

Enhancement of Mother's Self-Care Practices for Relieving Minor Discomforts during Postpartum Period

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Abstract: Background: The post-natal period is a crucial time for adaptation, during which minor discomforts can significantly impact a woman's life. These challenges can be effectively addressed through nursing education to improve women's knowledge and self-care practices. Enhancing mothers' self-care practices to relieve minor discomforts during the postpartum period was the purpose of the study. **Design:** This quasi-experimental study design features one-group pre/post-tests and follow-ups. **Setting:** The study was conducted at the Obstetric Department of Shebin El-Kom Teaching Hospital. **Sample:** The sample consisted of 123 conveniently selected primiparous postpartum women who had normal deliveries. **Instruments:** An interview questionnaire was used, including the general characteristics of the study sample and women's self-care practices during the postnatal period. **Results:** The study findings revealed that postpartum self-care practices among mothers were very low before health education. However, receiving health education about self-care significantly increased their knowledge and practices for relieving their minor discomforts during the postpartum period more than before. **Conclusion:** This study highlights the importance of health education for postpartum women, demonstrating its positive impact on their self-care abilities. **Recommendations:** Provide health education to postpartum mothers about common discomforts and how to manage them by implementing a training-oriented program to increase women's understanding of the postpartum phase.

Key words: Minor discomforts, Postpartum period, Mothers' self-care practices.

Introduction

The postnatal period is crucial for the health of mothers and newborns, as most maternal and infant deaths occur

during this time. However, this period often receives inadequate care and attention. Women experience

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significant changes during the postpartum period that affect their physical, biological, interpersonal, and family dynamics. These changes necessitate a focus on adaptability, as women need physiological and psychosocial support to promote self-care while providing skilled care for their infants (Adams et al., 2023).

The World Health Organization defines self-care as the activities that individuals, families, and communities engage in to enhance health, prevent disease, manage illness, and restore well-being. These activities draw from both professional and personal knowledge and experiences. Encouraging self-care among women in the postpartum phase is essential nursing care during this period. Women need to be able to meet their own needs through self-care practices (Narasimhan et al., 2024).

Trevino and Smith defined self-care as a mother's ability and willingness to care for herself physically and emotionally. Key aspects of self-care include proper nutrition, taking time for oneself, maintaining hygiene, ensuring adequate sleep, caring for the baby, delegating tasks, and setting personal boundaries (Trevino and Smith, 2019). Postpartum nurses play a vital role in supporting new mothers with their physical and emotional needs immediately following delivery. They are guided by the policies and goals of their healthcare facility and nursing care plans. Nurses provide direct care, educate mothers about self-care, and offer anticipatory guidance and counseling (McCarter et al., 2022).

Significance of the study

Most postpartum complications are considered preventable if postnatal self-care is followed effectively; 216 women died worldwide from 100,000 women due to postpartum complications. In Egypt, there are 33 maternal deaths per 100,000 deaths (WHO, 2022). In Egypt it was found that less than two-thirds (64.7%) of women weren't aware of expected minor discomforts during the postpartum period; in addition, women did not consider their complaints important enough to mention it. However, the magnitude of reported problems justified serious consideration of the care for women during this important and sometimes crucial phase of life. So, this study was conducted to enhance mother's self-care practices for minor discomfort during the postpartum period (Shabaan et al., 2018).

The purpose of this study was to

To enhance mother's self-care practices for relieving minor discomforts during the postpartum period through the following objectives:

- Implement self-care practices for mothers during the postpartum period.
- Evaluate the effect of self-care practices on relieving minor discomforts during the postpartum period.

Research Hypothesis

Postpartum mothers who receive health education about self-care practices are expected to have a higher level of practice towards self-care for relieving

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minor discomforts during the postpartum period than before.

Definitions of variables

Self-care practices: The World Health Organization defines self-care practices as activities individuals, families, and communities undertake intending to enhance health, prevent disease, limit illness, and restore health. These activities are derived from knowledge and skills from the pool of both professional and lay experience (WHO, 2022). Self-care is the activity that an individual practices, performs, or initiates on his behalf to maintain life, health, and well-being. (González-Vazquez, 2018). Operationally, it is defined as how the mothers take care of themselves to relieve their minor discomforts during the postpartum period.

