APPLYING STANDARD NURSING CARE PROTOCOL TO IMPROVE QUALITY OF CARE AT POSTPARTUM UNIT

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ABSTRACT

Background, Postpartum period defined as 12 weeks after delivery, is a critical transitional time for a woman, newborn and family on physiological and psychological levels. Aim of the study: To investigate the effect of applying standard nursing care protocol to improve quality of care at postpartum unit. Setting: At Obstetric departments in Abshaway Central Hospital at Fayoum Governorate. Study Design: A Quasi experimental design (an interventional pre &posttest and after 3 months). Sample Type: A convenience samplewas used to recruit all nurses at postpartum unit and A Purposeful sample was used to recruit postpartum women. Sample Size: 100 for each group(Nurses and women). Tools: three tools 1) a structured interviewing questionnaire. 2) An observational checklist. And 3) women satisfaction tool. Result: the result of the present study findings was highly statistical significant difference of total nurses knowledge, practical skills, women satisfaction about postpartum period and standard of care at between pre, post and after 3 months After Applying Standard Nursing Care protocol to Improve Quality of Care at Postpartum unit. Conclusion: Nurses knowledge and practice and women satisfaction improved after implementing standardize nursing care protocol. Recommendations: Refresher courses for nurses in postpartum unit should be given to improve quality of care.

Keywords: postpartum, standard care, quality of care, nursing.

I. INTRODUCTION

Postpartum period is a critical transitional time for a woman, newborn and family on physiological and psychological levels. It begins after the delivery of the placenta and lasts about 6 weeks. This crucial period has many physiologic and psychological changes that may extend to a period of 9–12 months, as the woman tries to adjust to the new changes and roles in her life (Almalik, 2017).

During postpartum period, many problems may develop quickly, which if are not diagnosed promptly and treated effectively, can lead to illness and death of the women or neonate (Kaur, et al., 2020). Care during postpartum period provides the opportunity to ensure that the woman and newborn are progressing well, to support the breastfeeding woman and to detect and manage any problems. Postpartum care is considered a special challenge because it involved both the woman and the newborn (ACOG, 2016).

During the postpartum period, the maternity nurses have a central role in providing women emotional and psychological support (Goh et al., 2016). Knowledge is the fundamental competency of nurse practices. Besides that, psychomotor skills, the ability to make decisions and communicate are important for nurse practices (Amasha et al., 2020).

Significance of the study

The postpartum period is a critical phase in the lives of mothers and newborn babies. Most maternal and infant deaths occur during this time. Yet, this is the most neglected period for the provision of quality care (WHO, 2015). According to the World Health Organization (WHO), 295,000 women died from preventable causes related to pregnancy and childbirth in 2017. Unfortunately, the overwhelming majority of maternal deaths (94%) occur in developing countries. While In Egypt, maternal mortality rate for 2017 was 37.00, a 2.63% decline from 2016 (WHO, 2019). Nanial , (2018), reported that, 45% of maternal deaths occurs within 42 days after delivery.
Through clinical observation in the clinical area settings, the researcher observed that postpartum unit at Abshaway Central Hospital neglected and not take more attention as labor or antenatal unit from nurses, doctors, and managers. So the researcher wants to applying postpartum standard nursing care protocol to improve the nurse's knowledge and practice and therefore the quality of care and highlights of postpartum unit.

**Aim of the study**

The study aimed to investigate the effect of applying standard nursing care protocol to improve quality of care at postpartum unit through:

- Assessing nurse's knowledge and practice about standard nursing care protocol in post-partum period,
- Implementing standard nursing care protocol,
- Evaluating the effect of applying standardize nursing care protocol on the nurse's knowledge/ practice

**Research hypothesis:**

Nurses who received standard nursing care protocol about postpartum period will show better knowledge, practices and women satisfaction.

## II. SUBJECT AND METHODS:

**Research design:** A quasi-experimental design (time series design) an interventional pre&posttest and after 3 months study.

**Setting:** The study was conducted at obstetric departments in Abshaway central Hospital at Fayoum Governorate, which is one of the major hospitals in Fayoum. It is filled with different specialties. The most important one is obstetric & gynecological. It is provides a variety of health services to maternity and gynecological clients. The sample was recruited from postpartum unit.

**Sample type:** - A convenience sample was used to recruit all nurses at postpartum unit. And A Purposeful sample was used to recruit postpartum women; the estimated sample size is 100 women, at confidence level 95% by using Steven Thompson equation, 2012. Since the total number of women are 750.

