4. Administration of medication and follow up routine
5. Vital signs and diagnostic evaluation by sanography

- Before and after the operation, the investigator close observation of the women under routine care and the health team strictly followed the doctor's instructions, treating the women with the appropriate drugs.

Phase III: (Evaluation phase)

The evaluation was done by the researcher to evaluate the effect of nursing care provided to women with placenta previa and their satisfaction.

Statistical analysis:

Date entry and data analysis was done utilizing SPSS version 22 (Statistical Package for Social Science). Data was made as number, percentage, mean, standard deviation. Descriptive Statistics were done.

Results

Table (1): Distribution of the studied women according to Personal data

Variables	studied (n= 50) women	
	No.	%
Age: (years)		
Mean ± SD	31.16 ± 5.09	
Range	22.0-39.0	
Residence:		
Rural	39	78.0
Urban	11	22.0
Occupation:		
Working	6	12.0
Housewife	44	88.0
Level of education:		
Educated	33	66.0
Non educated	17	34.0
Family history about medical disease:		
None	15	30.0
Hypertension	4	8.0
Diabetes	16	32.0
Both	15	30.0

Table (2): Distribution of studied women according to their Obstetric history

Variables	studied (n= 50) women	
	No.	%
Parity:		
Primi	0	0.0
Multi	50	100.0
previous obstetric history::	N=50	
Normal	32	62.5
Abnormal	18	37.5
Type of complication:		
Gestational diabetes	8	45.0
Gestational hypertension	2	11.0
Previous placenta previa	0	0.0
Fetal death	4	22.0
Abortion	4	22.0
Number of abortions:	N=4	
None	46	92.0
Once	2	4.0
Two or more	2	4.0
Type of complication after previous deliveries:		
ICU admission	2	100.0
Rupture of uterus	0	0.0
Type of previous deliveries:	N=50	
Normal	2	4.0
CS	48	96.0
Number of CS:		
One	14	29.2
Two	9	18.8
Three	18	37.5
Four	7	14.5

Table (3): Distribution of studied women according to their Clinical pre-operative management

Variables	Studied (n= 50) women	
	No.	%
Patient general condition:		
Conscious	43	86.0
Unconscious	7	14.0
Patient vital signs: **1- Blood pressure:**		
Normal	38	76.0
Abnormal	12	24.0
2-Pulse:		
Normal	39	78.0
Abnormal	11	22.0
3-Respiration:		
Normal	44	88.0
Abnormal	6	12.0
4-Temperature:		
Normal	43	86.0
Abnormal	7	14.0
Hemoglobin level:		
Normal	33	66.0
Abnormal	17	34.0
Platelets:		
Normal	48	96.0
Abnormal	2	4.0
Amount of blood loss:		
None	25	50.0
<500	14	28.0
≥500	11	22.0
Amount of reserved fluid:		
500 -1000	18	94.7
1500-2000	1	5.3
2500-3000	11	22.0

Table (4): Distribution of studied women according to Clinical Intra-operative management

Variables	Studied (n= 50) women	
	No.	%
Gestational age at admission OPR:		
< 34 WKs	12	24.0
≥ 34 WKs	38	76.0
Patient general condition in OPR:		
Normal	34	68.0
Abnormal	16	32.0
Patient vital signs: **1-Blood pressure:**		
Normal	39	78.0
Abnormal	11	22.0
2-Pulse:		
Normal	12	24.0
Abnormal	38	76.0
3-Respiration:		
Normal	39	78.0
Abnormal	11	22.0
4-Temperature:		
Normal	12	24.0
Abnormal	38	76.0

Variables	Studied (n= 50) women	
	No.	%
Presence of hypothermia:		
Yes	38	76.0
No	12	24.0
Management of hypothermia#:		
Monitoring	38	100.0
Warmth I.V fluid	38	100.0
Bed rest	22	57.9
Amount of blood loss:		
< 500	13	26.0
≥ 500	37	74.0

#More than one answer

Table (5): Distribution of studied women according to their progress during labour

