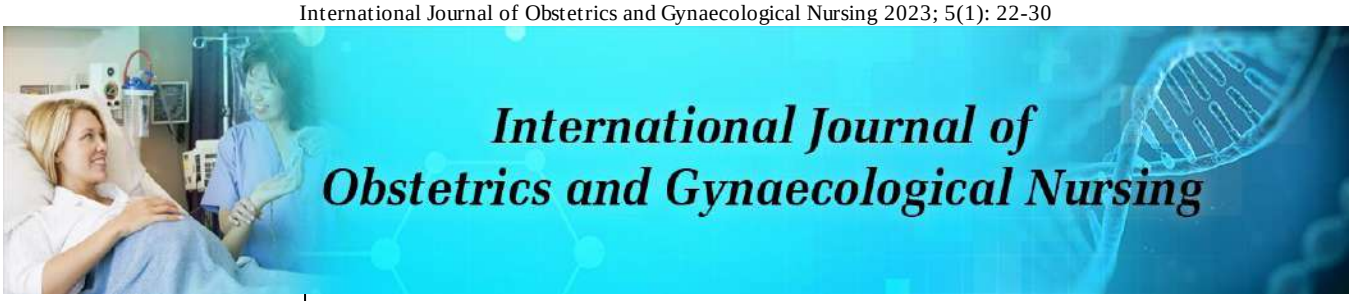

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Impact of health educational program for pregnant women on their knowledge regarding to postpartum and newborn care

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Abstract
Background: The postnatal period, especially the first few days and hours of life, is the most crucial time for both mothers and their children. To cut down on maternal and child mortality, it is crucial to implement educational programs to encourage mothers to have the right knowledge.
Aim of the study: To evaluate the impact of health educational program for pregnant women on their knowledge regarding post-partum and newborn care.
Research design: Quasi-experimental research design (one group pre-test, post-test) was used to fulfill the aim of this study.
Sample: A purposive sample of (70 pregnant women) was used in this research.
Two tools were used for data collection: Tool (I) interviewing questionnaire.
Tool (II): Pregnant women's knowledge about post-partum and newborn care.
Results: The findings of this study revealed that (75.70%) of the studied sample had a poor knowledge level before the implementation of the educational while (90.00%) of the study sample had good knowledge immediately after the implementation of the educational program and slightly decreased to (85.70%) in the first day post-partum with highly statistically significant differences.
Conclusion: Implementation of the health education program was effective and significantly improved pregnant women, overall knowledge towards post-partum and newborn care.
Recommendation: Regular training programs to educate pregnant women, especially primigravida, to improve their knowledge about post-partum and newborn care which can reduce maternal and newborn morbidity and mortality.

Keywords: Health educational program, postpartum care, newborn care

Introduction
Women, newborns, partners, parents, caregivers, and families all face unique challenges during the first six weeks (42 days) following childbirth. After birth, both are particularly vulnerable. However, the rates of mortality and illness among mothers and newborns during this time remain unacceptable. It has not been completely utilized, but there have been opportunities to improve maternal health and foster caring for newborns. Services provided after a baby is delivered are crucial to the overall care given to mothers, infants, and young children [1]. The Sustainable Development Goals (SDGs) for maternal, neonatal, and child health, which includes lowering the incidence of maternal mortality and eliminating all newborn avoidable deaths, depend on them. Neglecting women, and newborns during this time period can lead to preventable deaths and disabilities, as well as lost opportunities to promote healthful lifestyles [2].

Both the mother's body and her emotions go through significant changes in the time immediately following childbirth. Health issues and proper newborn care are just two topics she should study. Because of this, the mother requires increased emotional, educational, and medical assistance during the postpartum period; postnatal mothers who are well-informed about post-natal care have a far better chance of making it through this challenging time. This was concluded by a group of researchers [3].

For mothers to avoid long-term health problems after giving birth, postnatal care is considered a crucial component of maternal health. Postpartum care entails a comprehensive

assessment of both mother and child, as well as the provision of pertinent postpartum counseling to the new mother. Death or incapacity, as well as lost opportunities to encourage good behavior, can damage both the mother and the newborn if proper postnatal care is not provided [4].

Significance of the study

World Health Organization

(2018C) estimates that 830 women per day die from complications during pregnancy and childbirth that could have been avoided. Almost all maternal deaths (99%) occur in low- and middle-income countries. Women in remote settings and low-income groups have a higher risk of dying during childbirth. The worldwide maternal mortality ratio is expected to be reduced to less than 70 per 100,000 live births by 2030 as part of the sustainable development objectives. The World Health Organization has determined that Egypt has met international health benchmarks, including a significant decrease in both child and maternal mortality. In 2019, the rate of maternal mortality was 33 per every 100,000 births [5, 6].