**Sample size:** 100 nurse and 100 women.

**Tools of data collection:**

**Tool I:** structured interview questionnaire based on postpartum literature review, which included two parts:-

- Part 1: Assessment of Socio-demographic characteristics data of the study sample such as (age, level of education, years of experience,.etc).
- Part 2: Assessment of knowledge regarding postpartum period written in simple Arabic language in the form of multiple choice questions for assessing the nurses' knowledge regarding the following: A) Knowledge related to postpartum period such as (concept of postpartum period, physiological changes ….etc). B) Assessment knowledge regarding care provided to newborn such as (breast feeding, cord care…..etc). C) Knowledge regarding quality of care and standard of care.

**Knowledge scoring system:** All knowledge variables were weighted according to items included in each question. The answers were classified into 2 categories: Score (2): if answer was correct and Score (1): if answer was incorrect.

**The total score of knowledge was calculates as the following**

Good knowledge if total score (Equal or more than 70% of given answer was correct).

Average knowledge if total score (less than 70% and more than 50% of given answer was correct).
poor knowledge if total score (less than 50% of given answer was correct)

The score of talk knowledge was classified as the following: Good: (≥70% correct answers), Average: (50-<70% correct answers), and poor: (< 50% correct answer).

**Tool II:** observational checklist for postpartum and newborn care procedures to assess nurse's practices while providing care for women and newborn designed according to WHO protocol (2015) which included two parts:

**Part 1:** Assessment in the first 24 hours after birth: the nurse assesses the women's vaginal bleeding, uterine contraction … etc.

**Part 2:** Assessment after 24 hours after birth: the nurse assess women's general well-being and assessments made regarding the following urination, bowel function, perineal wound, lochia…… etc

**Observational checklist's practice scoring system:** Each step scored as following:

- Score (2): if the step done and Score (1): if the step not done.

**The total score of practice was calculated as the following:**

Satisfactory practical skills: if ≥ 70% of steps was done

Unsatisfactory practical skills: if >70% of steps was done

**Tool 3: "Maternal satisfaction structure interview questionnaire (MSQ):** This tool was originally developed by Varghese, J. and Rajagopal, K. (2013) (Al-Battawi & Hafiz, 2017). For Evaluating Postnatal Mother’s Satisfaction Following Nursing Care. It was adapted and translated to Arabic language by the researchers and validated by 5 expertise in the field of obstetrics and gynecology. Structured interview schedule. This part of the tool consisted of postnatal 39 items in six areas on mothers satisfaction. The areas of care were grouped under six domains namely: Orientation, Information, Communication, Comfort and care, Specific to postnatal care, and Value and preference.

The maximum score obtainable by an item was five, the respondents had to place (√) in the appropriate column. The total question for postnatal question were 39.

The scores (5) fully satisfied, (4) moderately satisfied, minimally satisfied (3), satisfied (2) and (1) not satisfied. This part of the tool consisted of postnatal 39 items in six areas on mothers satisfaction. The areas of care were grouped under: Orientation, Information, Communication, Comfort and care, Specific to postnatal care, and Value and preference. The maximum score obtainable by an item was five, the respondents had to place (√) in the appropriate column. The total question for postnatal question were 39.

An informational supportive guideline was designed by researcher according to nurses learning needs pre intervention based upon advanced related literature.

**Content validity and reliability:**

All tools of data collections were developed and sent to 5 specialized university prof. according to their comments, modification were considered.

**Preparatory phase:**

The researcher had reviewed the current advanced national and international literature related to the study topic, then prepared tools for data collection and designed guideline. Finally, pilot study was conducted.

**Ethical consideration:**

- The research approval was issued from the Scientific Research Ethical Committee in the Faculty of Nursing at Ain Shams University before starting the study.

- A litter of approval was sent to the director of Abshaway central Hospital included the aim and setting of the study.
• An official permission from the selected study settings was obtained for the fulfillment of the study.

• The researcher clarified the aim of the study to each nurse and women participated in the study.

• Written consent was obtained from each nurse to participate in the study.

• The study tools were ensuring that the study did not touch participant's dignity, culture, traditional and religious aspects and did not cause any harm for any participant during data collection. Also did not include any immoral statements and respect human right.

• All tools of data collection were burned after statistically analysis to promote confidentiality of the study.

Pilot study
A pilot study was conducted for 10 % from total number of sample to evaluate the simplicity and clarity of tools that was used in the study.

Field work or operational design:
The study was implemented through four phases included assessment, planning, implementation, and evaluation phase.

