IJSRM
INTERNATIONAL JOURNAL OF SCIENCE AND RESEARCH METHODOLOGY
An Official Publication of Human Journals

Human Journals
Research Article
November 2017 Vol.:8, Issue:1

Extend the Clinical Postpartum Care Knowledge of Internship Nurses

IJSRM
INTERNATIONAL JOURNAL OF SCIENCE AND RESEARCH METHODOLOGY
An Official Publication of Human Journals

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Submission: 19 October 2017
Accepted: 29 October 2017
Published: 30 November 2017

HUMAN JOURNALS
www.ijsrm.humanjournals.com

Keywords: Immediate postpartum Care; knowledge and internship nurses.

ABSTRACT

Objective: This study was conducted to improve quality of postpartum care through its aim to extend the clinical postpartum knowledge of internship nurses at Women's Health Hospital in Assiut University, Egypt. **Methodology:** The study design was a prospective, quasi-experimental pretest–posttest design and utilized quantitative data collection and analysis method to determine structural, process and outcome components of postpartum care. **Results:** The Findings of the study indicate that majority of internship nurses 68.9% had an average level of knowledge (satisfactory), 27.0% had poor level of knowledge and 4.1% had good level of knowledge regarding immediate postpartum care. **Conclusion:** The training program used in this study was effective in increasing the postpartum knowledge among internship nurses which evidenced by higher mean score in both immediate and later post-test instead of little drop in retention of knowledge at 1-month follow up but its score reflected a higher knowledge than before. The application of training programs supported with clinical intervention and fellow-up for all internship nurses it's highly recommended to achieve a better health care in postpartum specialty and other areas of specialties among internship nurses. .

INTRODUCTION

The postpartum period is a critical phase for mothers and their babies. The well-being of mothers and their babies determined by main changes occur during this time. Therefore, the lack of standard care during this period might be cause a specific ill health or even death. It does consider a neglected time due to lower skilled care when compared with care before childbirth [2]. Postpartum period is very crucial time for providing of interferences that are important to the health of both the mother and the new born [3]. Therefore, grave complications which interpret those two thirds of all maternal and neonatal deaths take place during the postpartum period [3].

Globally, 289 000 women died during pregnancy, childbirth and after childbirth. Almost all of these deaths occurred in low-resource settings, and most could have been prevented [4]. Annual maternal mortality rates in the developed countries such as the United Kingdom and United States of America are estimated at 8 and 16 per 100,000 live births respectively [5].

The poor quality of care introduced immediately postpartum in many hospitals has been widely reported. The challenge should be directed to define interventions that might improve nurses' knowledge and practice to improve their performance [6]. In addition to the first few hours after childbirth is the most crucial period in the life for newborn further growth and development which is largely determined by the quality of care that the newborn receives [7].

Key responsibilities of nurses in postpartum settings are to assess postpartum patients, provide care and teaching, and if necessary, report any significant findings. Postpartum nurses are essentially detectives searching for findings that might lead to negative outcomes for patients if left unattended. Thus, it is imperative for nurses to distinguish between normal and abnormal findings and to have a clear understanding of the nursing care necessary to promote patients' health and well-being [8].

Significance of the study

In Egypt, more than one-fifth of the maternal deaths occur during the postpartum period, the period following the delivery of the placenta until the 42nd day post-delivery. According to TAHSEEN research, lack of postpartum training for physicians and nurses at primary health centers, shortage of nurses to conduct home visits were considered the major obstacles to

providing appropriate postpartum care. [1] Therefore this study is focused on improving training through expanding of nurses' knowledge in postpartum area.

This study was designed to expand the immediate clinical postpartum knowledge of internship nurses.

Objectives:

1- Assessment nurses' knowledge of postpartum care (pre-test)

2- Implement structured teaching program regarding post-partum care

3- Assess the improving of nurses' knowledge (immediate post-test)

4- Assess retention of nurses' knowledge one month later (post-test)

5- Compare pretest and post-test knowledge of internship nurses

Hypothesis:

H1- Mean score post-test knowledge of internship nurses after receiving a structured teaching program on immediate postpartum care, will be significant.

H0- Mean score post-test knowledge of internship nurses after receiving a structured teaching program on immediate postpartum care, will be non-significant.

METHODS

Research design:

A prospective, quasi-experimental pretest–posttest design was used to measure the effectiveness of structured teaching program on postpartum knowledge among internship nurses.

Setting:

The study was conducted from September to October 2014 at Women's Health Hospital-Assiut University in Asyut governorate which present in Upper Egypt. The women's health facility is providing all types of women's healthcare.

