



KNOWLEDGE AND PRACTICE OF POSTPARTUM MOTHERS REGARDING PUERPERAL SEPSIS PREVENTION

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ABSTRACT

Puerperal sepsis is an infection which arises from bacterial invasion of the genital organs during postpartum period. The aim of this study was to assess the knowledge and practice of postpartum mothers regarding puerperal sepsis prevention. A descriptive study was used. A purposive sample composed of 120 postpartum mothers. This study was conducted at Obstetrics and Gynecology Department in Tamia General Hospital at Fayoum city. three tools were used in data collection in the present study: Structured Interviewing Questionnaire, Knowledge of postpartum mothers regarding puerperal sepsis, and Practice of postpartum mothers regarding puerperal sepsis prevention. findings of the presenting study revealed that less than two thirds of the studied mothers had unsatisfactory knowledge regarding puerperal sepsis and more than half of them had unsatisfactory practice regarding puerperal sepsis prevention. According to the findings of the present study, less than two thirds of the studied mothers had unsatisfactory knowledge regarding puerperal sepsis. Furthermore, more than half of them had unsatisfactory practice regarding puerperal sepsis prevention.

Keywords: knowledge; practice; postpartum mothers; puerperal sepsis

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INTRODUCTION

According to the World Health Organization definition, puerperal sepsis is a genital tract infection occurring within the rupture of placental membranes or labor until 42nd days of the post - partum period. This disease is characterized by two or more of such symptoms as pelvic pain, fever (i.e., oral temperature of 38.5°C or higher on any occasion), abnormal vaginal discharge and delay in the reduction of the uterus size (WHO, 2015). The vast majority of puerperal sepsis is due to infection of the genital tract pathogens that colonize the cervix and vagina, gain access to amniotic fluid and invade the devitalised uterine tissues. Puerperal sepsis results from infection contacted during childbirth and this is one of the commonest causes of maternal mortality in the developing countries. Common predisposing factors leading to puerperal sepsis are anaemia, prolonged labour, frequent vaginal examinations in labour under unsterilized circumstances, premature rupture of membranes for prolonged periods. (Kiponza et al., 2019).

Puerperal sepsis is one of the major causes of preventable maternal morbidity and mortality in the developing countries. World Health Organization estimated that about 800 women die from pregnancy- or childbirth-related complications around the world daily and puerperal sepsis contributes about 15% of these deaths. Majority of maternal mortality (99%) occurs in developing countries, and most can be prevented. Most postpartum infections take place after

hospital discharge, which is usually after 48 hours following delivery. In the absence of postnatal follow-up, as is the case in many developing countries, many cases of puerperal infections go undiagnosed and unreported (Ifunanya et al., 2019). Puerperal sepsis is preventable with provision of adequate antenatal care, referral and timely treatment of complications of pregnancy, promoting institutional delivery and postnatal care. Some developing countries have experienced increased use of health facilities for labor and delivery care, but there is a lack of proper monitoring or checks and balances and there is a possibility that this trend could lead to rising rates of puerperal sepsis. Drug and technological developments need to be combined with effective health system intervention to reduce infection, including puerperal sepsis (Kaur & Ray, 2020). Puerperal sepsis accounts for 15% of maternal deaths worldwide. In Africa, puerperal sepsis is the second leading cause of maternal morbidity and mortality, accounting for more than 10% of maternal deaths. On the other hand, the rate of puerperal sepsis has declined significantly in high-income countries. For example, in the United States puerperal sepsis occur in only 5.5% of vaginal deliveries and 7.4% of caesarean section deliveries (Kiponza, 2019).

WHO estimates that the global prevalence of maternal sepsis is 4-4% among live births, that represent more than 5.7 million cases per year. Important variations exist between regions, with higher incidence in low-income and middle-income countries (up to 7%) compared with high-income countries (1-2%). Despite the relative low prevalence and the availability of interventions for its prevention and treatment, maternal sepsis remains a life-threatening condition and one of the leading direct causes of maternal mortality worldwide, accounting for up to 10% of maternal deaths (Bonet et al., 2015). In 2013, over 30.000 maternal deaths (11%) were referred to postpartum sepsis, and is considered as the third most frequent cause of approximately 290.000 maternal deaths worldwide. 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 settings (WHO, 2014).

