

Enhancing Mothers' Knowledge to Relieve Minor Discomforts During the 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' knowledge 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 knowledge regarding self-care practices. **Results:** The study findings revealed that postpartum knowledge among mothers was very low before health education. However, receiving health education about self-care significantly increased their knowledge 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 knowledge. **Recommendations:** Provide health education to postpartum mothers about common discomforts to increase women's understanding of the postpartum phase.

Key words: Minor discomforts, mothers' knowledge, postpartum period.

Introduction

The postpartum period, which follows childbirth, presents significant health risks for both mothers and their newborns. This phase begins with fetal birth and encompasses physiological

and psychological changes, typically lasting around six weeks. During this time, the mother's reproductive system undergoes recovery after pregnancy and delivery. Unfortunately, in some

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regions, the postpartum and postnatal periods receive less attention from healthcare providers compared to pregnancy and childbirth. The initial hours, days, and weeks after delivery can be particularly perilous for both mothers and infants, with over 500,000 women worldwide dying annually due to complications related to pregnancy and childbirth, most occurring during or shortly after delivery (Berens, 2020). Minor discomforts can arise during this time due to the body's adjustment, including perineal pain, constipation, urinary retention, and breast engorgement. Timely and effective management of these challenges is crucial for smooth postpartum adaptation (Ali et al., 2023).

While interventions to improve maternal and newborn health often focus on women, their decisions are made within the broader context of family and community. Women's choices are shaped by social networks, cultural beliefs, and myths that provide behavioral norms, health information, social support, and other resources affecting their health and newborns. Consequently, comprehensive reviews of strategies to enhance maternal and newborn health have found that community-based interventions promoting healthy behaviors and the appropriate use of health services can effectively reduce morbidity and mortality (Siseho et al., 2023).

Michele (2018) also noted that postpartum care at home is a method of post-delivery support provided by public health nurses, trained health workers, or midwives. This type of care involves assessing health issues for

both mother and newborn, offering training in self-care and infant care, and referring families to specialized maternal and neonatal services when necessary. Such support helps mothers navigate the challenges of new parenthood, empowering them to manage their health and that of their infants.

Nursing care during the postpartum period poses significant challenges, as women face physiological changes, psychological adjustments, and new family dynamics. Healthcare professionals, particularly nurses, should offer individualized, compassionate, and holistic care that addresses these diverse needs (Abdoli et al., 2023).

Significance of the study

Mothers experience some discomfort after giving birth; out of the 1336 women surveyed, 1254 (94%) reported one or more health problems, and 76 (5.7%) had no health problems in this period. The most common discomforts over the first six months were tiredness (69%), backache (35%), sexual problems (26%), hemorrhoids (24%), and perineal pain (21%); around 16% of women scored as depressed. Most health problems were equally common among women having first births and second or subsequent births (Elsebeiy, 2019). 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

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during the postpartum period (Shabaan et al., 2018).

Purpose

To enhance mother's knowledge for relieving minor discomforts during the postpartum period.

Research Hypothesis

Postpartum mothers receiving health education are expected to have higher level of knowledge in managing minor postpartum discomforts compared to their pre-education level.

Definitions of variables

- **The postpartum period** is defined as the period from childbirth to the 42nd day following delivery (Neamah et al., 2020), operationally defined as the period after delivery for 6 weeks.
- **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:

$$n' = \frac{n}{1 + \frac{z^2 \times \hat{p}(1-\hat{p})}{\epsilon^2 N}}$$

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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.

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 knowledge regarding self-care practices during the postnatal period. It includes 17 items, such as the warning signs during the postpartum period and the importance of perineal care during the postnatal period.

Scoring system:

Each item of knowledge was given a score of (2) for the complete answer, (1) for the incomplete answer, and (0) for the incorrect and unknown answer. The total knowledge score was calculated by summing the scores for the "complete answers." These scores were transformed into percentage scores. The total scores range from 0 to 34. The total knowledge scores were

divided into three categories: good (>75% of total knowledge scores), fair (50%-75% of total knowledge scores), and poor (less than 50%).