Minor discomforts experienced during this period may affect their health status, which interferes with their family relations and dealing with their fetus (Shabaan, 2018). Operationally, it is defined as the minor discomforts that occur during the postpartum period.

Method

Research design:

A quasi-experimental research design was used in the present study (one-group pre/posttests and follow-up).

Research Setting:

The current study was conducted at the Obstetric Department of Shebin El-Kom Teaching Hospital. This setting was selected because it is a governmental hospital and represents a

high flow rate of primiparous women who attended from different surrounding cities and villages that are near to Shebin El-Kom.

Sampling:

Sample type:

A convenient sample of 123 primiparous postpartum women who delivered normally in the previously mentioned setting was selected.

Criteria for the studied women:

The inclusion criteria for the studied women are immediate postpartum mothers, primipara, aged 20-35 years, with normal labor, having lived normal neonates, and free from medical obstetrical problems.

Sample size estimation

According to the available number of primiparous postpartum women and based on the inclusion criteria, the sample size was determined based on the average flow rate. The calculated sample that is required for this study was one hundred and twenty-three primiparous postpartum women, with an estimated population response distribution of 50 %, a confidence level of 95%, and a 5% margin of error to detect a significant difference. So, a convenient sample of 123 women was recruited in the study based on this formula.

The equation for calculating sample size is:

$$\text{Unlimited population: } n = \frac{z^2 \times \hat{p}(1-\hat{p})}{\varepsilon^2}$$

$$\text{Finite population: } n' = \frac{n}{1 + \frac{z^2 \times \hat{p}(1-\hat{p})}{\varepsilon^2 N}}$$

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Where

n and n' are sample size

z is the z score

ϵ is the margin of error

N is the population size

$\hat{p}$ is the population proportion

Z for a 95% confidence level is 1.96, with a margin of error of 5%, a population proportion of 0.5, and a population size of 180. Hence, a sample size of at least 123 women would be necessary.

Data Collection Instruments:

An interview questionnaire was used immediately after childbirth, fourteen days after the intervention and six weeks after the intervention. It consists of two parts as follows:

- **Part I:** The general characteristics of the study sample, such as age, place of residence, income, educational level, and occupation. It also included obstetric data such as the number of abortions.
- **Part II:** Women's practice during the postnatal period. It includes 7 items, such as self-care practices for relieving minor discomforts during the postnatal period.

Scoring system of practice:

Each component of practice was assigned a score; one represented inadequately done practice, and zero represented not done practice. The sum of the "adequately done practice" scores was used to determine the final practice score. The percentage was calculated from the raw scores. Greater proficiency with postpartum self-care was indicated by higher scores. The final score for the practice session was displayed as follows: a score of $\geq 85\%$

of the total practice score indicates competence, and $<85\%$ indicates incompetence.

Validity of the Instrument: -

The validity of the instrument was established by five qualified experts (three experts from the Maternal and Newborn Health Nursing Department at the Faculty of Nursing and two physicians from the Obstetrics and Gynecology Department at the Faculty of Medicine). They reviewed the instrument for its content accuracy and internal validity. Also, they were asked to judge the items for completeness and clarity (content validity). Suggestions were incorporated into the instrument, and modifications were made.

Reliability of the Instrument: -

The reliability of the instrument was computed by the researcher to test the internal consistency using test-retest reliability. This method involved administering the same instrument to the same participants under similar conditions on two occasions within two weeks interval. The results from repeated testing were compared.

Pilot study:

A pilot study was conducted before data collection on 10% of the sample size (13 primiparous women) at the previously mentioned setting. This was performed to assess the applicability and clarity of the instrument. These participants were not included in the sample to maintain the study's stability.

Approval letter:

- An official letter was received from the Dean of the Faculty of Nursing at

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Menoufia University and was submitted to the study setting director, as well as the chairperson of the Obstetrics and Gynecology department at Shebin El-Kom Teaching Hospital, to proceed with the study before commencing data collection. Official permission was granted by the director of the setting to conduct the study. A thorough explanation of the rationale for the current study was presented to the study setting director.

