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Prevention of Pathogenesis of Infection in Postpartum Women Through Postpartum Care Culture

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Abstract: Cultural beliefs and practices significantly influence postpartum care, affecting maternal health outcomes both positively and negatively. In developing countries, around 70% of postpartum mothers lack adequate care and often only seek medical attention in severe cases, contributing to elevated maternal mortality rates during the postpartum period. This study investigates how cultural practices impact postpartum care and the incidence of postpartum infection pathogenesis. Using a cross-sectional study design, the research analyzed data from 141 participants with chi-square tests. Results reveal a significant relationship between postpartum care culture and infection incidence, with a p-value of 0.000. Participants were primarily aged 20-35 years (61%), had high school education (68.80%), and were non-working (72.30%). These factors suggest that education and employment status may affect postpartum care practices. A majority of respondents exhibited positive care practices, with 51.10% reporting good care and no postpartum infections. The findings highlight the necessity for developing culturally sensitive postpartum care guidelines to reduce infection risks and enhance maternal health outcomes by incorporating local cultural values into care practices.

Keywords: Culture; Pathogenesis of infection; Postpartum care

Introduction

Maternal Mortality Rate (MMR) is a reflection of the capacity of the health service system in a country. AKI describes the number of women who die from a cause of death related to pregnancy disorders or their treatment (excluding accidents or incidental cases) during pregnancy, childbirth and the postpartum period (42 days after giving birth) without calculating the length of pregnancy per 100,000 live births. MMR decreased from 390 to 305 per 100,000 live births in 1991-2015. However, MMR has not yet reached the MDGs target of 102 per 100,000 live births (Ministry of Health of the Republic of Indonesia, 2020).

Maternal deaths in Indonesia in 2019 were still dominated by 3 main causes of death, namely: bleeding (1,280 cases), hypertension in pregnancy (1,066 cases), infectious pathogenesis (207 cases) (RI Ministry of Health, 2020). As many as 60% of maternal deaths occur after giving birth, and almost 50% of deaths during the postpartum period occur within the first 24 hours after giving birth (Bonet et al., 2020; Jung et al., 2024; Shah et al., 2024). The main cause of maternal death during the postpartum period is postpartum hemorrhage, followed by hypertension and the pathogenesis of postpartum infection. However, without preventing the pathogenesis of postpartum infections, this condition can become a more prominent cause of maternal mortality and morbidity (Selvianti et al, 2023).

The pathogenesis of postpartum infection, which occurs after the mother gives birth until the 42nd day postpartum, is a serious condition that can be prevented (Purimahua et al., 2021; Vogel et al., 2024). Symptoms that may appear during the postpartum period include

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fever, pelvic pain, smelly lochea, and uterine subinvolution. Several types of infectious pathogenesis that commonly occur are endometritis (1-3% of all vaginal births and 5-15% of births by caesarean section). Mastitis (10-33%), Pathogenesis of urinary tract infections (2-10%) and Pathogenesis of infections in surgical wounds (3-15%). Factors causing the pathogenesis of postpartum infections include poor immune system, poor postpartum care, malnutrition/malnutrition, poor hygiene, and fatigue (Widyastuti et al., 2016; Dwijayanti & Puspitasari, 2019).

Postpartum care includes monitoring the health of the mother and baby, wound care such as the perineum or episiotomy, breast support and care, adequate rest and nutrition, emotional support and counseling, as well as discussions about postpartum contraception (Bonaiuti et al., 2024; Hannola et al., 2021; Saidi & Chi, 2022). Postpartum care is important for achieving optimal maternal health, both physically and psychologically, helping restore emotional health, preventing infectious pathogenesis, bleeding, complications, and supporting breast milk production (Bobak, 2018). Communities often follow cultural traditions and beliefs regarding postnatal care of mothers, believing that these practices provide benefits (Auriti et al., 2021). Research in Tirupati shows various beliefs such as restricting fluid intake, prohibiting bathing, and a diet limited to vegetables. People also believe that consuming eggs, fish and meat can affect the quality of breast milk and cause itching in perineal wounds. Other practices include a ban on napping and the use of herbal medicine (Rahayu, Mudatsir, & Hasballah, 2017).

Myths surrounding the care of postpartum mothers can influence their behavior, both positively and negatively. Factors such as cultural beliefs, knowledge of traditional taboos, and perceptions of health can impact postpartum care. In developing countries, around 70% of postpartum mothers do not receive adequate care (Li et al., 2022; Rojas-Gulloso et al., 2023; Rupanagunta et al., 2023). Many postpartum mothers only receive care when they are at risk of death, and the majority of maternal deaths occur during the postpartum period, with rates reaching 11%-17% during childbirth and 50%-71% during the postpartum period (Bobak, 2018; Mochtar, 2018; Fortney et al, 1998).