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 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

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was obtained, and the researcher started the individual 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 their knowledge 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.

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 level of knowledge of the participating mothers about the postpartum period during pre-, post-, and follow-up.

Table 3 represents the total mean knowledge score of the participating mothers about postpartum care. The mean knowledge score during pre-, post-, and follow-up. It reveals that there were highly statistically significant differences among the participating mothers pre-, post-, and follow-up regarding their level of knowledge about the postpartum period for post and follow score of the participating mothers about postpartum care before the health education was 12.86 ± 5.89 , after the health education was 27.93 ± 1.52 , and during the follow-up was 26.21 ± 1.78 , respectively. Also, there were highly statistically significant differences among the participating mothers pre-, post-, and follow-up regarding their

total mean knowledge score about postpartum care for post and follow-up.

Table 4 shows the relationship between the socio-demographic characteristics of the participating mothers and their total knowledge categories during the pretest. It shows that there was a highly statistically significant relationship between the socio-demographic characteristics of the participating mothers and their total knowledge categories; except for their age, there was a statistically significant relationship.

Table 5 shows the relationship between the socio-demographic characteristics of the participating mothers and their total knowledge categories during the posttest. It shows that there was not a statistically significant relationship between the socio-demographic characteristics of the participating mothers and their total knowledge categories; except for their age and level of education, there was a statistically significant relationship.

Table 6 shows the relationship between the socio-demographic characteristics of the participating mothers and their total knowledge 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 knowledge categories.

Figure 1a represents the level of knowledge of the participating mothers about postpartum self-care during pre-, post-, and follow-up. It reveals that there were highly statistically significant differences among the participating mothers pre-, post-, and

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follow-up regarding their level of knowledge about postpartum self-care for post and follow-up.

Figure1b represents the level of knowledge of the participating mothers about postpartum self-care during pre-, post-, and follow-up. It reveals that there were highly statistically significant differences among the participating mothers pre-, post-, and follow-up regarding their level of knowledge about postpartum self-care for post and follow-up.

Figure 2 represents the total knowledge categories of the participating mothers about postpartum care. It shows that 70.70% of the participating mothers had a poor knowledge category about postpartum care before the health education, 35% of them had a fair knowledge category after the health education, and 94.30% of them had a good knowledge category during the follow-up; this proved the research hypothesis.

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%

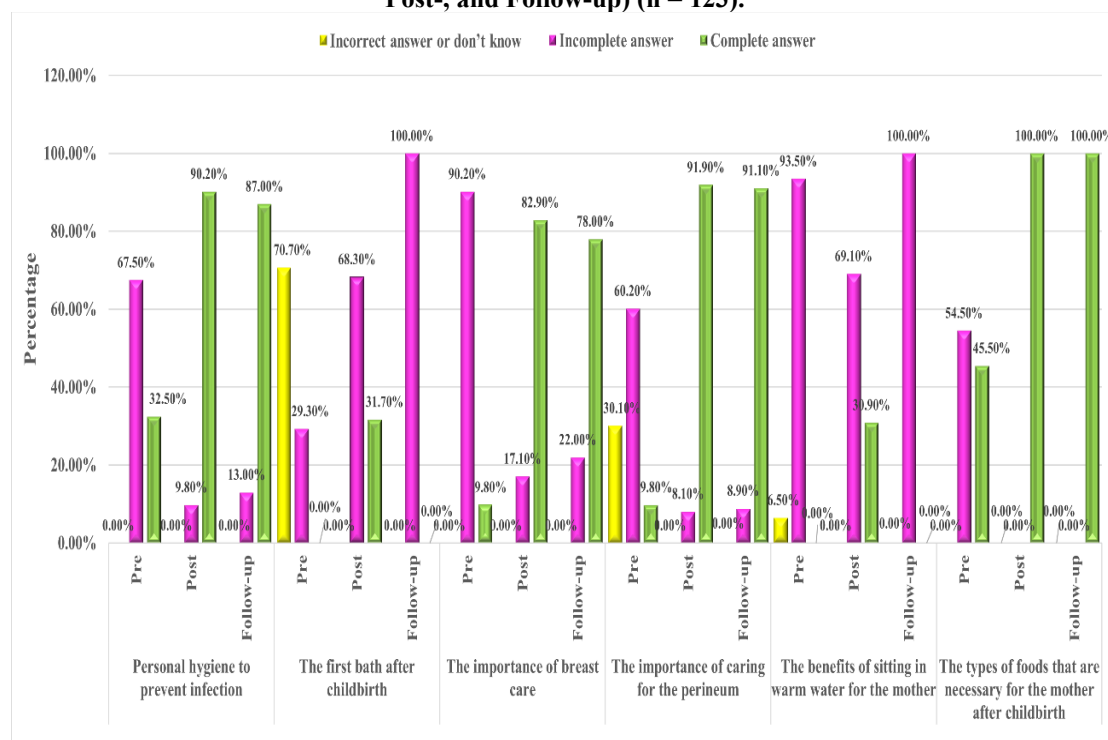
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Table 2: Assessment of the Mothers' Level of Knowledge about the Postpartum Period (Pre-, Post-, and Follow-up) (n = 123).