According to 2019 data from the UN Children's Fund and the WHO, 5.2 million children under the age of five perished around the world. Of these deaths, 2.4 million (47%) occurred within the first month of birth. The global newborn mortality rate decreased by 54 percent from 37 per 1,000 live births in 1990 to 17 in 2019. Most infant mortality occurs in emerging nations with low or moderate per capita income. As it stands, developing nations are unlikely to meet the Sustainable Development Goal (SDG) of reducing infant and child mortality to less than 12 per 1,000 live births by 2030 [7].

Pregnant and new moms lacked the necessary knowledge to properly care for themselves and their newborns during pregnancy, labor, and the immediate postpartum period. Due to this, prenatal and postnatal care visits should include multiple forms of educational instruction. Programs that teach moms in a way that is both engaging and informative are more likely to result in the development of their children having a solid foundation in knowledge and healthy habits. There should be more of an emphasis on the nurse's instructional function. Additionally, newborn health is intimately linked to maternal health; hence, increasing birth outcomes depends on enhancing maternal health care throughout pregnancy through antenatal care, competent delivery, and the post-partum period by providing post-partum care [8].

Aims of the study

This study aimed to evaluate the Impact of Health Educational Program for Pregnant Women on their knowledge regarding Postpartum and Newborn Care.

Research Hypothesis

H_1: Pregnant women who receive prenatal health educational program regarding post-partum and newborn care will have higher level of knowledge on post-test than pre-test.

H_2: There will be a significant association between pre-test knowledge of Women with their selected socio-demographic characteristics regarding post-partum and newborn care.

Subject and Methods

Research Design: Quasi-experimental research design (one group pre-test, post-test) was utilized to fulfill the aim of the current study.

Research Setting

The antenatal and postpartum departments at Minia University Hospital were used for this research. One of the most prominent medical and specialized hospitals in North Upper Egypt, this location gives back to the community by providing free healthcare to women and children at all ages and stages of life.

Sample

Purposive sample was utilized in this research. The sample size was determined according to the attendance of pregnant women suitable for inclusion criteria during the research study's six months from the beginning of data collection. The total sample obtained during these periods includes (70) pregnant women.

Inclusion criteria

Primi-gravida, gestational age ≥ 34 weeks of gestation, normal pregnancy without complications, expect to have a single full-term and normal newborn, women of the reproductive age range (18yrs - 45yrs), and only those mothers who have undergone normal delivery

Data Collection Tools

The researcher developed data for the study after an extensive literature review and similar studies conducted elsewhere. The data collection tool consisted of two tools:

Tool I: (Interviewing Questionnaire) it was designed by the researcher, and cons it was used to collect data related to women's socio-demographic characteristics, such as age, marital status, residence, educational level, occupational status of the mother, type of family in addition to the source of pregnant women knowledge regarding partum and newborn care.

Tool II: knowledge assessment Tool (pre/post-test) was developed to assess pregnant women's knowledge about post-partum and newborn care. It included eight main items maternal nutritional diet (7 items), personal hygiene, perineal care, and episiotomy (5 items), breast care (7 items), post-partum exercise (6 items), post-partum danger signs (1 item), post-natal visits (3 items), family planning counseling (5 items) and mother-infant relationship (1 item) in the form of multiple-choice questions. While women's knowledge about newborn care consisted of 7 main items, which include the mechanism of keeping the newborn warm (3 items), early and exclusive breastfeeding (12 items), umbilical cord care (5 items), eye care (3 items), newborn skin and diaper care (4 items), newborn vaccination (5 items), and newborn danger signs (1 item) also, in the form multiple questions.

Scoring Syste

The women's answer related to knowledge was the score and calculated. Each correct & complete answer was given a score of two, correct & Incomplete answer was given a

score one, and the wrong answer a score of zero; respectively, these scores were converted into a percent score (poor knowledge scored < 60% (<41 scores), average knowledge score 60% < 75% (41<51 scores) and good knowledge scored ≥75% (≥ 51 scores).

Supportive material

A comprehensive literature review was updated by the researcher, and then the final result was made into a handout (booklet). It was written in straightforward Arabic and accompanied by a variety of descriptive photographs to improve the nurse's awareness of postpartum and newborn care.

