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KNOWLEDGE REGARDING PREVENTION OF PUERPERAL INFECTION AMONG PRIMIGRAVIDA MOTHERS

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ABSTRACT

Introduction: Puerperal infection, also known as postpartum infection, is a bacterial infection that can occur in the genital tract after childbirth or during the postpartum period. Puerperal infection encompasses an infectious condition within the reproductive tract, extending from the rupture of membranes through labor and up to 42 days after childbirth. **Material and Methods:** An exploratory research design with a quantitative approach was adopted to assess the knowledge of primigravida mothers regarding the prevention of puerperal infection. The present study was conducted at selected hospitals, Hoshiarpur, Punjab. A total of 60 primigravida mothers were involved using purposive sampling techniques. Data were collected through interviews, employing socio-demographic profile and self-structured questionnaire to assess their knowledge of preventing puerperal infection. **Results:** Out of the 60 samples, 41.7% had average knowledge where as 38.3% subjects had good knowledge followed by 15% were having excellent knowledge and only 5% subjects had poor knowledge. Additionally, education, type of family, place of residence and source of information had significant association with knowledge.

Conclusion: This study emphasizes varying levels of knowledge among first-time mothers, highlighting strengths and areas needing intervention. Addressing socio-demographic factors and customizing educational initiatives can improve maternal healthcare, benefitting both mothers and infants. Continued research and interventions are vital for advancing maternal health practices in the region.

Keywords: Puerperal infection, primigravida mothers, knowledge.

INTRODUCTION

Puerperal infection, also known as postpartum infection, is a bacterial infection that can occur in the genital tract after childbirth or during the postpartum period. Puerperal infection encompasses an infectious condition within the reproductive tract, extending from the rupture of membranes through labor and up to 42 days after childbirth. The documentation further clarifies that a diagnosis necessitates the concurrent presence of a minimum of two of the following clinical markers: pelvic discomfort, increased body temperature, unusual vaginal discharge, or a delay in uterine involution.[1] Additionally, it plays a vital role in nurturing infant feeding abilities and bolstering the mother's understanding and self-assurance regarding her and her baby's health and overall welfare. Consequently, a grasp of postnatal care knowledge empowers mothers to cultivate effective parenting skills tailored to their unique family dynamics. [2]

Inadequate postnatal care can, at times, lead to severe consequences, including the potential mortality or disability of both the mother and the newborn. Globally, close to 600,000 mothers aged 15 to 49 years lose their lives annually due to complications stemming from pregnancy and childbirth. As a stark reality, maternal fatalities occur nearly every minute throughout the year, with a staggering 99% of these tragic incidents transpiring in developing nations.[3]

Roughly two-thirds of maternal and neonatal fatalities take place during the initial postpartum phase, predominantly in developing nations, with a significant concentration in sub-Saharan Africa. Alarmingly, almost half of maternal deaths in the postnatal period transpire within the first 24 hours, while a staggering 66% occur within the inaugural week. In 2013, a tragic toll of 2.8 million newborns met their demise during their initial month of life, with a heartbreaking one million succumbing on their very first day.[4,5]

Puerperal sepsis, responsible for 11% of maternal fatalities worldwide, stands as a pivotal catalyst in the alarming statistics of maternal mortality across the globe.[6]Furthermore, it occupies the formidable position of being the third foremost instigator of direct maternal mortality within developing regions.[7]Estimations reveal that a staggering 30 million individuals fall victim to puerperal sepsis, and a distressing nearly 6 million among them succumb to its devastating consequences. [8]

Puerperal sepsis exacts a disproportionately heavy toll on low- and middle-income countries, particularly among vulnerable populations, such as those grappling with HIV/AIDS infection. Astonishingly, one in ten maternal fatalities worldwide can be traced back to sepsis. Moreover, case fatality rates associated with puerperal sepsis have been documented as soaring as high as 8%, leaving survivors to contend with substantial morbidities as an enduring consequence. [9]

MATERIALS AND METHODS

An exploratory research design with a quantitative approach was adopted to assess the knowledge of primigravida mothers regarding the prevention of puerperal infection. The present study was conducted at Gurcharan Kanwal and Civil Hospital in Hoshiarpur, Punjab. A total of 60 primigravida mothers were involved using purposive sampling techniques. Data were collected through interviews, employing socio-demographic profile and self-structured questionnaire to assess their knowledge of preventing puerperal infection. There were 40 questions, further categorized as follows: Excellent (>31), Good (21-30), Average (11-20), and Poor (1-10).Ethical clearance was obtained from the institutional ethics committee Permission was also obtained from the higher authority of selected Hospitals, Hoshiarpur. The purpose of the study was explained to the primigravida mothers and written consent was obtained from them. The data were analyzed using IBM SPSS version 26.

