

Effectiveness of Puerperal Sepsis Self- Care Guideline on Women's Health during Puerperium

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Abstract:

Background: Puerperal infection contributes to increase morbidity and mortality, unfortunately any bacterial infection of female genital tract struggling to the process of childbirth and birth.

Aim of the study: to assess knowledge and practice of postnatal mothers toward prevention of puerperal sepsis, and evaluate the effectiveness of self-care guideline on postnatal mothers.

Methods: Quasi- experimental pre-post test was conducted on (100) primiparous and multiparous, at the Beni-Suef general hospital. Data were collected using a structured interview questionnaire, A self-care learning package was developed and implemented by the researcher, the study was conducted from October 2015 to March 2016.

Results: The results have shown that the great majority of the studied women had poor score of knowledge related to the definition, causes, symptom, preventive measures and high risk group in pretest (96.0%) respectively. Meanwhile, these percentage changed to be adequate level of knowledge in the posttest after receiving the program to (85.0%) with a highly statistical significant differences respectively ($P = 0.000$). Furthermore, nearly half to two thirds of study sample were always commitment with guideline.

Conclusion: The postnatal mothers who received and complied with the guideline regarding puerperal sepsis and its prevention had high knowledge and practices score in the post-test of the intervention program than in pre-test.

Recommendations: Further extensive and intensive researches are needed in this area with a large sample size.

Keywords: puerperium, puerperal sepsis, self-care guideline

I. Introduction

Postpartum sepsis accounts for most maternal deaths between three and seven days postpartum, the rate of an incidence is very high and consequently the mother and newborn virtually higher infection risk¹. Recent study defined puerperal sepsis as an infection of the genital tract occurring any time from the rupture of membranes or the onset of labor to 42nd day of postpartum and signs include increase of body temperature, pelvic pain, abnormal vaginal discharge and sub-involution². In 2013, over 30,000 maternal deaths (11%) were referred to postpartum sepsis, and is considering as the third most frequent cause of approximately 290,000 maternal deaths worldwide^{3,4}. Moreover other studies reported that over 5 million/year of maternal sepsis occur globally with an estimated 75,000 maternal death, and mortality rates attributable to sepsis approach 33% in low-income settings⁵.

Unfortunately; Infection is a painful fact of life and the chief cause of death in maternal population. Even though the major infectious diseases are controlled and still infections are the main cause for mortality and morbidity⁶.

Basically, in health care sectors, the main objective to achieve optimal level of promotion, protection, rehabilitation and treatment of diseases. Furthermore, having high priorities in control of care-associated infections in health, as are major cause of mortality and morbidity in hospital admissions, being defined as that acquired during hospitalization⁷.

Regardless the advanced scientific research in various areas of knowledge, puerperal infection still constitutes a major public health problem, as evidenced by high prevalence of morbidity and mortality⁸. However, the nurses play an important role to develop multidisciplinary approach and intervention plans to cover the postpartum women, qualifies the care given to contribution decisively to prevent and reduce the rates of puerperal infection. Thus, the postpartum period is a period of risk, which makes the essential skilled nursing care that is based on the prevention of complications⁹. In turn, nursing health education based on scientific principles, which is highlighted the importance of practices and knowledge sharing among the staff nurses and

postpartum women¹⁰. Thus educational actions become transformed and build a potentiating strategy of nursing care in pregnancy and child birth⁸.

Significance of the study:

According to world health organization; 2014, the postnatal period is the most vulnerable period for the mother and new born. Postnatal infection is the fourth direct leading cause of maternal death in Egypt¹¹.