Validity and Reliability

Five specialists in obstetrics and gynecology as well as nursing professors piloted the questionnaire to assess its clarity, relevance, comprehensiveness, understanding, applicability, and ease of use. The necessary modifications were done to the tools. To establish reliability, the tools were tested for internal consistency by using Cronbach's alpha test of 0.842 and 0.810, respectively, to check the stability of the internal consistency of the tools.

Pilot study

The current study tools were evaluated in terms of their clarity, validity, and the amount of time that they required to be used in a pilot study that was carried out on 10% of pregnant women (seven women) in the environment that was just described. The necessary adjustment was carried out after the findings of the pilot project were analyzed. The pilot sample was incorporated into the primary sample for the investigation.

Data collection Procedure

The current study was achieved through three phases: assessment phase (pre-test), implementation (conducting health educational program), follow-up, and evaluation phase (post-test).

1. An assessment phase: (pre-test)

- During the assessment phase, the researcher begins the first meeting with women in the antenatal outpatient clinic to introduce herself, greet each woman, and explain the study's aims, nature, duration, and activities.
- After gaining women's consent to engage in the study, the researcher gave them an overview of the study and clarified the assessment tool question.
- Then the researcher interviewed each woman individually, completed the questionnaire as a pre-test of socio-demographic data, and assessed women's knowledge regarding post-natal and newborn care (Pre-test).
- The average time for the completion of each women interview was around 20-30 minutes)

2. An implementation phase (conducting education program): In this phase, after assessing the women's knowledge (pre-test), The educational program of this study was implemented through one session for each small group (2 to 3 pregnant women), and the discussion was emphasized on improving women's knowledge last for around 25 to 35 minutes.

A teaching method for knowledge was used, a small group discussion and an Arabic booklet with pictures were given to each participant. Motivation and reinforcement during a session were used to enhance women's learning.

The researcher collected the sample twice weekly over six months, from July 2021 to December 2021. The researcher attended the outpatient clinic from 9:00 a.m. to 1:00 p.m. In order to accomplish the suggested goal and allow women to ask questions and acquire a high level of understanding, knowledge about post-natal and newborn care was provided to the study sample's female participants using face-to-face approaches.

3. An evaluation phase (post-test)

The investigator conducted three times of evaluations; the first time of evaluation (pre-test) was done before the implementation of the educational program by using tools II to assess women's knowledge regarding post-partum and newborn care. Second-time evaluation (post-test) was done immediately after the implementation of the educational program using the same pre-test tools (tool II) to evaluate the impact of the health education program on post-natal and newborn care. Third-time evaluation (post-test) done during 1st post-partum day (before discharge) by using tools of pre-test (toll II)

Administrative design

The dean of the Faculty of Nursing and the director of Minia University Hospital for Maternity and Newborns provided official approval and authorization prior to the conduct of both the pilot study and the main study. The research idea was approved by the nursing faculty's ethics committee.

Ethical consideration

After explaining the significance, nature, and purpose of the study to the pregnant women who are willing to participate in it, the study is given the go-ahead officially. All participants have the right to decline to participate and/or withdraw from it at any time without giving a reason, privacy was taken into account during the collection of data, and no health risks were present. Participants were given the assurance that all of their information was kept in the strictest confidence, and anonymity was also guaranteed by giving each nurse a number rather than their name to preserve their privacy.

Statistical analysis

SPSS was used to tabulate, computerize, analyze, and summarize the acquired data in order to test study hypotheses (IBM, 28). When the P-value was less than or equal to 0.01 and the significance level was P0.05, it was deemed highly significant.

Results

Table 1: Distribution of the pregnant women according to their socio-demographic data (n=70).

Socio-demographic data	No.	%
Age/years		
18 < 30 years	57	81.4
30 <40 years	13	18.6
Mean ± SD	26.1 ± 2.8 years.	
Marital status		
Married	67	95.7
Divorced	3	4.3
Area of Residence		
Urban	17	24.3
Rural	53	75.7
Educational Level		
Illiteracy	34	48.6
Read and write	12	17.1
Primary /Preparatory education	6	8.6
Secondary education	10	14.3
University education	8	11.4
Occupational Status of Mother		
Worker	16	22.9
Housewife	54	77.1
Type of the family		
Nuclear	22	31.4
Joint	48	68.6

Table (1): Shows that more than three quarters (81.4%) of pregnant women were in the age group From 18 < 30 years old with a mean age of (26.1 ± 2.8), the majority (95.7%) of them married, about three quarter (75.7%) lived in a rural area, near half of them (48.6%) not educated, more than three quarter (77.1%) housewife and more than two third of them (68.6%) lived with joint family.