Variables	The participating mothers (n = 123)						Kendall's W Test a	P value
	Pre		Post		Follow-up			
	No.	%	No.	%	No.	%		
Definition of the postpartum period								
Incorrect answer or don't know	61	49.6%	0	0.0%	0	0.0%	155.583**	≤0.000
Incomplete answer	26	21.1%	23	18.7%	27	22.0%		
Complete answer	36	29.3%	100	81.3%	96	78.0%		
Types of lochia								
Incorrect answer or don't know	61	49.6%	14	11.4%	0	0.0%	125.459**	≤0.000
Incomplete answer	62	50.4%	109	88.6%	109	88.6%		
Complete answer	0	0.0%	0	0.0%	14	11.4%		
Changes that occur after childbirth								
Incorrect answer or don't know	16	13.0%	0	0.0%	0	0.0%	241.286**	≤0.000
Incomplete answer	95	77.2%	7	5.7%	14	11.4%		
Complete answer	12	9.8%	116	94.3%	109	88.6%		
Reasons for a slight rise in body temperature four days after childbirth								
Incorrect answer or don't know	36	29.3%	0	0.0%	0	0.0%	317.512**	≤0.000
Incomplete answer	75	60.9%	0	0.0%	0	0.0%		
Complete answer	12	9.8%	123	100.0%	123	100.0%		
Warning signs during the postpartum period								
Incorrect answer or don't know	36	29.3%	0	0.0%	0	0.0%	131.337**	≤0.000
Incomplete answer	60	48.8%	24	19.5%	35	28.5%		
Complete answer	27	22.9%	99	80.5%	88	71.5%		

N.B. a. Kendall's Coefficient of Concordance; ** means there was a highly statistically significant difference

Figure1a: Assessment of the Mothers' Level of Knowledge about Postpartum Self-care (Pre-, Post-, and Follow-up) (n = 123).



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Continued Figure1b: Assessment of the Mothers' Level of Knowledge about the Postpartum Self-care (Pre-, Post-, and Follow-up) (n = 123)