Ethical considerations:

- Approval from the Research and Ethics Committee was obtained from the Faculty of Nursing, Menoufia University on 3-9-2023. Approaches to ensure ethics were considered in the study, including confidentiality and informed consent. The researcher introduced herself to the participating women, explained the purpose of the study and the nature of the research to obtain their acceptance to be recruited in the study, as well as to gain their cooperation.
- Confidentiality was achieved using locked sheets, with the names of the participating women replaced by numbers. All participating women were informed that the information they provided during the study would be kept confidential and used only for statistical purposes. After finishing the study, the findings would be presented as group data with no personal participant information remaining. They were also informed that the findings would be presented as a group of

data with no personal participant information remaining.

- Written consent was obtained from all women. Every primiparous woman was informed that participation in the study was voluntary and that she could withdraw whenever she decided to do so, and each one was allowed to freely refuse participation. They were free to ask any questions about the study details.

Study procedure

- An extensive review was conducted to formulate a knowledge base relevant to the study area, including electronic dissertations, available books, articles, and periodicals.
- The researcher prepared and tested the different data collection instruments for validity and reliability.
- A pilot study was conducted to test the applicability of the instrument, the feasibility of the study, and to estimate the time needed for data collection.
- The data collection for the study was collected over 9 months, starting on 1/10/2023 and ending on 1/7/2024. The researcher visited the above-mentioned setting three days per week (two days in the postnatal unit and one day in the outpatient clinics for follow-up).
- During the initial visit, the researcher greeted the postpartum women, introduced herself, and explained the purpose and nature of the study to them. Then, informed written consent was obtained, and the researcher started the individual

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interview process for about 10-15 minutes to assess the women's knowledge base regarding relieving minor discomforts and self-care practices during the post-natal period on the day after childbirth (pre-test).

- An educational booklet to enhance mothers' self-care practices for relieving minor discomfort during the postpartum period was given to each mother and explained by the researcher individually, taking about 30 minutes in the Arabic language.
- All information regarding self-care practices during the postnatal period, newborn care, and minor discomfort during the postnatal period was discussed and explained.
- A follow-up card was given to all women, including the name, date of the next visit, and telephone number.
- Postpartum follow-up of the mothers started fourteen days after the intervention (post-test) using the postpartum minor discomforts instrument through phone calls. The responses were monitored as follows: If symptoms are present (yes or no), and if symptoms were relieved (yes or no).
- Postpartum follow-up of the mothers started six weeks after discharge (follow-up) using the postpartum minor discomforts instrument through phone calls. The responses were monitored as follows: If symptoms are present (yes or no), and if symptoms were relieved (yes or no).

Statistical Analysis: -

Data was collected, tabulated, and statistically analyzed using an IBM personal computer with Statistical Package of Social Sciences (SPSS) version 25 (SPSS, Inc., Chicago, Illinois, USA), where the following statistics were applied:

- **Descriptive statistics:** quantitative data were presented in the form of mean and standard deviation (SD), and qualitative data were presented in the form of numbers and percentages.
- **Analytical statistics** were used to find out the possible association between the study factors and the targeted variables. The tests of significance used included:
 - 1) **The Chi-squared test (χ^2)** is a test of significance used for comparison between two groups with qualitative variables.
 - 2) **A student t-test** is a test of significance used for comparison between two groups with quantitative variables.
 - 3) **ANOVA (F)** is a test of significance used for comparison between more than two means.
 - 4) **Pearson correlation** is the parametric test for correlation between two continuous (scaled interval/ratio) variables. The Pearson correlation coefficient is a descriptive statistic, meaning that it summarizes the characteristics of a dataset. Specifically, it describes the strength and direction of the linear relationship between two quantitative variables.

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The statistical significance of the results was explained as follows:

- $P \leq 0.001$ indicates high significance.
- $P \leq 0.05$ indicates significance, and
- $P > 0.05$ indicates no significance.