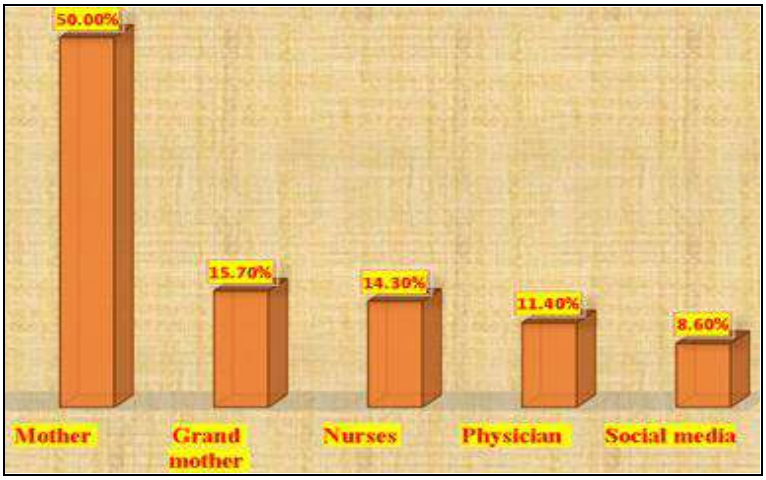


Fig 1: Distribution of the studied pregnant women regarding their source of knowledge about post-partum and newborn care (n =70)

Figure (1): illustrates that half (50%) of the pregnant women's source of knowledge about post-partum and newborn care was from their mother, and only 8.6% of their source of knowledge was social media.

Part II: Knowledge of the pregnant women regarding their post-partum and newborn care.

Table 2: Distribution of pregnant women regarding their correct knowledge about post-partum care pre-/ immediate and post-program (n= 70).

Items	Pre		Immediate		Post (1st-day P.P)		Mont Carlo test	P-value
	No.	%	No.	%	No.	%		
Post-natal diet								
Poor	38	54.3	0	0.0	0	0.0	138.643	0.001**
Average	24	34.3	7	10.0	15	21.4		
Good	8	11.4	63	90.0	55	78.6		
Personal hygiene & episiotomy care								
Poor	36	51.4	1	1.4	1	1.4	106.201	0.001**
Average	20	28.6	6	8.6	14	20.0		
Good	14	20.0	63	90.0	55	78.6		
Breast Care								

Poor	55	78.6	0	0.0	1	1.4	180.117	0.0001**
Average	12	17.1	8	11.4	15	21.4		
Good	3	4.3	62	88.6	54	77.1		
Post-partum exercise								
Poor	67	95.7	3	4.3	10	14.3	168.404	0.001**
Average	3	4.3	36	51.4	35	50.0		
Good	0	0.0	31	44.3	25	35.7		
Post-partum danger signs								
Poor	48	68.6	0	0.0	1	1.4	165.866	0.0001**
Average	19	27.1	9	12.9	15	21.4		
Good	3	4.3	61	87.1	54	77.1		
Post-natal visit								
Poor	56	80.0	0	0.0	1	1.4	199.153	0.0001**
Average	9	12.9	0	0.0	1	1.4		
Good	5	7.1	70	100.0	68	97.1		
Post-natal F.P counseling								
Poor	64	91.4	13	18.6	19	27.1	99.251	0.0001**
Average	5	7.1	27	38.6	26	37.1		
Good	1	1.4	30	42.9	25	35.7		
mother-infant relationship								
Poor	33	47.1	10	14.3	12	17.1	22.673	0.0001**
Good	37	52.9	60	85.7	58	82.9		