The postpartum period is the most vulnerable period for the mother and newborn. Puerperal sepsis still one of the causes for deaths in developing countries, mainly in Egypt postnatal infection is the fourth direct leading cause of maternal death (WHO, 2014). The inadequate access to skilled care during and after childbirth, or neglect to provide the mother with adequate knowledge and practice to prevent the puerperal sepsis, that can put the mother at risk for infection (Masoud & Saber, 2016). Since puerperal sepsis is a preventable factor of maternal morbidity and mortality, therefore, the researcher felt the need to educate the postpartum mothers about puerperal sepsis and the steps of precaution to prevent this issue by using the instructional guideline to improve the knowledge and practices regarding puerperal sepsis and its prevention. This study aimed to assess the knowledge and practice of postpartum mothers regarding puerperal sepsis prevention

METHOD

The technical design includes; research design, setting, sampling and tool for data collection. A quasi experimental research design (one group pre and post test) was used in this study. The study was conducted at the postpartum ward in Obstetrics and Gynecology Department in Tamia General Hospital at Fayoum city which is affiliated to the Ministry of Health and Population (MOHP) it provide free services for rural and urban areas at El Fayoum City. A purposive sample was used in this study. The sample size was consisted of (120) postpartum mothers included in the present study. The total participants were selected according to the following statistic formula:

$$n = \frac{Z^2 pq}{e^2}$$

Where:

e is the desired level of precision (i.e. marginal error).

P is the estimated proportion of the population, which has the attribute in question.

q is 1- p.

Z=1.96

Inclusion criteria: Primiparous and multiparous postpartum mothers, Who delivered normally or by cesarean section, Willing to participate in the study. Exclusion criteria: Postpartum mothers who are diagnosed with infectious diseases. Three tools were used in data collection in the present study: Tool (1) Structured Interviewing Questionnaire: This tool was developed in Arabic language by the researcher based on reviewing local and international literature review. It entails three parts as the following: Part (1): Included data related to socio-demographic characteristics of mothers such as; (age, residence, occupation, level of education, income, member support of the family, If the mother has knowledge regarding puerperal sepsis and the source of this knowledge). Part (2): Included data related to obstetrical history of mothers such as; (parity status, number of pregnancy, number of para, number of abortion, the number of living children, number of neonatal deaths, complication of previous birth and previous puerperium). Part (3): Included data related to current obstetrical data of mothers such as; if the mother follow up her pregnancy, regularity of antenatal care follow-up, pregnancy complications, mode of delivery, place of delivery, duration of labor, number of vaginal examination, and labor complications.

Tool (2): Knowledge of postpartum mothers regarding puerperal Sepsis: It was consisted of fourteen items, related to the mother's knowledge regarding puerperal sepsis and its prevention in the form of multiple choice questions (MCQs). Scoring System: Regarding knowledge items, it was including 3 levels: the complete, correct answer was scored as (3), the incomplete, correct answer was scored as (2), while wrong or no answer was scored as (1). The total scores of mother knowledge were (1-42) score divided into three levels: Unsatisfactory knowledge < 50% or < 21 mark. Incomplete satisfactory knowledge 50 – < 75% or from 21- < 32. Complete satisfactory knowledge ≥ 75% or ≥ 32.