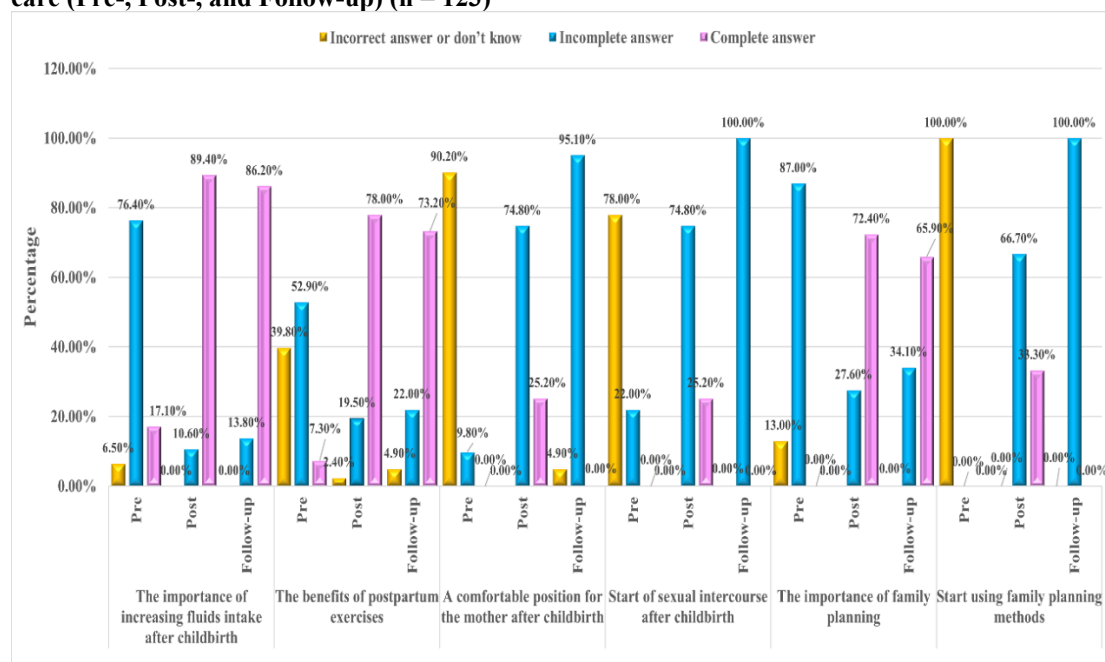
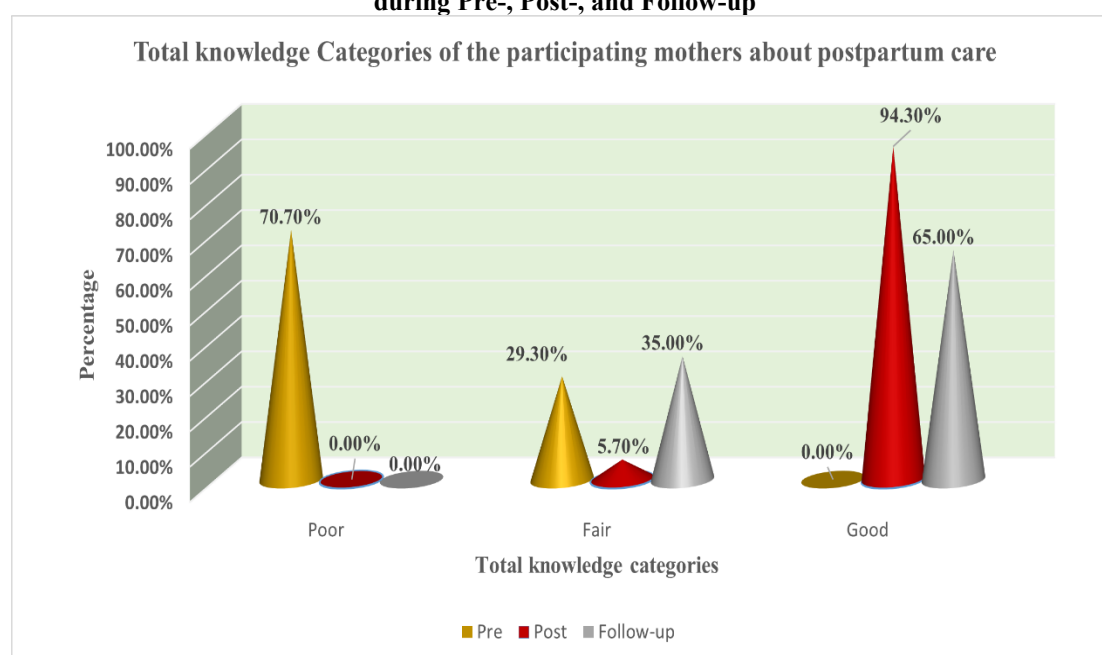


Table 3: Total Mean Knowledge Score of the Participating Mothers about Postpartum Care (n = 123)

Variables	The participating mothers (n= 123)			*F test	P value
	Pre	Post	Follow-up		
Mean knowledge scores					
Mean ± Std. Deviation	12.86±5.89	27.93±1.52	26.21±1.78	623.613**	≤0.0001
Minimum	5.00	24.00	23.00		
Maximum	25.00	33.00	29.00		

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

Figure 2: Total Knowledge Categories of the Participating Mothers about Postpartum Care during Pre-, Post-, and Follow-up



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Table 4: Relationship between the Socio-demographic Characteristics of the Participating Mothers and Their Total Knowledge Categories (Pre) (n = 123).