** Highly statistically significant differences

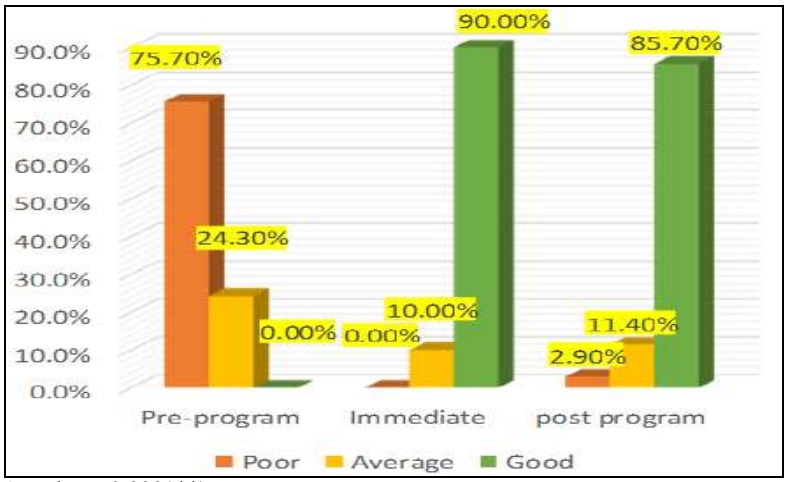
Table (2): Illustrates the Distribution of pregnant women regarding their correct knowledge about post-partum care. Presents that 11.4%, 20.0%, 4.3%, 4.3%, 7.1%,1.4%, and 52.9% of the studied sample had good knowledge regarding the post-natal diet, personal hygiene/ perineal episiotomy care, breast care, post-partum danger signs, post-natal visits, post-natal family planning and the mother-infant relationship in pre educational program, this percentage was increased to 90.0%, 90.0%, 88.6%, 87.1%, 100.0%, 42.9%,85.7% immediately after implementation of health education program while first day post-partum decreased to 78.6%, 78.6%, 77.1%, 77.1%, 97.1%, 35.7%, 82.9% respectively with highly statistically significant differences between pre, immediately and post educational program which (p-value ≤0.0001**).

Table 3: Distribution of pregnant women regarding their correct knowledge about newborn care pre-/ immediate and post-program (n= 70).

Items	Pre		Immediate		Post (1st-day P.P)		Mont Carlo test	P-value
	No	%	No	%	No	%		
Hypothermia and thermal protection								
Poor	56	80.0	0	0.0	1	1.4	178.717	0.0001**
Average	14	20.0	26	37.1	28	40.0		
Good	0	0.0	44	62.9	41	58.6		
Early breastfeeding and exclusive breastfeeding								
Poor	39	55.7	1	1.4	1	1.4	119.437	0.0001**
Average	20	28.6	7	10.0	11	15.7		
Good	11	15.7	62	88.6	58	82.9		
Umbilical cord care								
Poor	53	75.7	0	0.0	5	7.2	146.738	0.0001**
Average	12	17.2	11	15.7	15	21.4		
Good	5	7.1	59	84.3	50	71.4		
Eye care								
Poor	58	82.9	5	7.1	12	17.1	130.065	0.0001**
Average	9	12.9	6	8.6	7	10.0		
Good	3	4.2	59	84.3	51	72.9		
Newborn skin and diaper care								
Poor	63	90.0	4	5.7	8	11.4	151.414	0.0001**
Average	6	8.6	20	28.6	21	30.0		
Good	1	1.4	46	65.7	41	58.6		
Immunization for newborn								
Poor	55	78.6	1	1.4	1	1.4	176.418	0.0001**
Average	11	15.7	4	5.7	12	17.1		
Good	4	5.7	65	92.9	57	81.4		
Newborn danger signs								
Poor	50	71.4	3	4.3	6	8.6	117.571	0.0001**
Average	18	25.7	23	32.9	27	38.6		
Good	2	2.9	44	62.9	37	52.9		

** Highly statistically significant differences

Table (3): Reveals that none of the studied samples had good knowledge regarding hypothermia and thermal protection, increasing to 62.9% immediately after program implementation and then decreasing to 58.6% post-program. Also, it was observed that 15.7%, 7.1%, 4.3%, 1.4%, 5.7%, and 2.9% of the studied sample had good knowledge regarding early breast feeding and exclusive breast feeding, umbilical cord care, eye care, newborn skin, and diaper care, immunization for newborn and Newborn danger signs in pre educational program this percentage was increased to 88.6%, 84.3%,84.3%,65.7%, 92.9%, 62.9% immediately after the implementation of the program while post-test decreased to 82.9%, 71.4%, 72.9%, 58.6%, 81.4%, and 52.9% respectively with highly statistically significant differences in which P- value ≤ 0.0001).



(p-value ≤ 0.0001**).

Fig 2: Total knowledge level of the pregnant women regarding post-partum and newborn care levels of the pregnant women pre-/ immediate and post-program (n =n 70)

Figure (2): Illustrates total knowledge level about post-partum and newborn care; there is Significant improvement observed in the level of knowledge immediately and post-program 90% & 85. 70% compared to the pre-test with highly statistically significant differences at (p-value ≤ 0.0001**).