Tool (3) Practices of Postpartum Mothers regarding Puerperal Sepsis Prevention: This tool was adapted from (Sultana et al., 2018) that was consisted of twelve items, then the researcher added eight questions to cover the aim of the study and to be more suitable for the postpartum mothers, then translated by the researcher into Arabic language. It was used to evaluate the practice of postpartum mothers to prevent puerperal sepsis, and each question responded by done or not done. The researcher gave (2) marks for done step and (1) mark for not done step. The score of practices was from (1-40 marks) divided as the following: Unsatisfactory practice < 60% or < 24 mark. Satisfactory practice ≥ 60% or ≥ 24 mark. The process of data collection was carried out in the period from the beginning of 1 March and completed by the 30 June. The researcher attended the pre-mentioned setting 3 days/week from 9.00 a.m. to 2.00 p.m. to collect data until the sample size reached the pre-determined number. The researcher filled the tools to educated and non-educated mother. The researchers visited the postpartum ward to evaluate the place and saw the rate of postpartum mothers. Explain aim of the study to staff nurses to facilitate the conduction of this study.

The researchers select mothers who fulfilled the study criteria, then explained the purpose of the study and obtained their consent. Then the researcher was conduct the assessment process

sometimes individually and another time in groups. All primiparous and multiparous postpartum mothers in the postpartum ward were interviewed to collect their socio-demographic data. Then the researcher used the tool I (structured interviewing questionnaire) to assessing socio-demographic characteristics such as; (age, residence, and occupation.....) and obstetric history of mothers such as; (number of pregnancy, parity, and number of abortion.....) that may affect the outcomes of the postpartum period. Then the researcher used tool II that consisted of fourteen items to assess the mother's knowledge regarding puerperal sepsis and its prevention, such as; (benefits breastfeeding, definition uterine involution, and definition puerperal sepsis. Then the researcher used tool III that consisted of twenty items to assess the mother's practice regarding puerperal sepsis prevention, such as; (I maintain a healthy hemoglobin level, by eating rich iron food liver and honey, and I take plenty of warm fluids.....).

RESULTS

Table 1.

Distribution of the study group according to their sociodemographic characteristics (n= 120)

Items	f	%
Age:		
15-25	61	50.8
26-35	49	40.8
36-45	10	8.4
Mean±SD	27.3±4.5	
Residence:		
Rural	97	80.8
Urban	23	19.2
Education:		
Illiterate	27	22.5
Read and write	36	30.0
Secondary education	48	40.0
University education	9	7.5
Occupation:		
Housewife	105	87.5
Employee	15	12.5
Family income		
Enough	58	48.3
Not enough	62	51.7
Member support in family		
Husband	36	30.0
Mother	24	20.0
Sisters	6	5.0
Mother in law	27	22.5
No one	27	22.5
knowledge regarding puerperal sepsis		
Yes	31	25.8
No	89	74.2

This table showed the socio-demographic characteristic of the studied mothers. It was found that the mean age of the studied mothers was (27.3±4.5) and more than three quarters (80.8%) of them from rural area. Regarding mothers' level of education; more than one third (40%) of studied mothers were secondary education and the majority (87.5%) of them were housewife.

Regarding family income, the current results revealed that slightly more than half (51.7%) of them were not enough. Concerning member support of family, the results revealed that less than one third (30.0%) of them reported that, the member support of the family was the husband and approximately three quarters (74.2%) of them hadn't knowledge regarding puerperal sepsis.

Table 2.
Distribution of the study group according to their knowledge regarding puerperal sepsis pre, post and follow up instructional guidelines (n=120).

Items of knowledge	Complete, correct answer		Incomplete, correct answer		Wrong or no answer	
	f	%	f	%	f	%
Definition of uterine involution.	12	10	0	0	108	90
Definition of puerperal sepsis.	4	3.3	0	0	116	96.6
Risk factors of puerperal sepsis.	5	4.2	51	42.5	64	53.3
Signs and symptoms of puerperal sepsis.	2	1.7	52	43.4	66	54.9
Diagnosis of puerperal sepsis	3	2.5	34	28.3	83	69.2
Complication of puerperal sepsis.	2	1.7	45	37.5	73	60.8
Prevention of puerperal sepsis.	5	4.2	47	39.2	68	56.6
Management of puerperal sepsis	0	0	33	27.5	87	72.5
Factors increase uterine involution	5	4.2	40	33.3	75	62.5
Factors decrease uterine involution	5	4.2	43	35.8	72	60

This table 2 reveals that (90%, 96.6%, 69.2, and 72.5%,) of the studied mothers had wrong or no answer regarding definition of uterine involution, definition of puerperal sepsis, diagnosis, and management of puerperal sepsis respectively.