Puerperal sepsis continues causes deaths continuously in developing countries mainly .because of inadequate access to skilled care during and after child birth. Women may lack to access professional health care during labour and delivery care provided in the home or hospital setting with attendant whom does not meet quality standard skills can increase the risk of infection¹². Moreover the investigator during her practice in the hospital and community observed that most of the postpartum mothers had lack of knowledge about puerperal sepsis and its prevention. Further, various studies also reported that there is a lack of knowledge on puerperal sepsis and its prevention among postnatal mothers. Since puerperal sepsis is a preventable factor of maternal morbidity and mortality. Thus; the nurse can ease the transition from pregnancy to motherhood. Therefore, the investigator felt need to impotency to educate mothers about puerperal infection and its prevention to improve the knowledge and practices regarding puerperal sepsis and its prevention.

II. Aims of The Study

- 1- To assess knowledge and practice of postnatal mothers regarding prevention of puerperal sepsis.
- 2- To evaluate the effectiveness of self-care guideline regarding prevention of puerperal sepsis among postnatal mothers.

Hypotheses:

- There is positive correlation between postnatal mothers who received educational guideline and level of their knowledge and practice scores regarding to puerperal sepsis.

Research design:

Quasi- experimental by using pre-test and post-test one group only adopted for the study.

Setting: The study was conducted in postnatal ward at the BeniSuef general hospital

Sample: Purposive sampling of the postnatal mothers (100) primiparous and multiparous at post natal ward who met the inclusion criteria. The study was conducted from the beginning of October 2015 the end of March 2016.

Inclusion criteria:

- Primiparous and multiparous postnatal mothers
- Who delivered normally or by cesarean section
- Willing to participate in the study
- Post natal mothers who are Free from any infectious diseases

Exclusion criteria:

- Post natal mothers who are diagnosed with infectious diseases

Tools of data collection:

- A structured interview questionnaire was constructed to assess the mother's knowledge and practices regarding puerperal sepsis and its prevention modified by the researcher adopted on a review of literature guide by (Hussein, 2012) and similar studies conducted elsewhere¹². The questionnaire included **four parts:**

Part 1: Included data related to socio-demographic characteristics (age, religion, residence, occupation, level of education, age and occupation of husband type of family and housing condition).

Part 2: consisted of 3 sections:

Section(a): Included data related to obstetrics history (number of pregnancy, parity, abortion, number of living child, number of neonatal deaths and number of antenatal care follow-up, pregnancy complications).

Section (b): Included data related to current delivery (mode of delivery, place of delivery duration of labour, number of vaginal examination, labour complications).

Section (c): Included data related to puerperium (history of previous puerperium).

Part 3: It consists of 20 items contains questions related to mother's knowledge regarding puerperal sepsis and its prevention with multiple form of qualitative and quantitative data, some questions responded by yes or no, with score one or zero, other questions were open end questions. Every question was rated as poor, fair or good knowledge according to its content items, then the total score was calculated from 20 degree and classified into good knowledge score (>75%), fair knowledge score (50-75%) and poor knowledge(<50%).

Part 4: It consisted of 20 items contains statements related to mother's compliance regarding puerperal sepsis and its prevention guidelines. The responses will be based on a three point likert scale (never scored 1, sometimes scored 2 and always scored 3).

Validity

Content validity of the questionnaire sheet was ensured through an extensive review of literature related to puerperal sepsis and its prevention. modification to the tools were made according to three experts in the field of Obstetrics and Gynecological Nursing, Obstetrics and Gynecological Medicine judgment on clarity of sentences, appropriateness of content, sequence of items, and accuracy of scoring and recording of items

Pilot study: Applicability of the study tools was tested through a pilot study that was carried out on 10% of women to ensure clarity, and understandability of the tool.