Table 4: Relation between socio-demographic data of the pregnant woman and their total knowledge levels pre-program (n= 70).

Items	No.	Total knowledge levels pre-program				*P* - Value
		Poor (n = 53)		Average (n = 17)		
		No.	%	No.	%	
Age/years						
18 < 30 years	57	49	86.0	8	14.0	0.001**
30 <40 years	13	4	30.8	9	69.2	
Marital status						
Married	67	50	74.6	17	25.4	0.316
Divorced	3	3	100.0	0	0.0	
Area of Residence						
Urban	17	13	76.5	4	23.5	0.933
Rural	53	40	75.5	13	24.5	
Educational level						
Illiteracy	34	33	97.1	1	2.9	0.009**
Read and write	12	9	75.0	3	25.0	
Primary/Preparatory education	6	4	66.7	2	33.3	
Secondary education	10	4	40.0	6	60.0	
University education	8	3	37.5	5	62.5	
Occupational Status						
Worker	16	11	68.8	5	31.3	0.460
Housewife	54	42	77.8	12	22.2	
Type of the family						
Nuclear	22	14	63.6	8	36.4	0.111
Joint	48	39	81.3	9	18.8	

Fisher test was done **Highly statistically significant differences percentage calculated by raw

Table (4): Illustrate the relation between socio-demographic characteristics of the pregnant women and their total knowledge levels pre-program; there is a highly statistically significant relationship between the total level of knowledge and their age and educational level in which P-value ≤0.001** & 0.009** respectively.

Discussion

Concerning the characteristics of the studied pregnant women, the results of the current study revealed that more than three-quarters of pregnant women were in the age group from 18 < 30 years old with a mean age of (26.1 ± 2.8), majority of them are married, about three quarter lived

in a rural area, near half of them not educated, more than a three-quarter housewife and more than two third of them lived with joint family. This finding was similar to a study conducted by Beraki *et al*., [9], which reported that more than two third of the studied sample (70.8%) was in the age group from 17 to 30 years, majority of the study sample were married (92.8%). More than three-quarters (80.7%) were housewives, but the same author was different from the study finding in relation to residence and educational level as nearly three-quarters of them (73.2%) were from a rural area. More than half of them (57.2%) are in secondary education. This contrary might be due to differences in educational systems across countries.

In the same context, this result aligned with the study [10], which reported that the Participants' mean age was 26.13±5.69; the majority of the mothers were aged between 20-29 years; the majority were married. and around two third of them were unemployed. Still, the same author differs from the current study's educational level finding, revealing that nearly half of the participants had secondary education.

Concerning the source of knowledge about post-partum and newborn care, the present study demonstrated that half of the pregnant women's source of knowledge about post-partum and newborn care was from their mothers, and only 8.6% of them their source of knowledge was social media. This finding was inconsistent with Syan *et al*. [11], which reported that nearly half of the studied mothers (42%) gained their knowledge from their families, but the same author agrees with the current study as only 7% of them gain knowledge from social media. This finding may be due to the study sample's lack of educational level.

Regarding knowledge of the studied sample pre, immediate, and post-educational program, the current study revealed a highly statistically significant difference between pre & post-implementation of educational program regarding their knowledge about post-partum and newborn care. This finding revealed that education and training play an important role in improving women's knowledge, so the health educational package on post-partum self-care should be given in the discharge plan. It should be written in clear, simplified, and comprehensive explanation about post-partum issues supported by drawing pamphlets, especially for illiterate ones, to raise the awareness of post-partum women about these issues, especially in rural Egypt.

According to the total level of knowledge about post-partum and newborn care, there is significant improvement was observed in the level of knowledge immediately and post-program compared to the pre-test with highly statistically significant differences.

The current study findings were supported by Neamah *et al*. [12], which reported that a statistically significant difference in women's general knowledge regarding puerperium was observed between the pre-and post-tests for the study group, compared to the pre-and post-tests for the control group. Even while there was no statistically significant change in women's general puerperium knowledge between the pre-and post-test periods when compared to the placebo group.

In the same line with the current study, which revealed that around three-quarters of the study, the sample was poor knowledge pre-implementation of the educational program, a study conducted by Omran *et al*. [13], reported that more than three quarter (77.6%) of post-partum women had unsatisfactory knowledge toward total post-partum self-care, This similarity may be due to, majority of the studied sample was a housewife and low level of education and from the rural area as there is an irregularity in a health education program because not easy to access to transport in rural places. It is found that those with no formal education are nearly twenty times more liable to have poor knowledge regarding post-natal care than those of college or higher. Housewife women have triple the risk of having poor knowledge compared to those working.