Phase I. Assessment phase (pre-test):

a. During the assessment phase, the researcher held the first meeting with each nurse to introduce herself and briefly explained the nature and the purpose of the study. They were informed that participation in this study was voluntary and they had the right to withdraw at any time without giving any reason. Written approval of nurses to share in this study was achieved.

b. After obtaining the acceptance from each nurse to participate in the current study, the researcher provided an overview and clarification about the assessment tools questions to the nurse. Then, the structured interviewing questionnaire was distributed to each nurse to assess nurse's general characteristics and their knowledge. The questionnaire took about 20-30 minutes to be completed.

c. Develop program based on assessment needs in initial or assessment phase.

d. Measure the women satisfaction before started the educational program

Phase II. Planning phase:
Based on the needs identified in the assessment phase from the participated nurses and women, and in review of the related literature, the educational program was developed by the researcher in the form of printed Arabic booklets to satisfy the nurse's deficit knowledge and practices regarding postpartum period and quality of standard care and prepare sessions according needs.

Supportive Arabic material prepared by the researcher which consisted of 2 chapters, the first chapter contains theoretical knowledge about female reproductive system and postpartum period (concept, physiological changes, psychological changes, postpartum complications, quality and standard of care), the second chapter contain the practical procedures of postpartum period (uterine fundus assessment, vital signs assessment, lochia assessment, perineal care, breast care, postpartum exercise and baby care).

Phase III. Implementation phase (conducting education program):
After assessing the nurse's knowledge and practices regarding postpartum period and standards and quality of care using the pretest structured interview questionnaire, the total sample (100) was divided into small groups of 5 groups each group consisted of 20 nurses. The total number of educational program sessions was 50 scheduled sessions (10 sessions for each group):

Theoretical sessions: The first session included acquaintance of trainees, introduction about the course, anatomy and physiology of female reproductive system, The second session included a definition and physiological changes of postpartum period, the third session included postpartum complications, the fourth session included postpartum management, the fifth session include standard and quality of care.
Practical procedures: 1) uterine fundus assessment procedure and lochia assessment procedure, 2) perineal care and breast care, 3) vital signs assessment procedure, 4) postpartum exercise procedure, and 5) baby care procedure.

The implementation of the educational program took 25 weeks. Two sessions for each group (2 days/week), each session was conducted for two hours. These sessions were repeated to each group of (20) nurses weekly. The program started by theory and the practical procedure.

At the beginning of the first session, an orientation to the educational program and its aims took place. Feedback was given at the beginning of each session about the previous one. An illustrated booklet containing information about postpartum period was distributed to the studied nurses in the first session of the educational program.

Phase VI: Evaluation phase (immediate post-intervention and after 3 months):

The effect of the education program was done through:

a. Evaluate the nurse's knowledge regarding the educational program sessions (pre – post- after 3 month).

b. Evaluate the nurse's practice regarding the educational practical procedures (pre – post- after 3 month).

c. Comparing between the pretest and immediate and after 3 months post-test to assess nurses knowledge and practices regarding postpartum period.

d. Three evaluations were done for women to assess their satisfaction; the first one was done before the study as a baseline data (pretest), the second evaluation immediate after the educational program implementation, and the third evaluation after 3 month.

III. RESULT

This table (1) showed that, 48% of the studied nurses their age ranged between 30-<40 year with Mean ± SD 32.2±3.17 year. Also, 62% of the studied nurses residing in rural areas. Regarding to educational level, 52% of the studied nurses had nursing institute education. Also, 65% & 56% of the studied nurses had enough income and married, respectively. Moreover, 50% of the studied nurses their years of experience ranged between10-<20 year with Mean ± SD 13.01±0.17 year. Likewise, 52% of the studied nurses attending training courses on infection control program.

Table (2) indicated that, there was a marked improvement in total nurses knowledge about postpartum period and its management post implementation of standard nursing care protocol with highly statistically significant difference at (P= < 0.01) between pre, post and after 3 months of the implementation. Table (3) showed that, there was a marked improvement in total nurses’ practical skills related to postpartum and newborn care post implementation of standard nursing care protocol with highly statistically significant difference at (P= < 0.01) between pre, post and after 3 months of the implementation.

Table (4) showed that, there was a marked improvement in mothers’ total satisfaction related to quality of care during post-partum period post implementation of standard nursing care protocol with highly statistically significant difference at (P= < 0.01) between pre, post and after 3 months of the implementation.