Variables	Studied (n= 50) women	
	No.	%
Mode of delivery:		
CS	50	100.0
Intraoperative maternal progress:		
Uterine artery ligation	28	56.0
Internal iliac artery ligation	1	2.0
Normal progress	21	42.0
Hysterectomy:		
Yes	15	30.0
No	35	70.0
Placenta previa related causes:		
None	27	54.0
Mal-presentation	12	24.0
Obstructed labor	0	0.0
PROM	11	22.0
Maternal complication:		
Accidental bladder injury	16	32.0
ICU admission	18	36.0
Hysterectomy	15	30.0
Intra uterine hematoma	1	2.0

Table (6): Distribution of data according fetal progress

Variables	Studied (n= 50) women	
	No.	%
Fetal outcome:		
Normal	15	30.0
Abnormal	35	70.0
Assess APGAR score at 1 min:		
Yes	37	74.0
No	13	26.0
Assess APGAR score at 5 min:		
Yes	35	70.0
No	15	30.0
Measure fetal body weight:		
Yes	22	44.0
No	28	56.0
NICU admission:		
Yes	27	54.0
No	23	46.0

Variables	Studied (n= 50)	women
	No.	%
Assessment fetal complication:#		
None	23	46.0
Prematurity	10	20.0
Asphyxia	4	8.0
IUGR	1	2.0
Increased incidence of malformation	0	0.0
Perinatal mortality	0	0.0
Fetal death	8	16.0
RD	8	16.0
DM	6	12.0

#More than one answer

Table (7): Correlation between amount of blood loss intraoperative and the maternal complication

Variables	Amount of blood loss				P-value
	< 500 (n= 13)		≥ 500 (n= 37)		
	No.	%	No.	%	
Intraoperative maternal progress:					
Uterine artery ligation	6	46.2%	22	59.5%	0.200
Internal iliac artery ligation	1	7.7%	0	0.0%	
Normal progress	6	46.2%	15	40.5%	
Hysterectomy:					
Yes	6	46.2%	9	24.3%	0.170
No	7	53.8%	28	75.7%	
Maternal complication:					
Accidental bladder injury	5	38.5%	11	29.7%	0.731
ICU admission	2	61.5%	16	43.2%	0.098
Hysterectomy	6	46.2%	9	24.3%	0.170
Intra uterine hematoma	0	0.0%	1	2.7%	1.000

Table (8): Correlation between amount of blood loss intraoperative and the fetal complication

Variables	Amount of blood loss				P-value
	< 500 (n= 13)		≥ 500 (n= 37)		
	No.	%	No.	%	
Fetal outcome:					
Normal	6	46.2%	9	24.3%	0.170
Abnormal	7	53.8%	28	75.7%	
APGAR score at 1 min:					
< 7	9	69.2%	28	75.7%	0.719
≥ 7	4	30.8%	9	24.3%	
APGAR score at 5 min:					
< 7	7	53.8%	28	75.7%	0.719
≥ 7	6	46.2%	9	24.3%	
Fetal body weight:					
< 2 kg	6	46.2%	16	43.2%	0.856
2-3 kg	7	53.8%	21	56.8%	
NICU admission:					
Yes	5	38.5%	22	59.5%	0.191
No	8	61.5%	15	40.5%	
Fetal complication:#					
Prematurity	4	30.8%	6	16.2%	0.420
Asphyxia	0	0.0%	4	10.8%	0.561
IUGR	1	7.7%	0	0.0%	0.260
Fetal death	2	15.4%	6	16.2%	1.000
RD	2	15.4%	6	16.2%	1.000
DM	0	0.0%	6	16.2%	0.319

#More than one answer

Table (9): Distribution of studied women according to satisfaction about care

Patient satisfaction	studied (n= 50) women	
	No.	%
Satisfied	18	36.0
Dissatisfied	32	64.0