Procedure

- Before conducting the study, an official permission was obtained from the director of BeniSuefhospital. a written consent was obtained from each mother recruited in the study.
 - The study was designed in three phases: assessment, implementation and evaluation
1. **Assessment phase** during this phase an official approval was obtained to conduct the study at BeniSuef Hospital, the researchers made a visit to post natal ward to evaluate the place and saw the rate of postnatal women and personal communication was be done with nurses and explain the purpose of the study, after that the women who met study criteria , the researcher explain the purpose of the study and obtain their consent, all women in the post natal ward were interviewing to collect data related to socio demographic data the interview existed 15 minutes for each mother . after that the researcher collect the data related to mother medical and obstetric history and present pregnancy history that may be affect the outcomes of post natal period , and data related to present labour such as the type of labour, the place of labour, what about amniotic fluid before starting of labour process ,and any complication occur during labour .
 2. **Implementation phase:** During implementation phase the guidelines were given to the postnatal mother and explained through power point lectures ,booklet .the researcher clarified the content of the booklet ,answer mothers questions, phone number was taken to make follow up with them .the researchers made discussion, demonstration based on the level of understanding. The researchers covered the following topics: concept of puerperal sepsis, causes of puerperal sepsis, the risk factors of puerperal sepsis ,the most mother who are exposed to puerperal sepsis, sign and symptoms, how to protect herself from puerperal sepsis, the precautions during post natal period, then the mistakes must not be done at post natal period
 - 3- **Evaluation phase:** post implementation of the guidelines was done using the same pre-test tool. comparison between the collected data before and after guidelines intervention was done to determine the effectiveness of guidelines

Ethical considerations

Each Participant woman in the study were informed that all their data are highly confidential, anonymity was also assured through assigning a code number for each woman instead of names to protect their privacy. Data was only available to the researchers and the participants.

Statistical analysis

Data statistical analysis was done using the SPSS data were presented using the form of mean, stander deviations, paired T test differences among variables tested by using chi square (X²) Statistical significance was considered at P-value ≤ 0.05

III. Results

To fulfill the aim of the current study, results presented in the following order:

Table 1: indicates; socio-demographic characteristics of women and her husband in the study sample. Around two thirds of the study women aged between twenty to thirty years (62.0 %). Nearly, one third of study women were illiterate (30.0%) and around quarter had university and secondary education (24.0 %) and (22.0 %) respectively. In relation to job, most of them were employed (88.0 %). As regards women's husbands and families the same table demonstrates, more than half of study women had four to six person in the family (52.0), and (42.0%) had one to three. As regard husband job, more than half of husband of women were workers (52.0%) and (36.0) were worked at special sector.

Table 2: illustrates: Pregnancy history of women in the study sample, the table shows that; nearly quarter of the sample in each group of pregnancy number, (28.0%), (26.0%), (24.0%), and (22.0%) respectively. Regards to parity around to one third had one child (34.0%) and also one lived child (32.0%). Moreover most of women had not abortion (70.0%) , and majority of them had not children dead after birth (94.0%) or dead children

(90%). in relation to follow up of pregnancy, most of women follow up the pregnancy (86.0%), (44.0%) follow up visit number were one to five visit and (56.0%) follow up in obstetrics clinic. Table also illustrate medical and obstetrics problem during pregnancy (58.0%) had no problem and (30.0%) were hypertensive.

Table 3: Table 3 shows: Delivery history among women in study sample, the table shows that; more than half of the sample (56.0) was delivered caesarean section, majority of them delivered in health center (96.0) and half of study sample (50%) delivery begin spontaneously and amniotic sac was intact. Regards to time of delivery nearly half of the sample delivered in one to six hours (48%). In relation to delivery problems more than half hadn't delivery problems (56.0) and (42.0) had problems, these problems were rupture of membrane (14.0%) and Vaginal bleeding (12.0%), difficulty of delivery (10.0%), and long delivery time (4.0) respectively, and only (2.0%) had vaginal tear and placental remains. Also the table shows that the most of them were vaginally investigated (82.0%).

Table 4: demonstrates that most of studied women had no labour complications, only (4.0%) had prolonged labour, (4.0%) vaginal bleeding, and (2%) premature rupture of membrane and maternal/fetal distress. Regards to past puerperal complications; majority of them had no problems, only (6.0%) had Primary P.P.Hge and (2.0%) puerperal sepsis.