Sample size: The total sample size was 74 respondents were enrolled voluntarily in the study which considered as 75 % from total size of 102 nurses at internship training program.

Inclusion and Exclusion Criteria:

The study including all consenting internship nurses participated in the training program for postpartum care. The nurses participated in different training programs were excluded from the study.

Study tools:

Two tools were used in this study, namely Pre-test knowledge questionnaire and post-test knowledge questionnaire. These tools were used to collect data from each study subject.

Tool I.

Part I. It includes the personal data of the nurse, name, age and education level.

Part II: Pre-test knowledge questionnaire:

It consists of 18 multiple choice questions related to nurses knowledge about the immediate care of postpartum women. The questions aimed to test the nurses' knowledge of maintaining maternal health. The questions including: regular assessment and examination of postpartum women, suspected infection symptoms, assessment of woman' abdomen after delivery, assessment of uterine abnormality, diastolic blood pressure if it's greater than 90 mm Hg, no signs and symptoms of pre-eclampsia, if woman has not voided by 6 hours postpartum the measures encourage micturition, signs and symptoms of shock, emergency actions taken in different cases. In addition to another 14 multiple questions concerning maintain infant health. For example assessment for emotional attachment should be carried out, vitamin K should be offered for all infants and administered, first clinical examination after the birth to assess if baby can stay with the mother or needs and……*etc.*

The answers score was rated as good, satisfactory and poor knowledge according to its total score was calculated from 32 degrees (total questions) and classified into Poor < 50%, Satisfactory 50-75% and Good >75%.

Tool II. Post-test knowledge questionnaire:

Include the same 32 questions and the nurses were answered it after receiving a 6- hour structured training program on "immediate- 7 postpartum care" for women and newborn. Both tools guided from WHO guide "WHO Technical consultation on postpartum and postpartum care for Immediate to 7 days Post-Partum Care". The author modified to be easily understood for nurses.

Pilot study:

A pilot study was conducted to test the applicability of the tools, and to estimate the time needed. It was carried out on 7 internship nurses. The results of the pilot study helped in refining the pre-test questionnaire for any modifications to be easily understood and answered quickly.

Ethical consideration

Then study was approved by Women's Health Hospital and faculty of Nursing Ethics Committees. The aim of the study was explained clearly for all participants and they gave an informed consent before interviews were conducted. All other ethical issues such as maintaining confidentiality and avoiding harm were strictly observed during the study.

Procedure/Data collection

Data was collected by the author, in September 2014 through three main stages pre-test of internship nurses' knowledge about immediate postpartum care. Then author offered a structured training program for internship nurses to expand their knowledge of immediate postpartum care. The training program was conducted in a classroom setting at faculty of Nursing. In total, 2 sessions were held for six hours. Participants were required to attend 2 sessions. The author presented the information using a Power-point demonstration. Then, immediate post-test data collected by using the same questionnaire which used in pretest. Later, follow-up for retained knowledge done in October 2014 after one month from immediate posttest. A structured questionnaire that was formulated based on WHO technical consultation on postpartum and postpartum care [9] for Immediate to 7 days Postpartum care including two items maintaining maternal and newborn health.

Statistical analysis

For data analysis, SPSS Version 20.0 statistical software packages were used. Data were presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, and cross tabulation variables. Test of significance was used and level of statistical significance is $P < 0.05$.

RESULTS

I. For socio-demographic data

- The age of participants is ranges (22-25) years old with mean ±SD was 23.6 ± 0. 75.
- In this study n=74 (100%) of sample were female.
- The total sample of participant 74 (100%) had 0 years of clinical experience.

II. Pre and post-test knowledge scores of internship nurses regarding immediate Postpartum care

- The pretest mean scores was (m= 17.7± 3.8) and immediate post-test mean score was (m= 25.1±2.7) and the difference between its mean scores reflected a statistical significant at P value < 0.000
- Mean score of later post-test (m= 21.8 ± 3.5)