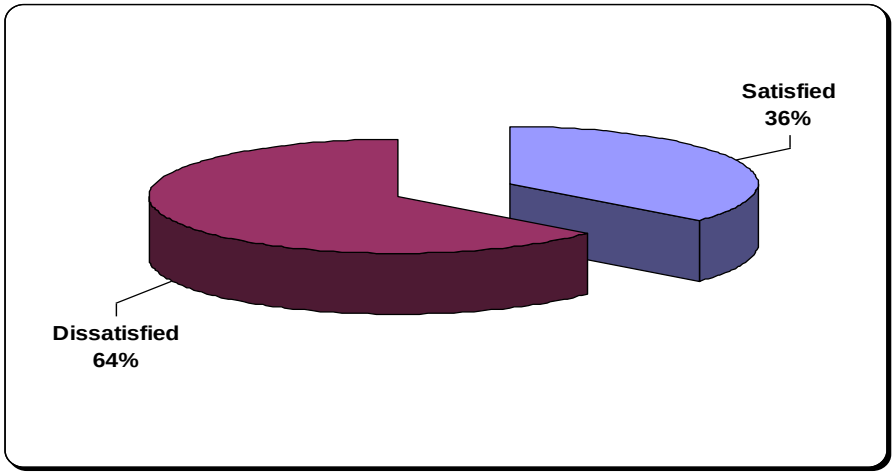

Fig (1): Distribution of data according to women satisfaction about care

Table (1): Showed the distribution of the women according to their personal data. As regard age: Mean age 31.16, and more than half was educated.

Table (2): Showed the vast majority of women was multiparty and previous deliveries was CS

Table (3): Showed clinical pre-operative data which reflected that the vast majority of women was conscious and have normal vital signs, but there hemoglobin level was normal in less than two -third (66٪) only.

Table (4): Showed clinical intraoperative data which reflect that more than two third of woman with gestational age ≥34WKs and have intraoperative hypothermia.

Table (5): Showed maternal progress data which revealed that all women are delivered by CS, more than half of them have uterine artery ligation and one quarter (30%) has hysterectomy

Table (6): Showed that two -third of women have abnormal fetal outcome.

Table (7): Showed the correlation between amounts of blood loss intraoperative and maternal complication which revealed that the women who have amounts of blood loss ≥ 500 was higher in maternal complication.

Table (8): Showed the correlation between amounts of blood loss intraoperative and fetal complication which revealed that the women who have amounts of blood loss ≥ 500 was higher in fetal complication.

Table (9): Showed the women satisfaction about the care introduced.

Fig (1): Described that more than half of women dissatisfied.

Discussion:

Placenta previa are an obstetric complexity that traditionally presents as bleeding from the vaginal without pain in pregnancy related to the placenta abnormally located near or covering the internal opening of cervical opening. Anyway, with the advanced technology in ultrasonography, the prediction of placenta previa is overall made early in pregnancy, there are three appointed degree of placenta previa: complete, partial, and marginal. More recently, this has been standardized into two identifications: complete and marginal previa **(Almnabri et al., 2017)**.

The aim of this study was to determine peri-partum nursing care for the women with placenta previa and their satisfaction.

The present study revealed that the mean ages were 31.16 years old. This finding agreed with **(Ogawa et al., 2017)** in the study entitled " the association between very advanced maternal age and adverse pregnancy outcomes" the majority of women including those between the ages of 30 years or older, and concluded that patients enactment 34 years or older hatwo to three times haut hazard of placenta previa in nexus to women more than 20 years old. Also, these were agree with the study of **(Weiner et al., 2016)** who studied the impact of placenta previa on the fetus growing and consequence of pregnancy,

in relevancy with placental pathology , they concluded that increasing in maternal age shows to excess the hazard of cases of placenta previa. In this aspect, **(Carusi, 2018)** who studied the placenta previa: epidemiology and risk factors. Clinical obstetrics and gynecology discussed that increased maternal age consider the main risk factors of the placenta previa

The present study showed one quarter of women has peri-partum hysterectomy, This agree with **(Porreco, & Stettler, 2010)** who studied surgical remedies for postpartum hemorrhage, Clinical obstetrics and gynecology, who found the women of placenta previa are in particular at an excess hazard for peri partum hysterectomy and ordinarily conduced due to un-dominated bleeding.