Table (5) showed that, there was highly statistically significant relation between total knowledge about postpartum period and its management of the studied nurses and their job title, education level and years of experience at (P= < 0.01). While, there was no statistically significant relation with age, residence, family income and marital status at (p= > 0.05).

Table (6) showed that, there was highly statistically significant relation between total nurses practice related to postpartum and newborn care and their job title, education level and years of experience at (P= < 0.01). Also, there was statistically significant relation with age at (p= < 0.05). While, there was no statistically significant relation with residence, family income and marital status at (p= > 0.05).

Table (7) illustrate that, there was a positive correlation between total nurses knowledge about postpartum period and its management and their total practice at (P= < 0.01). Also, there was a positive correlation between total mothers satisfaction and nurses’ knowledge and practice at (P= < 0.01).
Table (1): Number and percentage distribution of the studied nurses according to their socio-demographic data (n=100).

<table>
<thead>
<tr>
<th>Socio-demographic Data</th>
<th>No</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-&lt;30</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td>30-&lt;40</td>
<td>48</td>
<td>48</td>
</tr>
<tr>
<td>40-50</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>Mean SD</td>
<td>32.2±3.17</td>
<td></td>
</tr>
<tr>
<td><strong>Residence</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>38</td>
<td>38</td>
</tr>
<tr>
<td>Rural</td>
<td>62</td>
<td>62</td>
</tr>
<tr>
<td><strong>Job title</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nurse</td>
<td>75</td>
<td>75</td>
</tr>
<tr>
<td>Department supervisor</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Building supervisor</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Head nurse</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Educational level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Secondary school</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td>Nursing institute</td>
<td>52</td>
<td>52</td>
</tr>
<tr>
<td>Bachelor of nursing</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Others</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Family income</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enough</td>
<td>65</td>
<td>65</td>
</tr>
<tr>
<td>Not enough</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single</td>
<td>38</td>
<td>38</td>
</tr>
<tr>
<td>Married</td>
<td>56</td>
<td>56</td>
</tr>
<tr>
<td>Widow</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Divorced</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td><strong>Training program</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gynecological &amp; obstetric training</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Quality training</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Infection control program</td>
<td>52</td>
<td>52</td>
</tr>
<tr>
<td>Others</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Experience years</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-&lt;10</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>10-&lt;20</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>More than 20</td>
<td>18</td>
<td>18</td>
</tr>
<tr>
<td>Mean SD</td>
<td>13.01±0.17</td>
<td></td>
</tr>
</tbody>
</table>
Table (2): Comparison between the studied nurses at pre, post and after 3 months of implementation of standard nursing care protocol regarding to their total knowledge about postpartum period and its management (n=100).

<table>
<thead>
<tr>
<th>Total knowledge about postpartum period and its management</th>
<th>Good ≥70%</th>
<th>Average 50-&lt;70%</th>
<th>Poor &lt; 50%</th>
<th>T. test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>No. 22</td>
<td>% 22</td>
<td>No. 24</td>
<td>% 24</td>
</tr>
<tr>
<td>Post</td>
<td>No. 65</td>
<td>% 65</td>
<td>No. 26</td>
<td>% 26</td>
</tr>
<tr>
<td>After 3 months</td>
<td>No. 62</td>
<td>% 62</td>
<td>No. 26</td>
<td>% 26</td>
</tr>
</tbody>
</table>

Table (3): Comparison between the studied nurses at pre, post and after 3 months of implementation of standard nursing care protocol regarding to their total practice related to postpartum and newborn care (n=100).

<table>
<thead>
<tr>
<th>Total practice related to postpartum and newborn care</th>
<th>Satisfactory ≥70%</th>
<th>Unsatisfactory &lt; 70%</th>
<th>T. test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>No. 38</td>
<td>% 38</td>
<td>No. 62</td>
</tr>
<tr>
<td>Post</td>
<td>No. 72</td>
<td>% 72</td>
<td>No. 28</td>
</tr>
<tr>
<td>After 3 months</td>
<td>No. 66</td>
<td>% 66</td>
<td>No. 34</td>
</tr>
</tbody>
</table>

Table (4): Comparison between the studied women at pre, post and after 3 months of implementation of standard nursing care protocol regarding to their total satisfaction related to quality of care during post-partum period (n=100).