The results of the present study also agreed with Abd El-Sattar [14], concluded that the implementation of intervention sessions regarding new mothers' home care knowledge and practices for their newborns in slums areas in Cairo, and found that the new mothers' knowledge and reported practices had improved.

In addition, Huidrom & Kumar [15] confirmed the current study finding showed a statistically significant increase in knowledge of certain areas of postnatal care among primipara moms, as measured by a comparison of their pre-and post-test scores. This result may be due to the overall participation of the study sample being primigravida only between both studies.

In the same line study with the current study finding, a study done by Chamangasht *et al*. [16], illustrated that Based on the dependent-test results, no meaningful difference in the groups' mean total self-evaluation scores before the education program, but there was a clear distinction afterward. Due to inexperience, insufficient education, and inadequate preparation, primiparous women in this study experienced significant physical and emotional difficulties in the postpartum period. Women affected by their families also benefitted from education sessions that dispelled myths they had about caring for themselves and their newborns. If a healthcare professional is going to educate women about something, it should be about their health, and they should do it either at home or in healthcare facilities.

Concerning women's knowledge about newborn care, there was a high statistical significance difference between the pre-, immediate, and post-implementation of the educational program. This finding was in line with the study by Abd El-Salam *et al*. [17], who studied the Effect of the Instructional Program on Primipara Mothers' Knowledge Regarding Neonatal Care, which showed that mothers' knowledge of newborn care increased significantly between the pre-and post-tests.

Along the same line, the current study supported by Syan *et al*. [11], showed that mothers' knowledge of how to care for their newborns improves both before and after the introduction of guidelines. This finding reflected the positive effect of instructional guidelines that the mothers introduced regarding their neonates' care.

The current study found that about three-quarters of pregnant women had `poor knowledge regarding newborn care pre-educational programs. This finding was confirmed by Leta [18], who studied the level of knowledge of essential newborn care practices among post-natal mothers in governmental hospitals of Harar Town and found that more than half of them had insufficient knowledge. Therefore, policy consequences and recommendations could lead to a more substantial rise in the quality of fundamental newborn care practices.

In contrast to the current study finding, a study done by Getachew *et al*. [19], reported that Overall, 33.5% of the mothers had good knowledge of ENC. Also, the result

disagrees with Bhattarai *et al*. [20], which reported that approximately 61.7% of postnatal moms were assessed to have a good knowledge base, whereas 39.3% were considered to have a weak base. At the same time, in the study conducted in Rwanda [21], a survey of postpartum mothers indicated that 65.1% had strong knowledge while 34.9% had low knowledge. This disagreement may be due to Many of the respondents (84%), who seems to be at odds with one another, are themselves multigravida.

Based on the present study findings, the study concluded that

The implementation of the health education program was effective and significantly improved pregnant women's overall knowledge of maternal and newborn care in the post-partum period. It found a statistically significant improvement in pregnant women, knowledge immediately, and the first day post-partum.

Recommendation

In light of the present study findings, the following recommendations are suggested

- Regular training programs to educate pregnant women, especially primigravida, improve their knowledge about post-partum and newborn, reducing maternal and newborn morbidity and mortality.
- Health educational packages on post-partum and newborn care should be given on the discharge plan, especially for new and ill-illustrated mothers.
- Replication of this study with a larger sample of different areas with longitudinal follow-up is recommended to generalize the results.