Variables	Total knowledge categories				X ²	P value
	Poor		Fair			
	No.	%	No.	%		
Age (years)						
20-30	62	50.4%	27	22.0%	7.302*	≤0.05
31-35	12	9.8%	9	7.3%		
> 35 years	13	10.6%	0	0.0%		
Level of education						
Illiterate	8	6.5%	0	0.0%	77.052**	≤0.001
Basic	29	23.6%	0	0.0%		
Intermediate	24	19.5%	0	0.0%		
University	26	21.1%	15	12.2%		
Postgraduate	0	0.0%	21	17.1%		
Occupation						
Housewife	87	70.7%	0	0.0%	123.000**	≤0.001
Employee	0	0.0%	36	29.3%		
Place of residence						
Rural	74	60.2%	9	7.3%	41.853**	≤0.001
Urban	13	10.6%	27	22.0%		
Income						
Not enough	75	61.0%	0	0.0%	79.526**	≤0.001
Enough	12	9.8%	36	29.3%		

N.B. * means there was a statistically significant difference; ** means there was a highly significant difference.

Table 5: Relationship between the Socio-demographic Characteristics of the Participating Mothers and Their Total Knowledge Categories (Post) (n = 123).

Variables	Total knowledge categories				X ²	P value
	Fair		Good			
	No.	%	No.	%		
Age (years)						
20-30	3	2.4%	89	72.4%	17.332**	≤0.001
31-35	0	0.0%	18	14.6%		
> 35 years	4	3.3%	9	7.3%		
Level of education						
Illiterate	0	0.0%	6	4.9%	11.562*	≤0.05
Basic	5	4.1%	22	17.9%		
Intermediate	0	0.0%	30	24.4%		
University	2	1.6%	41	33.3%		
Postgraduate	0	0.0%	17	13.8%		
Occupation						
Housewife	5	4.1%	90	73.2%	0.142 ns	>0.05
Employee	2	1.6%	26	21.1%		
Place of residence						
Rural	5	4.1%	78	63.4%	0.053 ns	>0.05
Urban	2	1.6%	38	30.9%		
Income						
Not enough	5	4.1%	74	60.2%	0.168 ns	>0.05
Enough	2	1.6%	42	34.1%		

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

Table 6: Relationship between the Socio-demographic Characteristics of the Participating Mothers and Their Total Knowledge Categories (Follow-up) (n = 123)

Variables	Total knowledge categories				X ²	P value
	Fair		Good			
	No.	%	No.	%		
Age (years)						
20-30	28	22.8%	61	49.6%	4.543 ns	>0.05
31-35	7	5.7%	14	11.4%		
> 35 years	8	6.5%	5	4.1%		
Level of education						
Illiterate	2	1.6%	6	4.9%	5.178 ns	>0.05
Basic	15	12.2%	14	11.4%		
Intermediate	8	6.5%	16	13.0%		
University	11	8.9%	30	24.4%		
Postgraduate	7	5.7%	14	11.4%		
Occupation						
Housewife	31	25.2%	56	45.5%	0.059 ns	>0.05
Employee	12	9.8%	24	19.5%		
Place of residence						
Rural	30	24.4%	53	43.1%	0.158 ns	>0.05
Urban	13	10.6%	27	22.0%		
Income						
Not enough	27	22.0%	48	39.0%	0.092 ns	>0.05
Enough	16	13.0%	32	26.0%		

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

Discussion

As regards the mothers' level of knowledge about self-care practices during the postpartum period, the present study showed that the mean knowledge score of the participating mothers about postpartum care after the health education was higher than before the health education. Also, the results showed that ninety percent and nine percent of the participating mothers had poor and fair knowledge scores about postpartum care before the health education, respectively, compared to seventy-six percent and twenty-two percent of them having fair and a good

knowledge score about postpartum care after the health education.