Results

Table 1 represents the socio-demographic data of the participating mothers. It was clear that 74.8% of the participating mothers were between 20 and 30 years old. As regards their level of education, 34.9% had a university education. Concerning their occupation, 77.2% of them were housewives. Moreover, 67.5% of the participating mothers were rural residents. Additionally, 64.2% of them did not have enough income.

Table 2 represents the total mean self-care practice score of the participating mothers towards postpartum care. The mean self-care practice score of the participating mothers towards postpartum care before the health education was 5.05 ± 2.24 , after the health education was 12.33 ± 1.16 and during the follow-up was 11.39 ± 1.37 , respectively. Also, there were highly statistically significant differences among the participating mothers pre, post and follow-up regarding their total mean self-care practice score towards postpartum care for post and follow-up.

Table 3 shows the relationship between the socio-demographic characteristics and the total self-care practice categories of the participating mothers during the pretest. It shows that 72.4% of the participating mothers who had incompetent self-care practices were in the age category of 20-30 years old. Also, 33.3% of them who had

incompetent self-care practices had a university education. Furthermore, 70.7% of them who had incompetent self-care practices were housewives. In addition, 67.5% of them who had incompetent self-care practices lived in rural areas. Additionally, 61.0% of them who had incompetent self-care practices did not have enough income.

Table 4 shows the relationship between the socio-demographic characteristics of the participating mothers and their total self-care practice categories during posttests. It shows that there was not a statistically significant relationship between the socio-demographic characteristics of the participating mothers and their total self-care practice categories; except for their level of education and income, there was a statistically significant relationship.

Table 5 shows the relationship between the socio-demographic characteristics of the participating mothers and their total self-care practice categories during the follow-up. It shows that there was not a statistically significant relationship between the socio-demographic characteristics of the participating mothers and their total self-care practice categories.

Figure 1 represents the total self-care practice categories for postpartum care of the participating mothers. It shows that 100% of the participating mothers had incompetent self-care practice towards postpartum care before the health education, 77.2% of them had competent self-care practice after the health education, and 43.1% of them had competent self-care practice during the follow-up; this proved the research hypothesis.

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Table 1: Socio-Demographic Characteristics of the Participating Mothers (n = 123).

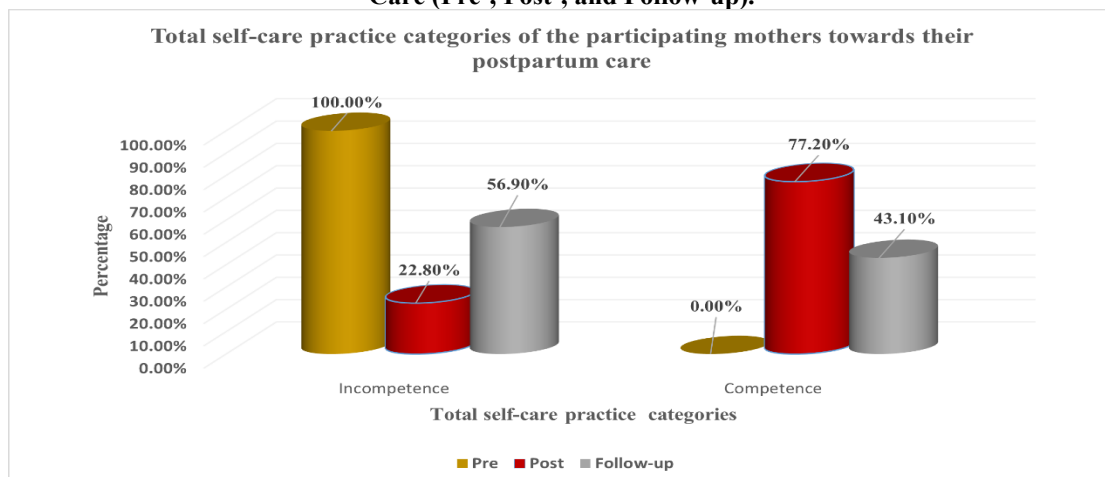
Variables	The participating mothers (n = 123)	
	No.	%
Age (year)		
20-30	92	74.8%
31-35	18	14.6%
> 35 years	13	10.6%
Level of education		
Illiterate	6	4.9%
Basic	27	21.9%
Intermediate	30	24.4%
University	43	34.9%
Postgraduate	17	13.9%
Occupation		
Housewife	95	77.2%
Employee	28	22.8%
Place of residence		
Rural	83	67.5%
Urban	40	32.5%
Income		
Not enough	79	64.2%
Enough	44	35.8%