As regards knowledge of the studied women about puerperal sepsis **Table 5:** presents that the great majority of the studied women had poor score of knowledge related to the definition, causes, symptom, preventive measures and high risk group in pretest (96.0%) respectively. Meanwhile, these percentage changed to be adequate level of knowledge in the posttest after receiving the program to (85.0%) with a highly statistical significant differences respectively (P. =0.000).

In relation to commitment level for guideline of puerperal sepsis prevention among studied women **Table 6 :** clear up that nearly half to two thirds of study sample were always commitment with guideline and around quarter of the sample were commitment to some extent and never commitments ranged only from (2.0%) to (12%).

Figure 1: clear up that the great majority of studied women reported that the booklet knowledge was sufficient (80%) and equal percentage of them 10% reported the knowledge were not insufficient and sufficient to some extent.

Table 7: illustrates that there is significant improvement of the studied women knowledge regarding most of the studied items in relation to puerperal sepsis after the implementation of the interventions compared with before intervention $p < 0.000$

Table 8: reveals comparison of total score of knowledge of puerperal sepsis in relation to parity before and after intervention. The table revealed that both group after intervention reported highly significant higher score of knowledge compared with before intervention. Moreover the mean score of primiparous was highest than multiparous the mean score was (36.66) for primiparous and (35.11) for multiparous.

Table 9: reveals comparison of total score of knowledge of puerperal sepsis in relation to educational level before and after intervention. The table revealed that all group after intervention reported highly significant higher score of knowledge compared with before intervention. Moreover the mean score of secondary and highly educated women were higher than other groups, the mean scores were (37.2500) for secondary and (38.6667) for highly educated women respectively.

IV. Discussion

Puerperal sepsis is serious form of septicemia contracted by women during or soon after child birth, miscarriage or unsafe abortion, It has been found to be the second most common cause of maternal morbidity and mortality in the developing world. It was observed that internationally puerperal infection has indexes ranging from 3 to 20%, with values of 9% 13, 14.

The present study documented that the mean age of studied women were 25.18 ± 5.95 years, nearly one third of them were illiterate and around quarter had university and secondary education. Also, most of them were housewife and living in rural areas.

These findings consistent with Belagavi, et al (2015), who studied the knowledge regarding puerperal sepsis and its prevention among postnatal mothers in selected hospitals of Bhavnagar and reported that the majority of post-natal mothers were from the age group 23-27 years, more than half of them (60%) had primary education and living in rural area 15.

The foregoing present study finding concerning the knowledge and practice of postnatal mothers on prevention is in the agreement with Lalitha (2016), who was assess the knowledge and practice of postnatal mothers on prevention of selected puerperal infections in a selected maternity hospital and proved that majority of the mothers were in the age group of 20-25 years, with educational status of primary and secondary education and most of them were housewives, belonged to joint families, and from urban residential 16.

In the line of the study findings recent study reported in north-eastern Nigeria the level of knowledge of symptoms and signs of puerperal sepsis in a community and stated out of 400 respondents interviewed, 289

(72.2%) the ages ranged between 20 and 39 years, and most, 374 (93.5%), were married. Only 14 (3.5%) had tertiary education. Most respondents, 224 (56.0%) were farmers and grand multiparae accounted for 187 (46.7%) 17.

In contradiction with the finding regarding to age of studied sample, the majority of control group (40%) of female health workers were in age group of 41-50 years and the majority of experimental group (40%) were in age group of 31-40 years. The study reported that the enhancement of knowledge regarding puerperal sepsis among female health Workers18.

Our results in agreement with studies of Belagavi et al, (2015), in relation to obstetrics history reported that the majority of the studied sample 51.66% were multi Para and 48.33% were primipara15. On the other hand, Lalitha(2016) assigned that 56.2% of the respondents were of lower parity status while 29.8% were of the upper parity level. moreover more than half of studied women had no medical and obstetrics complications during pregnancy (58.0%) and hypertensive disorders were the most common problems reported by (30%) of studied women. Regarding to follow up of pregnancy reported most of women follow up the pregnancy (86.0%), (44.0%) follow up visit number were one to five visit and (56.0%) follow up in obstetrics clinic16.