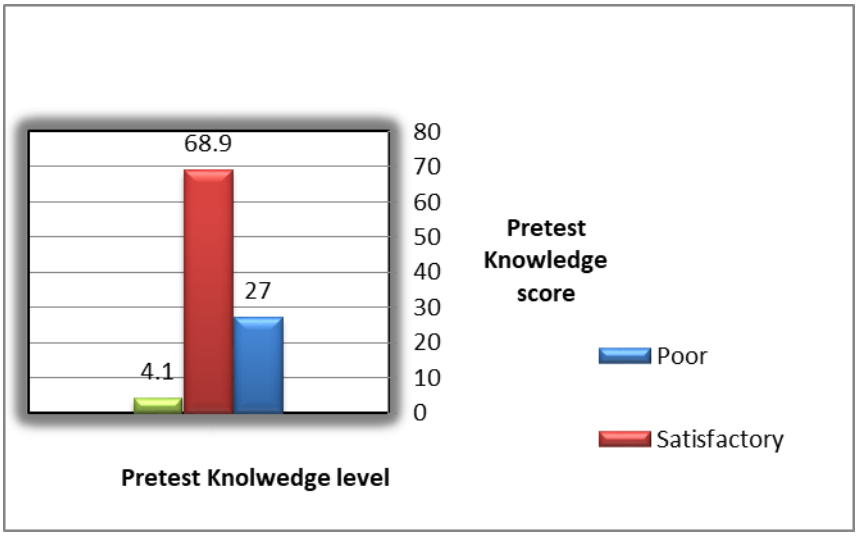

Figure 1. Pretest knowledge score of immediate postpartum care among internship nurses

Fig. 1 represents that in pretest majority of sample 68.9% nurses had average level knowledge (satisfactory). 27.0% had poor level of knowledge and only 4.1% had good level of knowledge regarding immediate postpartum care.

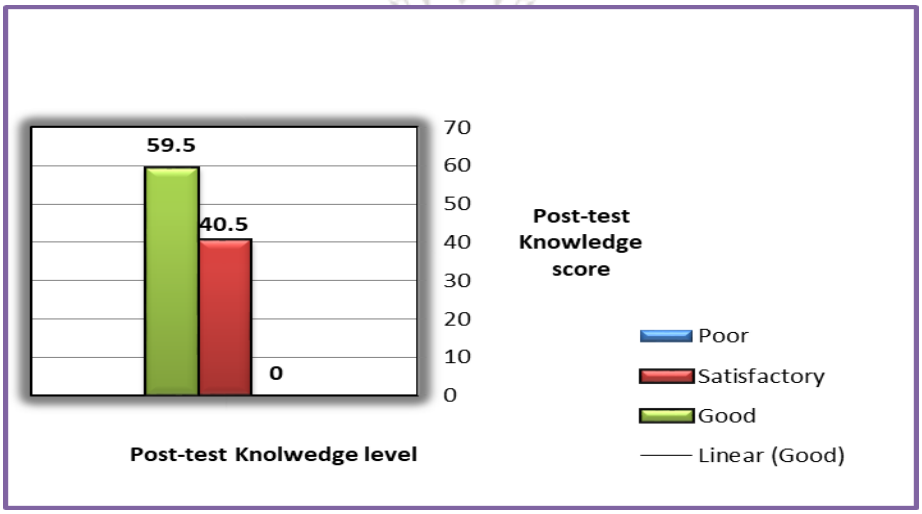

Figure 2. Post-test knowledge score of immediate postpartum care among internship nurses

Fig. 2 represents that in posttest, almost 60% of participants had good level of knowledge, 40.5% had average (satisfactory) level of knowledge, and no one had poor level of knowledge.

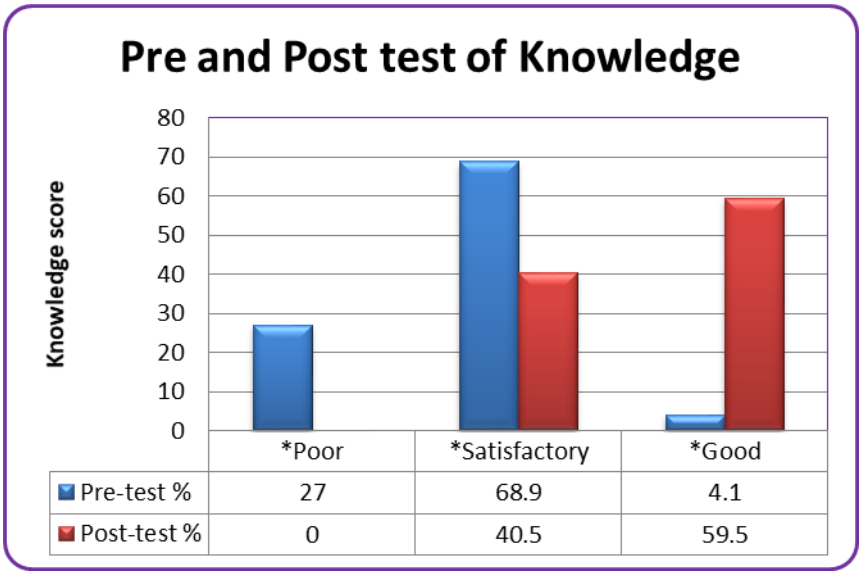

Figure 3. The difference in levels of pre and post-test knowledge

Fig. 3 shows the comparison between of pre and post-test knowledge score and data reflected statistical significance after receiving of training program of clinical postpartum care at (P. value <0.001).