Customs are one part of community behavior that supports the social life of the community, thus forming habitual patterns in the community itself. Without realizing it, the customs that develop in society often become obstacles to healthy lifestyles in the community. For example, some traditional habits can encourage unhealthy eating patterns, the use of traditional healing ingredients or methods that are not scientifically proven, or even ignoring modern health principles. In addition, the existence of certain norms or habits can limit people's access to better health information or more effective health practices. Therefore, this research aims to determine "The Influence of Culture in Postpartum Care on the Pathogenesis of Infection in Postpartum Women in 2024".

Method

In this study, a quantitative analytical research approach utilizing a cross-sectional study design was employed. This methodology involves collecting data on both the independent and dependent variables simultaneously, providing a snapshot of the variables at a single point in time. Such an approach is particularly useful for examining relationships and prevalence without requiring longitudinal tracking of participants. The population under investigation consisted of 141 postpartum mothers residing in the provinces of Banten, West Java, Sunda, and Maluku. These diverse geographical locations allowed for a broad analysis across different regions, potentially capturing a range of postpartum experiences and conditions. The choice of this population was strategic, aiming to gather data that could reflect variations in postpartum care and challenges across different provinces. To analyze the collected data, a chi-square statistical test was employed. This test is appropriate for assessing the association between categorical variables, making it a suitable choice for this study's needs (Floyd & Anglim, 2023; Guimarães et al., 2019; Mitoma et al., 2022). The chi-square test evaluates whether there is a significant relationship between the independent variable (such as types of postpartum care or support) and the dependent variable (such as health outcomes or maternal satisfaction). By applying this test, the study aims to determine if variations in the independent variable are statistically associated with differences in the dependent variable among the postpartum mothers surveyed. See figure 1.

Figure 1. Research flowchart

Result and Discussion

Results

Based on the data in table 1, looking at the frequency distribution, we get a picture of the majority of postpartum mothers in the non-risk age category (20 - 35 years) as many as 86 people (61%), with a high school education, namely 97 people (68.80%) and the majority of mothers do not work, namely 102 people (72.30%).

Table 1. Frequency Distribution of Respondent Characteristics

Variable	F	%
Age		
No risk (20-35 years)	86	61.00
At risk (<20 and >35 years)	55	39.00
Education		
SD	8	5.70
Junior High School	20	14.20
SMA	97	68.80
College	16	11.30
Work		
Work	39	27.70
Doesn't work	102	72.30
Total	141	100

Based on the data in table 2, looking at the frequency distribution, it is clear that the majority of postpartum mothers have a positive culture in postpartum care as many as 79 people (56.00%).

Table 2. Frequency Distribution of Cultural Beliefs in Postpartum Care

Culture	F	%
Positive	79	56.00
Negative	62	44.00
Total	141	100

Table 3. Frequency Distribution of Infectious Pathogenesis in Postpartum Women

Pathogenesis of infection	F	%
Does not experience infectious pathogenesis	72	51.10
Experiencing the pathogenesis of infection	69	48.90
Total	141	100

Based on the data in table 3, looking at the frequency distribution, it is clear that the majority of postpartum mothers do not experience the pathogenesis of postpartum infection, 72 people (51.10%).

Based on table 4, of the 79 respondents who had a culture of positive postpartum care, the majority did not experience the pathogenesis of postpartum infection, 62 people (78.5%). Of the 62 respondents who had a negative culture of postpartum care, the majority experienced infectious pathogenesis, 52 people (83.90%). Statistical test results using the test chi square, the calculation results are obtained p-value 0.000<0.05, then it can be concluded that there is an influence culture in postpartum care with the incidence of Pathogenesis of infection in postpartum mothers.

Table 4. The Influence of Culture in Postpartum Care on the Pathogenesis of Infection on Postpartum Mothers

Postpartum Care Culture	Pathogenesis of infection				Total		P Value
	Does not experience infectious pathogenesis		Experiencing the pathogenesis of infection				
	f	%	f	%	f	%	
Positive	62	78.50	17	21.50	79	100	0.000
Negative	10	16.10	52	83.09	62	100	
Total	72	51.10	69	48.90	141	100	

Discussion

An overview of culture in postpartum care

The description of the culture of postpartum care for the 40 respondents in this study showed that the majority had a positive culture, 72 people (51.1%) and postpartum mothers who had a negative culture, 69 people (48.9%). Based on the results of interviews completing questionnaires that the author conducted, postpartum care still involves traditional cultural practices during the postpartum period such as food restrictions, drinking herbal medicine, using koneng bodas (curcuma), consuming apples, using octopus ginger compresses on perineal wounds and not leaving the house before 40 days.