Table 3.
Distribution of the study group according to their total knowledge score regarding puerperal sepsis it is prevention (n=120)

Total knowledge	Satisfactory knowledge		Incomplete, Satisfactory knowledge		Unsatisfactory knowledge	
	f	%	f	%	f	%
	3	2.5	43	35.8	74	61.7

This table 3 shows that less than two third (61.7%) of the studied sample had Unsatisfactory knowledge regarding puerperal sepsis and it is prevention.

Table
4. Distribution of the study group according to their total practice score regarding puerperal sepsis prevention (n=120)

Total practice	Satisfactory practice		Unsatisfactory practice	
	f	%	f	%
	44	45	66	55

This table 4 presents that more than half (55%) of the studied sample had Unsatisfactory practice regarding puerperal sepsis prevention.

DISCUSSION

In developing world, it has been reported that puerperal sepsis is the second most cause of maternal mortality. Puerperal sepsis is a serious type of septicemia contracted by mother during or soon after childbirth, miscarriage or unsafe abortion. Puerperal sepsis arises from several causes. Mothers susceptibility to developing an infection is related to such factors as caesarean section, prolonged labor, and obesity, anemia and poor prenatal nutrition (Sultana et al., 2018). Regarding socio-demographic characteristics of the studied sample, the present study result revealed that slightly more than half of the studied sample was in the age group of 15-25 year. This finding is in agreement with (Atlaw, Seyoum, Woldeyohannes & Berta, 2019) who reported in a published study conducted in University of Gondar Referral Hospital, Ethiopia, entitled as " Puerperal sepsis and its associated factors among mothers in University of Gondar referral hospital, Ethiopia, 2017" that the majority of the studied sample was aged between 18 and 29 years.

Also, this finding is in agreement with (Chepchirchir, Nyamari, & Keraka, 2017) who studied the " Associated Factors with Puerperal Sepsis among Reproductive Age Women in Nandi County, Kenya" and found that nearly two third of the studied sample was aged between 20-25 years. In relation to the total knowledge score of postpartum mothers regarding puerperal sepsis, the results of the current study indicated that less than two third of the studied sample reported that they had unsatisfactory knowledge regarding puerperal sepsis. These findings are supported by (Gamel, Genedy & Hassan, 2020) who studied the " Impact of Puerperal Sepsis Self-Care Nursing Guideline on Mothers Knowledge and Practices" in Egypt, he found that less than two third of the studied sample had unsatisfactory knowledge regarding puerperal sepsis in pretest. While, this finding not in the same line with (Sarkar, Ahalawat & Kumari, 2019). Who reported that less than two thirds of the studied sample had an average level of knowledge regarding puerperal sepsis. From a researcher point of view, the reason is that the majority of the studied sample was from rural areas who did not receive any kind of training of health education regarding puerperal sepsis. The lack of knowledge regarding puerperal sepsis can expose these mothers to the risk of infection, and eventually endanger their lives. Focusing on total satisfactory practice of postpartum mothers regarding puerperal sepsis prevention, the current study showed that more than half of the studied sample had unsatisfactory practice. This result supported by (Sarkar, Ahalawat & Kumari, 2019). Who reported that slightly more than half of the studied sample had unsatisfactory practice .

CONCLUSION

The present study concluded that there was a highly statistical significant improvement in mothers knowledge and practices regarding puerperal sepsis after applying the instructional guidelines, this evidence that these guidelines were effective in raising mothers knowledge regarding puerperal sepsis and improving their practices regarding puerperal sepsis prevention also this result support research hypothesis.

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