III. For maintaining maternal health, the findings data divided into three items according to the action taken in each category.

The scheduled postpartum assessment per hour is including assessment of women after one hour of childbirth 44% were answered correctly versus 93% after receiving training program. For frequent measures of temperature and repetition of blood pressure if diastolic B.P > 90mm Hg without signs and symptoms of pre-eclampsia, nurses' knowledge before and after training program reflected a statistical significance difference at (P. Value< 0.001).

Table.1. Regular examination for postpartum women

Regular Examination for PP.	Pre-test				Post-test				P.V
	Correct		incorrect		Correct		Incorrect		
	no	%	no	%	no	%	no	%	
1. Regular examination for postpartum women	69	93.2	5	6.8	71	95.9	3	4.1	0.359
2. Assess. abdomen	39	52.7	35	47.3	62	83.8	12	16.2	0.001
3. Asses. of abnormal size, tone and position of the uterus for infection	19	25.7	55	74.3	30	40.5	44	59.5	0.041
4. Signs and symptoms of shock	51	68.9	23	31.1	62	83.8	12	16.2	0.026

Table 1. Distributes the regular examination for postpartum women was done to assess many items as abdominal assessment of vaginal loss, uterine involution and position 52.7% answered correctly versus 83.8 %. Reflects a statistical significance at P value < 0.00

Table 2. Actions taken in special postpartum cases

Actions taken in special postpartum cases.	Pre-test				Post-test				P.V
Urgent action for:	**Correct**		**incorrect**		**Correct**		**Incorrect**		
	no	**%**	**no**	**%**	**no**	**%**	**no**	**%**	
1. Women not voided by 6 hrs.	21	28.4	53	71.6	42	56.8	32	43.2	0.001
2. Signs and symptoms of shock	74	100.0	0	0.0	70	94.6	4	5.4	0.061
3. Diastolic BP >90 mm Hg with s & s of pre-eclampsia	56	75.7	18	24.3	72	97.3	2	2.7	0.001
4. Temperature remains above 38 °C	56	75.7	18	24.3	71	95.9	3	4.1	0.001
5. Unilateral calf pain, redness, swelling, shortness of breath or chest pain	60	81.1	14	18.9	73	98.6	1	1.4	0.001

Table 2. Shows the comparison between pre and post-test related to urgent actions taken by nurses in special postpartum cases**.** The data reflected a statistical significant at (P. Value < 0.001) for all urgent actions included in the table.

Table 3.shows the advices offered to postpartum women within 48 hours

Management guidelines	**Pre-test**				**Post-test**				**P.V**
	Correct		Incorrect		Correct		Incorrect		
	no	%	no	%	no	%	no	%	
1. Iron/folic acid and vitamin A	59	79.7	15	20.3	72	97.3	2	2.7	0.001
2. Symptoms of pre-eclampsia	62	83.8	12	16.2	59	79.7	15	20.3	0.061
3. Advice on diet, exercise and planning activities one of postpartum care package	44	59.5	30	40.5	66	89.2	8	10.8	0.001
4. Topical cold therapy for perineum pain	40	54.1	34	45.9	59	79.7	15	20.3	0.001
6. motional changes in the postpartum usually resolve within 10–14 days	20	27.0	54	73.0	38	51.4	36	48.6	0.002

Table 3. Reflects a statistically significant difference between nurses practice knowledge before and after receiving of the training program related to advice of iron supplementation for 3 months, diet and exercises, also using of pain relief and advice on emotional changes which could be resolved by 10-14 days at (P. Value < 0.001 and 0.002) respectively.