According to Rahmilasari (2020), Sundanese people have the habit of using herbal medicine during the postpartum period, such as Koneng Bodas (curcuma) which is grated and drunk. Temulawak at a concentration of 10% can reduce uterine weight, although it is not statistically significant (Nuha et al., 2019). Another study showed that ginger extract increased breast milk production and prolactin levels in postpartum mothers (Desbriyani et al., 2017). The recommendation for consuming apples during the postpartum period is based on the mineral, vitamin, phytochemical and antioxidant content that is beneficial for the body.

For Javanese and Madurese people, traditional medicine is better known as herbal medicine, which can

be in the form of chopped or ready-to-brew powder. Jamu is a traditional herb that is widely known and used to treat minor ailments, prevent disease, and maintain the body's resilience and health. The habit of drinking herbal medicine is commonly found among Javanese people, including among pregnant, giving birth and postpartum (postpartum) women (Wardhina, 2019). The community believes that the tradition of ginger compresses for postpartum mothers has the benefit of reducing pain, moving faster (mobilization), facilitating urination (BAK) and expulsion of lochea, as well as preventing the pathogenesis of infection (San-Juan et al., 2023; Sheikh et al., 2024). A study conducted by Leach (2017) concluded that ginger is very effective in preventing and curing various diseases because it contains gingerol which has strong anti-inflammatory and antioxidant properties.

According to Arma (2020), there are still many people in Indonesia who do not consume animal side dishes during the postpartum period, including the Ambonese tribe who also do this. Apart from dietary restrictions, there is also a prohibition on leaving the house before 40 days because this is so that postpartum mothers remain awake because the period before 40 days is a period where bad things can potentially happen (Liu et al., 2020; Perzow et al., 2021; Tanaka et al., 2019). Then in the Ambonese tribe there is a prohibition against showering with the head, so this can reduce personal hygiene which can cause a lot of bacteria.

The use of stagen or bengkung can cause problems such as skin allergies, discomfort and respiratory problems in postpartum mothers. Common complaints resulting from the use of bengkung include swelling of the legs, skin itching, and shortness of breath (Dewi, 2018). Research of Siyoto et al. (2019) found no significant differences in uterine involution, lochea expulsion, or back pain between mothers who used bengkung and those who did not.

Description of the Pathogenesis of Infection

The description of the incidence of postpartum infection pathogenesis for 141 respondents in this study shows that the majority did not experience the pathogenesis of infection, 72 people (51.10%). There were 69 postpartum mothers who experienced infectious pathogenesis (48.90%). Based on data from the Indonesian Demographic Health Survey (SDKI) and the Central Statistics Agency (BPS) in 2018, around 67% of postpartum mothers experienced infectious pathogenesis. Pathogenesis of infection during the postpartum period, especially Pathogenesis of infection in the birth canal, accounts for 22-55% of cases of Pathogenesis of infection (Rendra, 2019). According to the Ministry of Health (2015), health problems are closely related to socio-cultural and environmental factors in society, such as beliefs, knowledge, practices, behavior related to taboos and habits. This can have a positive or negative impact on the health of postpartum mothers. The pathogenesis of postpartum infection is inflammation caused by germs during labor and the postpartum period. The pathogenesis of postpartum infections originating from bacteria in the genital tract after delivery is characterized by fever reaching 38 degrees Celsius or more for at least 2 days in the first 10 days after delivery, except for the first 24 hours. In addition, the pathogenesis of infections during the postpartum period such as mastitis (pathogenesis of breast infection) can occur due to invasion of microorganisms in breast tissue or breast injury. Factors causing the pathogenesis of postpartum infections include low body immunity and inadequate postpartum care (Widyastuti et al., 2016; Dwijayanti & Puspitasari, 2019).

The pathogenesis of postpartum infections is often related to culture that influences care and hygiene during the postpartum period. According to Saleha (2019), cultural aspects such as traditional care practices and belief in local medicine can influence the risk of pathogenesis of postpartum infections. For example, traditional practices involving the use of non-sterile medications or procedures may increase the risk of postpartum infectious pathogenesis. Sarah's (2015) research entitled "Perceptions of Cultural Safety in Maternity Nursing among Women in Queensland" involved 655 women from various cultures and languages in Queensland, Australia. As many as 50% of women do not have a choice of facilities and service providers during labor and birth. Some women from culturally and linguistically diverse backgrounds prefer care that aligns with their cultural or religious beliefs. Cultural traditions and customs have a significant influence on maternity care in Queensland. According to researchers' assumptions, the pathogenesis of infection could occur due to the culture or traditions that mothers still carry out. Based on the research results, there are several mothers who still use stagens, namely traditional corsets, after giving birth. The use of stagen can cause irritation or itching on the mother's skin, which in turn can increase the risk of infectious pathogenesis. Continuous irritation can weaken the skin's defenses and make the mother more susceptible to infectious pathogenesis.