In partial agreement with this findings Belagavi et al (2015), revealed that majority 65% of mothers in pre-test of experimental group were having average knowledge score(8-14), where in post-test majority 63.33% of the mothers had average knowledge score(8-14) and 36.66% of mothers were having good knowledge score (15-22) which indicates that the STP was effective15. Moreover Singh et al (2011) found that the pretest mean knowledge score regarding puerperal sepsis was 21.97, which increase to 33.87 in posttest with statistical significant differences among experimental group who received teaching program. Hence it was interpreted that structured teaching program was effective19. In addition Yahaya(2013), mentioned that a total of 53% of respondents were not aware of the causes of puerperal sepsis; 10% believed it is caused by evil spirits. The knowledge of the causes of puerperal sepsis is poor17.

Lalitha(2016),revealed that the mean percentage of knowledge score of postnatal mothers was 52% and the mean percentage of practice score was 66.8% on prevention of puerperal infections. Further it also showed that 65% of the postnatal mothers had inadequate level of knowledge, 35% had moderate level of knowledge and none of the mothers had adequate knowledge on prevention of puerperal infections16. Moreover in related study by Momohetal, 2010 concluded that majority of the women had no insight about puerperal sepsis in terms of identification of danger signs and symptoms indicating infection, ways of preventing infection after delivery, abortion or miscarriage and how they can be involved in its management20.

V. Conclusion

Based on the findings of the present study, it can be concluded that the majority of pregnant women were lacked the essential knowledge regarding puerperal sepsis and its prevention also results of the current study supported the investigated hypothesis of the study, it could be concluded that the postnatal mothers who received and complied with the guideline regarding puerperal sepsis and its prevention had high knowledge and practices score in the post-test of the intervention program than in pre-test

VI. Recommendations

On the light of the study findings, it is recommended that:

- Puerperal sepsis guidelines can be introduced to the women antenatal and then it can be used postnatal.
- The midwifery nurse could play and implement their role as health educator, counselor, coordinator, supervisor, environmental modifier and consultant and help post natal mothers to improve their knowledge regarding puerperal sepsis and its prevention.
- Further extensive and intensive researches are needed in this area with a large sample size.
- Further researches are needed regarding factors and barriers associated with the utilization of self-care practices through reproductive years for women as well as for management of various obstetrics and gynecological problems.

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Table 1: Socio-demographic characteristics of studied women (N= 100) :

Item	Items	No.	No.	%	%
Women age:					
	<20 years	14		14	
	20 -30	62		62	
	> 30	24		24	
	Mean± SD	(25.18± 5.951)			
Education:					
	illiterate	30		30	
	read and rite	16		16	
	primary	2		2	
	preparatory	6		6	
	secondary	22		22	
	university	24		24	
Women's Job:					
	house wife	88		88	
	employee	12		12.0	
Residence:					
	rural	78		78	
	urban	20		20	
	semi urban	2		2	

Table 2: Obstetrics history of women in the study sample (No. 100)

Gravidity :		
One	28	28
Two	22	22
Three	26	26
more than three	24	24
Parity:		
none	2	2
one child	34	34
two children	18	18
three children	26	26
more than three children	20	20
Abortion No.		
None:	70	70
one	24	24
two	6	6
three or more	0	0
No. of lived children:		
No live children	2	2
One child	32	32
Two children	20	20
Three children	26	26
more than 3 children	20	20
No. of dead children:		
No dead children	90	90
One child	8	8
Two children	2	2
More than two	0	0
Follow up during pregnancy:		
Yes	86	86
No	14	14
Antenatal visits No.		
None	4	4
1 – 5	44	44
6 – 10	36	36
More than 10	16	16
Follow up setting:		
health unit	12	12
obstetric clinic	66	66
hospital	18	18
History of medical or obstetric complications during pregnancy:		
yes	42	42
No	58	58
Αιμοταξική ρευστογέ		
Αιμοταξία	10	10
Δυσταξία	13	13
Ηλθροειδίτις	0	0
complications during pregnancy:	30	30
Types of complications		