RESULTS

Out of the 60 samples, 73.3% of primigravida mothers fell into the 18-27 years age group, 20.0% were in the 28-36 years age group, and 6.7% were in the 37-45 years age group. In terms of education, the majority of subjects (38.3%) had completed their education up to matric, while 30.0% had finished senior secondary education, and 18.1% had received only primary education. Additionally, 8.3% were illiterate, and only 5% of primigravida mothers had graduated or attained higher education. Regarding occupation, 56.7% of mothers were employed, while 43.3% were not working. When it came to family type, 78.3% of primigravida mothers came from nuclear families, with only 21.7% belonging to joint

families. The residence distribution showed that 71.3% of primigravida mothers lived in rural areas, while 28.3% resided in urban areas. In terms of information sources, 51.7% of primigravida mothers obtained information from newspapers, 26.7% relied on television, 18.3% received information from healthcare personnel, and 3.3% used the internet as their source of information. Religiously, 53.3% of primigravida mothers identified as Sikh, 31.7% as Hindu, 6.7% as Christian, and the remaining 6.7% belonged to the Muslim religion. Regarding gestation period, the majority (46.6%) of primigravida mothers had a gestation period between 28-37 weeks, 31.7% were in the 14-28 weeks range, and the rest were in the 1-13 weeks gestation period.

Table 1 Level of Knowledge of primigravida mothers regarding prevention of puerperal infection. **N=60**

Level of knowledge	f	%
Excellent	9	15
Good	23	38.3
Average	25	41.7
poor	3	5

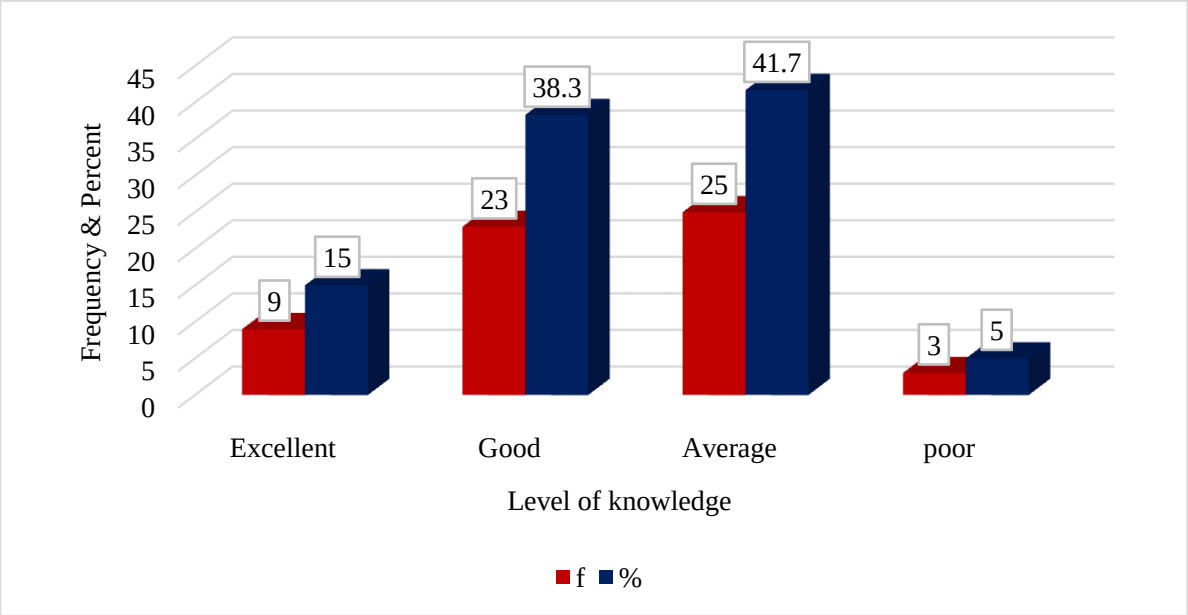

Figure 1: Level of Knowledge of primigravida mothers regarding prevention of puerperal infection.