The Influence of Culture in Postpartum Care on the Incidence of Infection Pathogenesis

In this study, it is known that the p value = 0.000 <0.05, meaning that there is a cultural influence in postpartum care and the incidence of pathogenesis of infection in postpartum women. The results of

interviews in this research show that some postpartum mothers still apply culture or traditions in postpartum care. According to Rahayu (2017), his research in Tanah Jambo Aye District, North Aceh Regency, shows that traditional habits in society can significantly influence their health. Some cultural practices in this area are beneficial, while others can be detrimental. Cultural influences that have been passed down from generation to generation still have a strong influence on aspects of health, in addition to problems such as inadequate medical services or insufficient attention from health agencies.

Traditions as ancestral heritage are still guarded by some people, with some choosing to just know about them without following them, while others actively maintain and continue these traditions. The Sundanese people in particular are known as traditional practitioners who uphold traditional values in everyday life (Mara et al, 2016). Efforts to change people's behavior to improve their health require a deep understanding of how they view health. For example, the definition of health has different meanings according to people's views. It is important to consider people's attitudes and practices and how changes may impact their lives in efforts to address health problems. This approach emphasizes the importance of social, psychological and cultural components in people's health, in addition to the physical aspects of their bodies (Mara et al, 2016).

According to researchers' assumptions from the results of interviews using questionnaires, mothers' habits of using octopus sometimes cause itching, which can increase the risk of pathogenesis of postpartum infections. Irritation or allergies due to octopus can cause the skin to become sore, red, or itchy, which has the potential to cause infection. Apart from that, some postpartum mothers still apply ginger compresses to perineal wounds, as well as following food restrictions and movement restrictions. Respondents who follow this tradition mostly report a positive impact on postpartum health. However, some mothers experience increased pain in the perineal wound and the healing process takes more than 7 days.

In line with what Irnawati et al. (2021) did in their research in the Cimanggu Banten Health Center Working Area, almost all mothers used bengkung after giving birth because it was believed to be related to cultural and belief factors. Some do it so that loose abdominal muscles and skin return to their original shape and restore the shape of the stomach to a slim shape. However, only some of them use bengkung for up to 40 days, this is based on parents' experience which shows the positive effects of using stagen after giving birth. Others only 1 week because they experience discomfort such as difficulty moving and itching in the stomach. Apart from that, treating perineal wounds that are not sterile using traditional materials can also increase the risk of infectious pathogenesis. The use of traditional materials whose sterility is not guaranteed has the potential to increase the risk of infectious pathogenesis and prolong the healing process of perineal wounds (Widyastuti et al., 2016; Saleha, 2019).

Conclusion

The Based on the research results, it can be concluded that the majority of respondents are in a relatively risk-free age range, namely between 20 and 35 years. Of the 140 respondents involved, 86 people (61%) were in this age group. This shows that the majority of mothers involved in this research are still of productive age and tend to have good physical abilities to face the postpartum process. Apart from that, in terms of education, the majority of respondents had a high school education, namely 97 people (68.80%). This level of education can influence the mother's understanding and knowledge regarding postpartum care and health in general. However, what is interesting is that the majority of mothers in this study did not work, with a total of 102 people (72.30%). This shows that most mothers have more time to focus on caring for themselves and their babies during the postpartum period. The frequency distribution of culture in postpartum care shows that the majority of mothers have a positive culture in postpartum care, with 72 people (51.10%) reporting good postpartum care practices. This culture of postpartum care has a significant impact on the incidence of postpartum infection pathogenesis. This is shown by the results of research which found that the majority of postpartum mothers did not experience the pathogenesis of postpartum infection, with the same number, namely 72 people (51.10%). Furthermore, there is a significant relationship between culture in postpartum care and the incidence of infectious pathogenesis in postpartum women. The statistical test results show a p-value of 0.000, which means that the culture of postpartum care has a significant influence on the possibility of infection during the postpartum period. Therefore, it is important to continue to encourage good postpartum care practices to reduce the risk of infection and other complications.

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Author Contributions
The following statements should be used Conceptualization IH ,HH, MJ, NMT, RMST, YP contributed to the data collection process, data processing, article writing.

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Conflicts of Interest
The authors declare no conflict of interest.

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