Table 2: Total Mean Self-care Practice Score of the Participating Mothers Towards Postpartum Care (n = 123)

Variables	The participating mothers (n= 123)			*F test	P value
	Pre	Post	Follow-up		
Mean self-care practice scores					
Mean ± Std. Deviation	5.05±2.24	12.33±1.16	11.39±1.37	697.074* *	≤0.0001
Minimum	2.00	9.00	9.00		
Maximum	10.00	14.00	14.00		

N.B. ** means there was a highly significant difference; * F test means one-way ANOVA.

Figure 1: Total Self-care Practice Categories of the Participating Mothers Towards Postpartum Care (Pre-, Post-, and Follow-up).



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Table 3 Relationship between the Socio-demographic Characteristics of the Participating Mothers and Their Total Self-care Practice Categories (Pre) (n = 123).

Variables	Total self-care practice categories		X ²	P value
	Incompetent			
	No.	%		
Age (years)				
20-30	89	72.4%	a	a
31-35	21	17.1%		
> 35 years	13	10.6%		
Level of education				
Illiterate	8	6.5%	a	a
Basic	29	23.6%		
Intermediate	24	19.5%		
University	41	33.3%		
Postgraduate	21	17.1%		
Occupation				
Housewife	87	70.7%	a	a
Employee	36	29.3%		
Place of residence				
Rural	83	67.5%	a	a
Urban	40	32.5%		
Income				
Not enough	75	61.0%	a	a
Enough	48	39.0%		

N.B. a No statistics are computed because total self-care categories are constant.

Table 4 Relationship between the Socio-demographic Characteristics of the Participating Mothers and Their Total Self-Care Practice Categories (Post) (n = 123).

Variables	Total self-care practice categories				X ²	P value
	Incompetence		Competence			
	No.	%	No.	%		
Age (years)						
20-30	20	16.3%	72	58.5%	0.313 ns	>0.05
31-35	5	4.1%	13	10.6%		
> 35 years	3	2.4%	10	8.1%		
Level of education						
Illiterate	4	3.3%	2	1.6%	9.612*	≤0.05
Basic	7	5.7%	20	16.3%		
Intermediate	4	3.3%	26	21.1%		
University	11	8.9%	32	26.0%		
Postgraduate	2	1.6%	15	12.2%		
Occupation						
Housewife	23	18.7%	72	58.5%	0.496 ns	>0.05
Employee	5	4.1%	23	18.7%		
Place of residence						
Rural	21	17.1%	62	50.4%	0.934 ns	>0.05
Urban	7	5.7%	33	26.8%		
Income						
Not enough	23	18.7%	56	45.5%	5.064*	≤0.05
Enough	5	4.1%	39	31.7%		

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N.B. * means there was a statistically significant difference, and ns means there was not a statistically significant difference.

Table 5 Relationship between the Socio-demographic Characteristics of the Participating Mothers and Their Total Self-Care Practice Categories (Follow-up) (n = 123)

Variables	Total self-care practice categories				X2	P value
	Incompetence		Competence			
	No.	%	No.	%		
Age (years)						
20-30	51	41.5%	38	30.9%	1.550 ns	>0.05
31-35	10	8.1%	11	8.9%		
> 35 years	9	7.3%	4	3.3%		
Level of education						
Illiterate	4	3.3%	4	3.3%	2.943 ns	>0.05
Basic	18	14.6%	11	8.9%		
Intermediate	13	10.6%	11	8.9%		
University	26	21.1%	15	12.2%		
Postgraduate	9	7.3%	12	9.8%		
Occupation						
Housewife	53	43.1%	34	27.6%	1.948 ns	>0.05
Employee	17	13.8%	19	15.4%		
Place of residence						
Rural	48	39.0%	35	28.5%	0.088 ns	>0.05
Urban	22	17.9%	18	14.6%		
Income						
Not enough	46	37.4%	29	23.6%	1.533 ns	>0.05
Enough	24	19.5%	24	19.5%		

N.B. ns means there was not a statistically significant difference.