From the researcher's point of view, the possible reason might be that counselling services to mothers on the importance of postpartum self-care during the postpartum period could increase their intention to practice the existing maternal care services, including postpartum self-care practice. This result confirms that health education, whatever the method, is important for women in the postpartum period and had a significant effect on

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the studied women by increasing their level of knowledge and self-care.

This finding is consistent with Abdrabo et al. (2022) and Abd El-Azeem et al. (2020), who studied "Self-Care of Women during the Postpartum Period in Rural Areas." They demonstrated that most of the samples studied had a poor knowledge score pre-intervention, whereas nearly three-quarters of them had a good knowledge score post-intervention. There was a highly statistically significant increase in the studied sample total knowledge score post-intervention compared to pre-intervention.

In addition, this finding was also in congruence with Hussein et al.'s (2019), who studied "Women's Knowledge Regarding Postpartum Warning Signs." Beraki et al. (2020), who conducted a study entitled "Knowledge on Postnatal Care Among Postpartum Mothers During Discharge in Maternity Hospitals in Asmara: A Cross-Sectional Study," and Ibrahim et al. (2021), who studied "Effect of Online Health Guidance on Recovery of Postpartum Minor Discomforts and Neonatal Problems During the COVID-19 Pandemic." They showed that most primiparous mothers had a poor knowledge score pre-intervention compared to nearly three-quarters of them who had a good knowledge score post-intervention.

This finding was in the same line as Dedding et al.'s (2020), who studied "Maternal self-care in the early postpartum period in the Netherlands," El-Sayed et al. (2020), who studied "perception of the mother's preparedness about self-care for the

postpartum period in Egypt," and Nchimbi and Joho (2022), who studied "puerperal sepsis-related knowledge and reported self-care practices among postpartum women in Tanzania." They mentioned that the study participants who attended antenatal care (ANC) visits during their last pregnancy were more likely to have good postpartum self-care practices than their counterparts. This possible justification might be explained by the fact that attending ANC visits during their last pregnancy could be beneficial for mothers to receive more information from health professionals regarding the necessity of self-care. So, these services could help mothers perform postpartum self-care practices during the postpartum period.

Also, these results agree with the study done by Neamah et al. (2020) and the study done in Egypt by Elzeblawy et al. (2020), who studied "Impact of Tailored Educational Programme on Primigravida Anxiety and Knowledge Regarding Minor Discomforts in Upper Egypt, International Journal of Studies in Nursing." They showed that there was a statistically significant difference in all items of women's knowledge about the postpartum period before and after the educational program. This result indicated that most women had a desire and ability to learn and acquire knowledge and practices of the postpartum period.

The previous result corresponds with Sittek et al. (2021) in comparing postpartum educational modalities and their effect on information retention at Summa Akron City Hospital in Akron, Ohio. They found that patient education

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has been repeatedly demonstrated to benefit patients' knowledge base and informed decision-making.

In contrast, this study's findings disagreed with those of Elsebeiy (2019) and Hussein et al. (2019), who studied "Women's Knowledge Regarding Postpartum Warning Signs in Ain Shams Maternity University Hospital in Egypt." They illustrated that a very small percentage of women correctly knew self-care activities for relieving postnatal breast minor discomforts.

Also, the present study findings were not in harmony with Mohamed et al. (2021), who studied "Effect of Instructional Guidelines Regarding Minor Discomforts on Reducing Depression, Anxiety, and Stress Level among Primigravida at Sohag University Hospital," and Amin et al. (2021). They reported that more than one-half of women had incorrect knowledge about minor discomfort related to after-pain, and less than ten percent had incomplete correct knowledge. They showed that most women did not know the definition of minor discomfort and had incorrect knowledge about cracked nipples and breast engorgement. This result might be due to half of women being primigravida and more than half of women living in rural areas.