Table 2: Sub-Category Rankings of Knowledge on Puerperal Infection Prevention among Primigravida Mothers.

Items	Mean	Mean%	Ranking
General question	39	64.76	2
Puerperal infection	33.71	59.19	4
Episiotomy wound infection	37.71	62.85	3
Urinary tract infection	31	51.6	6
Breast Engorgement	30.2	50.3	7
Cracked nipples	31.2	52.08	5
Mastitis	53.6	89.33	1

Table 2 shows the ranking order of knowledge levels among primigravida mothers regarding the prevention of puerperal infection across various sub-categories. Mastitis ranks highest at 1 with a mean percentage of 89.33%, followed by general questions at 2 with a mean percentage of 64.76%, episiotomy wound infection at 3 with a mean percentage of 62.85%, puerperal infection at 4 with a mean percentage of 59.19%, cracked nipples at 5 with a mean percentage of 52.08%, urinary tract infection at 6 with a mean percentage of 51.6%, and breast engorgement ranks lowest at 7 with a mean percentage of 50.3%. This ranking provides insights into the varying levels of knowledge among primigravida mothers regarding different aspects of puerperal infection prevention.

Table 3: Association of knowledge regarding prevention of puerperal infection among primigravida mothers with socio-demographic variables. N=60

Variables	N	Mean	SD	df	F/t value
Age (years)					
18-27	44	21.86	8.013	2	$F=0.8843^{NS}$
28 -36	12	23.50	6.303		
37 – 45	4	17.75	2.062		
Education					
Illiterate	5	8.00	2.915	4	$F=15.857^{S}$
Primary	11	20.00	7.389		
Matric	23	20.52	4.252		
Senior Secondary	18	21.50	4.714		
Graduation and Above	3	26.25	9.539		
Occupation					
Working	34	22.74	8.133	58	$t=0.936^{NS}$
Non- working	26	20.85	6.559		
Type of family					
Nuclear	47	21.32	7.232	58	$t=1.389^{S}$
Joint	13	24.08	8.301		
Place of residence					
Urban	17	22.18	8.025	58	$t=0.028^{S}$
Rural	43	21.81	7.365		
Source of information					
Newspaper	31	20.13	7.775	3	$F=3.326^{NS}$
Mass media	16	22.69	5.896		
Internet	2	35.50	3.536		
Health personal	11	23.36	6.801		
Religion					
Hindu	9	23.16	8.840	3	$F= 0.574^{NS}$
Sikh	32	21.12	5.807		
Muslim	4	19.50	4.796		
Christian	5	24.20	13.142		
Period of Gestation					
1-13 Weeks	13	18.92	7.566	2	$F= 2.102^{NS}$
14-28 Weeks	19	24.32	8.165		
29-37 Weeks	28	21.92	6.656		
NB: F=ANOVA, t=Independent t test, NS= Non-significant, S=Significant at 0.05 level					

DISCUSSION

The present investigation unveiled noteworthy findings in the realm of knowledge regarding puerperal sepsis. The study's outcomes revealed a spectrum of knowledge levels among the participants. Out of the 60 samples, 41.7% of the respondents demonstrated an average level of understanding, while a substantial 38.3% exhibited commendable knowledge. Impressively, 15% of the respondents showcased an exceptional grasp of the subject matter, However, a concerning 5% of the participants showcased a lamentable lack of knowledge in this domain, warranting attention and intervention.

In parallel to our study, a study conducted by Mohammed Hassan *et al.* [10] unveiled disconcerting results, indicating that a substantial 87.4% of the women under examination possessed a disconcertingly inadequate level of knowledge regarding puerperal sepsis. This stark contrast in knowledge levels between our study and their findings accentuates the pressing need for comprehensive education and awareness campaigns. Another pertinent study conducted by Nchimbi *et al.* [11] contributed valuable insights. Their research revealed that a majority, comprising 62.1% of postpartum women, held a commendable level of knowledge pertaining to the prevention of puerperal sepsis. However, the same study uncovered a concerning disparity, with only 11.4% of the women reporting satisfactory self-care practices in the context of puerperal sepsis prevention. These findings underscore the importance of not only imparting knowledge but also promoting effective implementation of preventive measures.