Discussion

As regards the self-care practices of mothers during the postpartum period, the present study findings indicate that the total mean practice score of the participating mothers towards postpartum care before the health education was lower than after the health education. From the researcher's point of view, the possible justification might be that when participants have favorable knowledge of self-care preventive health practices, their intention and willingness to engage in the postpartum self-care practice. Also, the knowledge and practice of postpartum self-care practices in the

postpartum period affect each other positively.

The findings of the present study agree with those conducted by Abd El-Azeem et al. (2020) and Nurfurqoni and Nuryati (2020), who studied the "Influence of Traditional Birth Attendance (Taba) in Egypt towards Independence and Self-Caring of the Mother During Early Postpartum." They showed that there was a significant improvement in total self-care practice after the self-care program.

This result agrees with Amin et al. (2021), Abd El-Azeem (2020), and Memchoubi (2019). They concluded

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that women's knowledge regarding self-care during postpartum was inadequate for reducing postpartum complications. So, they recommended that continuous education of women about postpartum self-care and learning facilities, e.g., books, pamphlets, and journals, should be available in hospitals.

In contrast, this finding of the present study disagrees with a study done by Aylate et al. (2023) and Elsebeiy (2019). They revealed that the level of good postpartum self-care practice among postpartum mothers was only thirty-three. The researcher's point of view for this discrepancy might be due to differences in study design, differences in the socio-demographic characteristics of the study participants, and differences in the quality of maternal health services provided by the sampling method. This may be due to that about half of women are from rural areas, and their sources of knowledge are limited compared to urban areas.

Also, the result of the current study is higher than studies done in family medicine centers and Benha hospitals in Egypt by Abd El-Azeem et al. (2020) and Amin et al. (2021), who studied "the effect of young rural women's general characteristics on their knowledge and compliance with healthy practices during the postpartum period." The possible reason behind this might be the difference in sample size, which was a small sample size in the two studies. Moreover, the study was conducted at Benha University and Al Ahrar Hospital in Egypt. The difference might be due to the study

participants, which were only among primipara mothers, while this study included both primipara and multipara postpartum mothers.

Regarding the relationship between the socio-demographic characteristics of the participating mothers and their total practice scores, the present study showed that there was a statistically significant relationship between the socio-demographic characteristics of the participating mothers and their total practice scores.

These findings were like those of a study conducted by Memchoubi (2019). He showed that there is no association between the selected demographic variables and the knowledge of postnatal mothers regarding self-care after childbirth.

In addition, these findings were in harmony with a study conducted by Kalaivani (2019), who reported that there is a significant association between women's practice regarding postpartum care and their educational status and area of living.

Based on the current findings, the study hypothesis is supported. Finally, the previous findings of the present study are attributed to the importance of health education, whatever the method, in improving postpartum mothers' level of knowledge, which in turn improves their self-care for relieving minor discomfort in the postpartum period.

CONCLUSION

Based on the findings of the present study, it can be concluded that postpartum mothers who receive health education about self-care practices exhibited a higher level of practice

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towards self-care for relieving minor discomforts during the postpartum period than before. Also, it the importance of health education for postpartum women demonstrating its positive impact on their self-care abilities. Hence, these findings confirm that the health education is important for women in the postpartum period and has a significant effect on postpartum mothers, which in turn improves their self-care practices for relieving the minor discomforts during the postpartum period. Therefore, the findings of this study supported the study hypothesis.

RECOMMENDATIONS

Based on the findings of the present study, the following recommendations are forwarded:

- Implement a training-oriented program about postpartum care for the improvement of women's knowledge about the postpartum period.
- Implementing counselling sessions to encourage women to seek postpartum health services.

Further research

- 1) A comparative study can be done between the knowledge of primiparas and multiparous or urban and rural mothers regarding the knowledge of postnatal mothers about self-care after childbirth.
- 2) Further study to investigate the barriers that prevent women from seeking care during the antenatal and postpartum periods.

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