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Author's Contribution

Not available

Conflict of Interest

Not available

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References

1. World Health Organization. WHO recommendations on maternal and newborn care for a positive post-natal experience: executive summary; c2022.
2. Finlayson K, Crossland N, Bonet M, Downe S. What matters to women in the post-natal period: A meta-synthesis of qualitative studies. PLoS One.;15(4):e0231415. https://doi.org/10.1371/journal.pone.0231415 Published online 2020 Apr 22.
3. McCauley HLowe K, Furtado N, Mangiaterra V, Van den Broek N. Essential components of post-natal care–a systematic literature review and development of signal functions to guide monitoring and evaluation. *B*MC Pregnancy and Childbirth. 2022;22(1):1-16.
4. Abera B, Araya F, Rad MH, Yesuf EA. Post-natal Service Utilization and Associated Factors among Women Who Gave Birth in the last 12 Months prior to Study Period in Jimma Town. Health Science Journal. 2021;15(5):0 0.
5. WHO. Maternal Mortality, retrieved March; c2019 from: https://www.who.int/news-room/fact-sheets/detail/maternal-mortality.
6. Central agency for public mobilization and statistics. Demography of Egypt, retrieved March; c2019 from: http://www.capmass.se/country.php? =EG&year = 2018.
7. United Nations Children's Fund, WHO, World Bank Group, United Nations Population Division. Levels and Trends in Child Mortality United Nations Inter-Agency Group for Child Mortality Estimation (UN IGME), report; c2020. file:///F:/under20consideration/enbc/Levels-and-trends-in-child-mortalityIGME-English_2020.Pdf (accessed 9 September 2020).
8. McCarter D, Law AA, Cabullo H, Pinto K. Scoping Review of Postpartum Discharge Education Provided by Nurses. Journal of Obstetric, Gynecologic & Neonatal Nursing; c2022.
9. Beraki G, Tesfamariam E, Gebremichael A, *et al*. Knowledge on post-natal care among post-partum mothers during discharge in maternity hospitals in Asmara: a cross-sectional study. BMC Pregnancy and Childbirth. 2020;20:17. https://doi.org/10.1186/s12884-019-2694-8
10. Akoth C, Olowo S, Kagoya EK, Iramoit JS, Nteziyaremye J, Nekaka R, *et al*. Knowledge, Attitude, and Practice towards Essential Newborn Care among Post-natal Mothers Attending Health Facilities in a Rural District, Eastern Uganda. A Cross-Sectional Community study; c2022.
11. Syan SAE, Samuel VM, Llaguno MBB, Abdalla SS, *et al*. Effect of Instructional Guidelines on Mothers' Knowledge and Practice regarding Neonatal Care EJH. 2021, 12(3).
12. Neamah R, Bahaaldeen E, Abbas I. Effectiveness of an Educational Program regarding the Knowledge of women about maternal care during the post-partum period that attending to the primary health care centers at Al Amara City/Iraq. Kufa Journal for Nursing Sciences. 2020;10(1):47-61.
13. Omran A, Ahmed A, Ahmed M. Self-Care of Women during Post-partum period in Rural AreaEJHC. 2020, 11(1).
14. Abd El-Sattar AM. Nursing intervention sessions to improve newly mothers' home care practices for their newborns in slum areas in Cairo, Egyptian Nursing Journal Published by Wolters Kluwer – Medknow; c2021. DOI: 10.4103/ENJ.ENJ_9_20 IP: 197.36.94.173].
15. Huidrom H, Kumar D. Structured Teaching Programme Regarding Selected Aspects of Safe Motherhood on Knowledge among Primipara Mothers. Amarjeet Kaur Sandhu. 2021;13(1):68.
16. Chamangasht M, Kamrani MA, Farid M. Efficacy of an Early Self-care-Based Education Program on the Self-evaluation of Primiparous Postpartum Mothers: A Randomized Controlled Clinical Trial. Shiraz E-Medical Journal. 2021, 22(9).
17. Abd El-Salam AA, Eldeeb AMEM, Saleh ASEM. Effect of Instructional Program on Primipara Mothers' Knowledge Regarding Neonatal Care. American

Journal of Nursing. 2019;7(3):256-261.
18. Leta M. Level of knowledge toward essential newborn care practices among post-natal mothers in governmental hospitals of Harar Town, Eastern Ethiopia. SAGE Open Medicine. 2022;10:20503121221076364.
19. Getachew T, Dheresa M, Eyeberu A, Balis B, Yadeta T. A. Magnitude and Determinants of Post-natal Mothers' Knowledge of Essential Newborn Care at Home in Rural Ethiopia. Frontiers in pediatrics, 10 Front. Pediatr. 2022;10:860094. DOI: 10.3389/fped.2022.860094
20. Bhattarai M, Gurung R, Gurung S, Poudel S, Mahato J, Katel K, *et al*. Knowledge and Practice on Neonatal Care Among Postnatal Mothers in A Selected Teaching Hospital, Kaski District, Nepal. International Journal of Social Sciences and Management. 2021;8(1):279-284.
21. Batamuriza M, Uwingabire E, Oluyinka A. Essential Newborn Care Among Post-natal Mothers Journal of Rwanda Journal of Medicine and Health Sciences. 2020, 3(2). Available from file:///C:/Users/Dell/Downloads/Essential_Newborn_Car e_Among_Postnatal_Mothers_at_.pdf

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