IV. Maintaining fetal health

The knowledge of internship nurses for maintaining infant health. The data reflected a statistically significant difference between pre and post-test related to assessment of emotional attachment, vitamin K dose and first clinical examination of the newborn whereas P. value <0.00

Table 4. Assessment of breast feeding knowledge of internship nurses

Breast Feeding Knowledge	Pre-test				Post-test				P.V
	Correct		Incorrect		Correct		Incorrect		
	no	%	no	%	no	%	no	%	
1. Breast pumps for separated women from infant	51	68.9	23	31.1	71	95.9	3	4.1	0.001
2. Support with positioning for breastfeeding	33	44.6	41	55.4	37	50.0	37	50.0	0.311
3. A advice to breast feeding with flat /inverted nipples	40	54.1	34	45.9	58	78.4	16	21.6	0.001
4. The initial BF protective effect	60	81.1	14	18.9	74	100.0	0	0.0	0.001
5. Mastitis symptoms	39	52.7	35	47.3	44	59.5	30	40.5	0.254
6. Engorgement breasts	57	77.0	17	23.0	71	95.9	3	4.1	0.001

Table 4. Shows importance availability of breast pumps for women were separated from their infant. Encouraging women with flat/ inverted nipples to breastfeeding their babies. Also, the protective effect of colostrum and engorgement breasts is feeling tender, firm painful when milk comes in. All items reflected a statistical significant at (P. Value < 0.001).

For Assessment of internship nurses related to their assessment skills for newborn. Data reflects a statistically significant difference between the pre and post-test of internship nurses related to jaundice within 1st 24 hours, the information offered to parent about physiological jaundice, also advice mothers by exclusive breastfeeding for their LBW infants and digital assessment for anus if no meconium passed within 1st 24 hrs. Whereas P. value <0.001.

DISCUSSION

This study is aimed to expand the immediate clinical postpartum knowledge of internship nurses through using pre-test to assess their knowledge level. Then, interference by a structured training program. Then, one month later followed by post- test for their knowledge based on what they had been learned from training program.

Research Hypothesis and Interpretation

The study results support the hypothesis that there would be a significance positive difference in the nurses' knowledge after receiving a training program of "immediate -7 days

postpartum care". Significant was emerged from the pretest mean scores to the posttest mean scores (m=17.7+3.8 to m= 25.1 + 2.7) given the short interval of time between the training program and there was a higher knowledge mean score (m=21.8 + 3.5 than baseline (m=17.7+ 3.8), which demonstrates that participants had a better understanding of the immediate-7days postpartum program one month after the intervention than they did before the educational intervention. These findings were similar to findings reported by Onyejuruwa, 2014 [10].

The current study was used to expand the immediate clinical postpartum knowledge of internship nurses. This interpreted as nurses became more knowledgeable about immediate postpartum care. This outcome is agreement with studies in other populations done by Pineda *et al.*, 2009 [11]; Rogers *et al.*, 2008 [12]. In addition, regardless of the educational intervention method used to impact knowledge, there was consistent improvement in nurses outcomes shown in a study done by Semelsberger, 2009 [13].

The findings identified that a majority of nurses 68% have average level of knowledge (satisfactory), 27.0% had poor level of knowledge and only **4.1%** had good level of knowledge regarding immediate postpartum care. However, the post-test results showed a good level of knowledge achieved **55.4%** average increase in knowledge of postpartum care from pre-test scores. This finding in agreement with study reported by Himelfarb in 2004 [14].

Important findings related to the respondents' knowledge in maternal and newborn care. In this study 69% gave a correct answer regarding first hour examination of women after childbirth which was better than study reported by Borgen 2010 [15]. Only 52.6 % of the respondents had the knowledge in the accurate management of the postpartum care during the two first hours following birth.

Limitations of the Study

The training program not applied on 100% of the internship nurses.

The study was conducted in one hospital of Upper Egypt; the results need to be generalized to the whole country to improve postpartum care introduced by internship nurses in whole health facilities of the country.

Strengths of the study

The training program was including 75% of the total internship nurses. This is a positive point due to some of those nurses will be employed in different hospitals not only women's health hospital (the sitting of the study) that improves the expanding of their quality of postpartum care which expected to achieve a good outcome in different health facilities.

CONCLUSION

The training program applied in this study was effective in achieving a better knowledge of internship nurses. Therefore, the average and poor level of knowledge was improved which evidenced by the highly positive change appeared in the mean scores from pre to post-tests. The internship nurses will affect positively on the quality of healthcare through expanding their clinical knowledge.

Recommendations

- The application of training programs supported with clinical intervention and fellow-up for all internship nurses it's highly recommended to achieve a better health care in postpartum specialty and other areas of specialties among internship nurses.

- Further researches needed to focuses on the follow-up of nurses 'practice in clinical setting as hospitals, health centers….*etc*.

- Further research studies need to apply on larger populations in order to generalize findings for evidence based practice.

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