The present study showed that the maternal complication related to placenta previa, accidental bladder injury, ICU admission, intra uterine hematoma and hysterectomy, This finding agreed with study of **(Gibbins et al., 2018)** about Placenta previa and hemorrhagic morbidity to the maternal,. Primary outcome was composite maternal hemorrhagic morbidity was more common in women with previa which reported the Pregnancies complicated with placenta previa are been demonstrated to be prone to adverse outcomes, such as postpartum hemorrhage, maternal sepsis, maternal blood transfusion, and hysterectomy.

The present study found that two-third of women had abnormal fetal outcome. This result agree with **(Nawsherwan et al., 2020)** who studied The Low birth weight, and low index mediates the association between preeclampsia, placenta previa, and neonatal mortality, who found that approximately half of patients association between placenta previa and neonatal mortality, Also this finding similar with **(Carbone et al., 2020)** who found association with other hazard factors for hostile perinatal consequence, such as congenital malformations and early gestational age at delivery, that contribute to this increased risk of perinatal mortality in placenta previa. This reflect the investigator point of view about the careful surveillance for the women with placenta previa may help in minimizing maternal, fetal and neonatal complications .In this respect, this finding were agree with study of **(Baumfeld et al., 2017)** about the placenta associated pregnancy complications in the mother problematic with placenta previa, they reported that the mother problematic with placenta previa had been shown to be prone to adverse outcomes, such as neonatal mortality.

The present study reflected that the majority of the studied women who had a intraoperative massive blood loss, increase the maternal complication, This finding agreed with study by **(Unal et al., 2020)** that titled "Peri-operative blood transfusion in elective major surgery: incidence, indications and outcome–an observational multi-center study. Blood Transfusion", who found the patients high morbidity in their study was primarily related to extensive surgery and includes massive blood loss and transfusion. And disagreed with study by, **(Panigrahi et al., 2017)** in the study of "A standardized approach for transfusion medicine support in patients with morbidly adherent placenta" concluded that women with morbidly adherent placenta as a type of placenta previa had a high incidence of complications.

The present study reflected that the majority of the studied women who had a intraoperative massive blood loss, increase the fetal complication,This finding supported by **(Zhu et al., 2016)** who studied the maternal and fetal outcomes of pregnancy , study concluded that an placenta previa significantly increasing the incidence hazards of antenatal and perinatal complications.

The current study finding that more than half of women dissatisfaction about care introduced with placenta previa, this agree by **(Yanfei et al., 2017)** who reported in their study about nursing model in expectant treatment of placenta previa**.** The greatened consequential indexes of quality of care are the patient satisfaction and its consideration about outcome of healthcare services

This reflected the investigator opinion about that the patients with placenta precvia are usually emotionally unstable and lack reasoning towards disease development and expectant treatment. They cannot judge their own condition accurately; therefore, they often require more medical care and help.

Finally, nursing care for the women with placenta previa dissatisfaction and application of peri partum integrated nursing care for placenta previa can enhance success rate of management, reduce complications, upgrade nursing quality and increase patients' satisfaction.

Conclusions:

Based on the results of the present study, it can be concluded that:

The maternal and fetal complication is more in the patients who receiving routine nursing care. So majority of women dissatisfied regarding care introduced.

The patient satisfaction is indicator for quality of care, The Integrated nursing care for the patients with placenta previa can improve treatment success rate, decrease maternal and fetal complications and upgrade nursing quality. Continuous evaluation for nurses is needed to determine any defect in nursing quality.

Recommendations:

Based on the findings of the present study, it can be recommended that:

1- Application integrated nursing care as protocol for management the patients with placenta previa,
2- Apply the hospitals periodical In-services training program for nurses. To help in improving their practice and update their knowledge.
3- Future research is proposed to monitor the long-term effect of teaching program on nurse's knowledge regarding placenta previa.

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