In the study conducted by Al Hussein *et al.* [12] the majority of participants were found to possess a moderate level of knowledge concerning puerperal infections. This moderate level, while indicative of some awareness, underscores the need for continued educational efforts to elevate knowledge levels among this demographic. Furthermore, the research ofChepchirchir *et al.* [13] underscored a critical issue. They identified a glaring need for more knowledge regarding the etiology of infections within the area of investigation. This knowledge gap, coupled with the inadequate resources in healthcare facilities for disseminating awareness about puerperal sepsis, highlights the urgent necessity for multifaceted improvements in both clinical and community settings.

In the context of our current study, several socio-demographic variables exhibited statistically significant associations with the level of knowledge concerning puerperal sepsis, all of which merit thorough consideration. These variables encompassed education, type of family, place of residence and the source of information, each of which played a pivotal role in shaping participants' knowledge levels. Notably, these factors bore a statistical significance at the 0.05 significance level, underscoring their substantial influence.

Contrastingly, our investigation revealed that certain variables, namely age, occupation, religion and period of gestation, did not exhibit a statistically significant association with knowledge levels. This finding suggests that these specific aspects of participants' socio-demographic profiles did not significantly impact their understanding of puerperal sepsis.

It is noteworthy that the results of our study diverge from those reported by Gamel *et al.* [14] in 2020, where they did not observe any significant differences in the total score of puerperal sepsis knowledge concerning socio-demographic variables ($p > 0.05$). This disparity may be attributed to contextual differences or variations in the methodology employed, highlighting the importance of considering regional nuances in healthcare education and awareness programs. Further insights from the study by Nchimbi *et al.* [11] emphasized the pivotal role of

education and healthcare providers in shaping knowledge on puerperal sepsis prevention. Their research underscored that individual with secondary or tertiary education, as well as those who received information from healthcare providers, exhibited significantly higher levels of knowledge on this critical subject.

Bishaw *et al.* [15] findings reinforced the influence of socio-demographic factors, such as urban residence, primiparity and formal education, on knowledge levels. Moreover, they elucidated a noteworthy association between attending formal education and possessing adequate knowledge, which, in turn, positively correlated with the practice of preventive measures against puerperal sepsis among postnatal women. These interconnections highlight the potential for targeted educational interventions to enhance awareness and promote preventive behaviours. Al Hussein *et al.* [12] study corroborated the significance of socio-demographic variables in influencing knowledge about puerperal infections. They identified statistically significant associations between participants' age, educational status, residence and occupational status, underlining the multifaceted nature of these factors in shaping awareness levels. Chepchirchir *et al.* [13] research illuminated a noteworthy relationship between antenatal care attendance and labour duration, which could have implications for puerperal sepsis risk factors and awareness levels. While the exact nature of this relationship requires further investigation, it underscores the importance of comprehensive healthcare during the perinatal period.

CONCLUSION

The findings of this study have revealed a spectrum of knowledge levels among primigravida mothers, shedding light on both areas of strength and areas that require attention and intervention. It is evident that factors such as education, family type, place of residence and the source of information play a significant role in shaping the knowledge levels of these mothers. Furthermore, this study contributes to the existing body of knowledge on maternal health by providing specific insights into the context of Hoshiarpur, Punjab. While the results may differ from studies conducted in other regions, they are highly relevant to the local healthcare landscape and can inform targeted interventions to improve maternal health outcomes.

This exploratory study underscores the need for ongoing efforts to raise awareness and knowledge about the prevention of puerperal infection among primigravida mothers in Hoshiarpur, Punjab. By addressing the identified socio-demographic factors and tailoring educational programs accordingly, healthcare providers and policymakers can work together to enhance maternal healthcare and contribute to the well-being of both mothers and their newborns in this region. Further research and interventions in this area are warranted to build upon the insights gained from this study and drive positive changes in maternal health practices.

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