Table 3: current labour/delivery characteristics of women in the study sample No. (100)

Items	No.	%
Mode of delivery:		
Normal delivery	44	44
Cesarean section	56	56
Delivery setting:		
Hospital	4	4
Health center	96	96
Type of labour:		
Spontaneous	38	38
Induced	62	62
Duration of labour:		
1 – 6 hours	48	48
7 – 12 hours	26	26
One day	13	13
Two days	13	13
labour complications:		
Yes	44	44
No	56	56
Types of complications:		
Vaginal bleeding	12	12
Rupture of membrane	14	14
Obstructed labour	10	10
Prolonged labour	4	4
Ventose Delivery	0	0
Vaginal tear	2	2
Retained Placenta	2	2

Table 4:Previous labour and puerperal period history of women in the study sample No .(100)

Items	No.	%
Past delivery complications :		
yes	16	16
no	84	84
Types of past delivery complications		
Obstructed labour	0	0
Vaginal bleeding	2	2
Prolonged labour	4	4
Maternal / fetal distress	8	8
Premature rupture of membrane	2	2
	0	0
Past Puerperal complications:		
Yes	8	8
No	92	92
Types of Puerperal complications :		
Primary postpartum Hge	6	6
Secondary postpartum Hge	0	0
Subinvolution	0	0
Vaginitis	0	0
Puerperal sepsis	2	2
Anemia	0	0

Table 5: knowledge of the studied women about puerperal sepsis No. = (100):

Items	Pre		Post		X ²	p- value
	No.	%	No.	%		
Definition:						
Poor	72	72	12	12	38.224	0.000
Inadequate	22	22	52	52		
Adequate	6	6	36	36		
Causes:						
Poor	84	84	16	16	52.756	0.000
Inadequate	16	16	28	28		
Adequate	0	0	56	56		
Signs and symptoms:						
Poor	54	54	18	18	36.684	0.000
Inadequate	40	40	30	30		
Adequate	0	0	52	52		
Prevention of puerperal sepsis						
Poor	90	90	6	6	74.183	0.000
Inadequate	8	8	16	16		
Adequate	2	2	78	78		
Who are the women most vulnerable to puerperal sepsis						
Poor	12	12	18	18	18.600	0.000
Inadequate	86	86	50	50		
Adequate	2	2	32	32		
Total knowledge score						
Poor	96	96	0	0	26.154	0.000
Inadequate	4	4	15	15		
Adequate	0	0	85	85		

Table 6: commitment level for guideline of puerperal sepsis prevention among studied women No. = (100)

Items	Never		Sometimes		To extent some		Always	
	No.	%	No.	%	No.	%	No.	%
1 Continuous vital Signs monitoring after delivery	2	2	14	14	26	26	58	58
2 Temperature measurement daily	8	8	16	16	20	20	56	56
3 Preservation of the breast feeding baby immediately after birth	10	10	14	14	22	22	62	62
4 The under wear be sterilized properly	12	12	14	14	18	18	48	48
5 Need to change under wear regularly	6	6	10	10	14	14	70	70
6 Need to wash hands before and after perineal care	10	10	10	10	12	12	68	68
7 Clean genital and perineal area several times daily with antiseptic solution in right direction before changing dressing	0	0	18	18	20	20	62	62
8 Drying the perineum well with clean and dry towel	0	0	16	16	24	24	60	60
9 Observe the perineum in case of episiotomy for having any symptoms of presence of infection such as bloody secretions, bad odour or colour or delay of wound healing and should go to the doctor immediately.	8	8	12	12	24	24	48	48
10 Follow up involution process in 15 days	12	12	6	6	18	18	64	64
11 Follow up colour, odour and amount of lochia	12	12	14	14	18	18	48	48
12 Not to sit in the water for long periods when bathing	8	8	16	16	18	18	58	58
13 Attention to good nutrition	8	8	14	14	20	20	58	58
14 Interest in sports such as daily activities	10	10	10	10	12	12	68	68
15 Drink warm drinks constantly	6	6	12	12	14	14	68	68
16 Take enough rest	6	6	14	14	16	16	64	64
17 Avoiding using vaginal dosh or sitting in warm water	6	6	10	10	28	28	48	48
18 Avoiding practicing sexual activities during first 40 days	2	2	16	16	26	26	48	48
19 Far from any source of infection	12	12	16	16	24	24	48	48
20 Careful to reduce the visitors	10	10	14	14	30	30	46	46
21 make sure free visitors from respiratory and any infectious disease	8	8	10	10	26	26	48	48
23 Avoiding of practicing the wrong habits after birth	2	2	14	14	26	26	58	58