Moreover, these findings were supported by Ibrahim et al. (2021), who conducted a study entitled "Effect of Online Health Guidance on Recovery of Postpartum Minor Discomforts and Neonatal Problems during the COVID-19 Pandemic" and revealed that there was a highly statistically significant improvement in the studied sample

knowledge regarding postpartum minor discomforts and neonatal health problems, whereas the majority of primiparous mothers had a poor knowledge score pre-intervention compared to nearly three-quarters of them having a good knowledge score post-intervention. This could be because online guidance on postpartum minor discomforts and neonatal health problems provided them with sufficient basic knowledge.

The researcher's point of view for this difference might be due to the difference in the level of education that was included in the current study; about one-third of the participating mothers had a university education and the absence of previous experience. This indicates that they needed information and might be attributed to the characteristics of health education, which were custom-tailored to real identified needs. In addition, the nurse's ability to communicate information about the minor discomfort in a non-threatening and supportive manner helped to relieve minor discomfort in the postpartum period.

In relation to the relationship between the socio-demographic characteristics of the participating mothers and their total knowledge scores, the present study clarified that there was a statistically significant relationship between the socio-demographic characteristics of the participating mothers and their total knowledge scores.

This comes in agreement with Elsebeiy (2019) and Farag et al. (2022), who studied "Mobile communication on post-partum minor health alignments'

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recovery and family planning seeking care among primiparous in Beni-Suef.” They explained that the mean score of women's total knowledge regarding all postnatal minor discomforts and self-care activities for relieving them was higher in the age group of twenty-five years than those in the eighty to twenty-five age group. Also, the mean score of university-educated women was higher than that of secondary and essentially educated women. In addition, the mean score of urban women was higher than that of rural women. Moreover, the mean score of working women was higher than that of housewives. All the differences observed reached high statistical significance.

Additionally, these findings were like a study conducted by Bakr et al. (2019) entitled “Women’s Knowledge Regarding Postpartum Warning Signs.” They showed that women’s educational level, residence, family income level, being multiparous, and place of delivery were found to be significantly associated with women’s knowledge of postpartum warning signs.

Also, the result of the present study revealed that there was a highly statistically significant association between women's educational level and their knowledge regarding postpartum warning signs. This may be due to women with an educational background having more correct knowledge than women with a limited educational background.

Furthermore, the findings of the current study revealed that there was a highly statistically significant association between women's jobs and knowledge regarding postpartum warning signs.

This result may be because working women have a better opportunity to share their experiences with others than housewives.

Moreover, these findings were supported by Mohamed et al. (2021), Sharma et al. (2020) in India, Samarakoon et al. (2020) in Sri Lanka, and Khalil and Hamad (2019) in Iraq. They reported that there was a statistically significant relationship found between demographic characteristics and primigravida pregnant women's knowledge regarding minor discomforts of pregnancy. This is due to the fact that demographic characteristics may interfere with gaining knowledge from antenatal clinics, as lower education causes anxiety in early pregnancy due to challenges in adjusting to new roles and new expectations from themselves and others. So, knowledge levels were found to be statistically significantly associated with age, education, occupation, monthly income, and source of information.

Additionally, these findings agree with Kalaivani (2019), who studied "knowledge, attitude and practice regarding postnatal care among primi mothers in India" and reported that there is a significant association between educational status, area of living, and type of diet with knowledge regarding postpartum care among mothers. Moreover, these findings agree with Beraki et al. (2020), who reported that there is a significant association between the women's knowledge and their age group, residence, and educational background.

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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 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 knowledge for relieving minor discomfort during the postpartum period than before. 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 can indirectly increase their level of knowledge 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:

- 1) Health education should be provided to postpartum mothers to educate them about postpartum minor discomfort and how to deal with it.
- 2) Training programs about postpartum care should be implemented for the improvement of women's knowledge about the postpartum period.

Further research

- 1) More research is needed to compare the effects of health education on postpartum minor discomfort in late pregnancy and after birth.
- 2) A similar study can be replicated in different settings and with a larger sample to strengthen the findings.

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