Figure 1: Comments of women in the study sample on guideline booklet knowledge sufficiency (No=100).

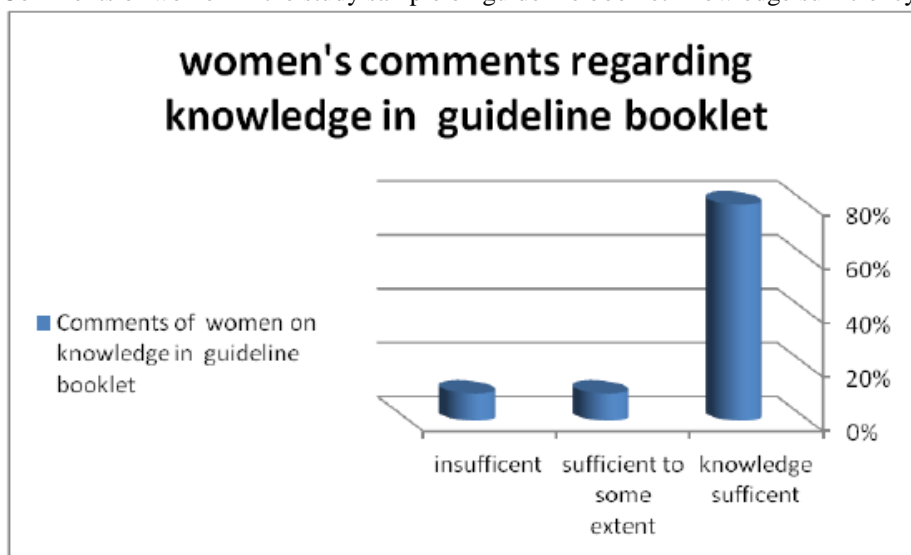


Table 7: Comparison of knowledge scores before and after intervention related to puerperal sepsis

	Paired sample T test	Mean ± (SD)		P value
		Pre	Post	
Definition & Causes:	11.319	1.6200	6.3600	0.00
Signs & symptoms:	6.894	3.2600	7.6600	0.00
Preventive measures	11.729	3.4000	18.2200	0.00
High risk group	5.733	4.7143	8.3265	0.00
Total score of knowledge	9.369	26.4000	36.1400	0.00

Table 8: Comparison of total score of puerperal sepsis knowledge in relation to parity before and after intervention

	Paired sample T test	Mean ± (SD)		P value
		Pre	Post	
Primi parous	7.469	25.9394	36.6667	0.00
multiparous	6.668	27.2941	35.1176	0.00

Table 9: Comparison of total score of puerperal sepsis knowledge in relation to educational level before and after intervention

	Paired sample T test	Mean ± (SD)		P value
		Pre	Post	
Illiterate	5.455	25.8667	33.467	0.000
Middle education (read and write, primary and preparatory)	4.713	26.3636	35.8182	0.001
Secondary education	3.970	26.1667	37.2500	0.002
Highly educated women	4.804	27.3333	38.6667	0.001