<table>
<thead>
<tr>
<th>Total satisfaction related to quality of care during post-partum period</th>
<th>Minimal satisfaction</th>
<th>Moderate satisfaction</th>
<th>High satisfaction</th>
<th>T. test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>No. 44</td>
<td>% 44</td>
<td>No. 36</td>
<td>% 36</td>
</tr>
<tr>
<td>Post</td>
<td>No. 10</td>
<td>% 10</td>
<td>No. 24</td>
<td>% 24</td>
</tr>
<tr>
<td>After 3 months</td>
<td>No. 14</td>
<td>% 14</td>
<td>No. 26</td>
<td>% 26</td>
</tr>
</tbody>
</table>

Table (5): Relation between socio-demographic data of the studied nurses and their total knowledge about postpartum period and its management at post implementation of standard nursing care protocol (n=100).

<table>
<thead>
<tr>
<th>Items</th>
<th>levels of total knowledge about postpartum period and its management</th>
<th>X2</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Good (n=65)</td>
<td>Average (n=26)</td>
<td>Poor (n=9)</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>%</td>
<td>No</td>
</tr>
<tr>
<td>Age (year)</td>
<td>20-&lt;30</td>
<td>20</td>
<td>30.8</td>
</tr>
<tr>
<td></td>
<td>30-&lt;40</td>
<td>32</td>
<td>49.2</td>
</tr>
<tr>
<td></td>
<td>40-50</td>
<td>13</td>
<td>20</td>
</tr>
<tr>
<td>Residence</td>
<td>Urban</td>
<td>18</td>
<td>27.7</td>
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<td></td>
<td>Rural</td>
<td>47</td>
<td>72.3</td>
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<td>Job title</td>
<td>Nurse</td>
<td>46</td>
<td>70.8</td>
</tr>
<tr>
<td></td>
<td>Department supervisor</td>
<td>14</td>
<td>21.5</td>
</tr>
</tbody>
</table>
**highly significant at p < 0.01.

Table (6): Relation between socio-demographic data of the studied nurses and their total practice related to postpartum and newborn care at post implementation of standard nursing care protocol (n=100).
**Table (7):** Correlation matrix between the studied variable at post implementation of standard nursing care protocol.

<table>
<thead>
<tr>
<th>Item</th>
<th>Total nurses practice</th>
<th>mothers satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R</td>
<td>P-value</td>
</tr>
<tr>
<td>Total nurses knowledge</td>
<td>0.491</td>
<td>.000**</td>
</tr>
<tr>
<td>Total nurses practice</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

**highly significant at p < 0.01.

**IV. DISCUSSION**

The finding of the current study revealed that, approximately less than half of the studied nurses their age ranged between 30-<40 year with Mean ± SD 32.2±3.17 year. Also, half of the studied nurses their years of experience ranged between 10-<20 year with Mean ± SD 13.01±0.17 year. This means that most of the nurses are juniors and the advantages of nurses in young age are full of energy and hyperactivity which is always required in such crucial department. Also, from the researchers' point of view, years of experience have a significant effect on the nurses' knowledge and practices.

These results was agreement with Negussie et al. (2018) who conducted a study to assess “Knowledge and practice of essential newborn care and associated factors among nurses and midwives working at health centers in Jimma Zone, Ethiopia” and stated that, the participants age ranges from 22 to 51 years with the mean of 30.86 (SD= ± 5.78) years. Two third of the study participants had more than ten years’ experience of delivery care service.

Concerning the educational level, it was found that more than half of the studied nurses had nursing institute education. Also, less than two-thirds of the studied nurses had enough income and married, respectively. Also, less than two-thirds of the studied nurses residing in rural areas. This may be due to the fact that institute in nursing provide the community with large number of graduate nursing institute education nurses than other agencies such as faculties of nursing.

These results were agreement with Elshatarat et al. (2018) who conducted a study to assess “perinatal nurses' and midwives' knowledge about assessment and management of postpartum depression” and stated that less than two-thirds of the studied nurses had nursing institute education and married, respectively. In the same field, Kaur (2014) conducted a study to assess “skill development of nurses in managing the fourth stage of labor” and revealed that slightly less than two-thirds of the studied nurses had satisfactory income and were residing in rural areas.

According to attendance of training courses, the finding of the current study revealed that, more than half of the studied nurses attending training courses on infection control program. This may be attributed to the importance of training courses, which play an important role in enhancing and updating nurses' knowledge and performance besides improving the quality of care given to women at postpartum. These results approved with the study performed by Hassan & El-Seman (2016) conducted a study at Egypt to assess “immediate normal postpartum nursing care at woman's health university hospital” who found that more than half of the studied nurses attended training courses about immediate postpartum nursing care this may be related to the different characteristics of the study subjects.

In contrast, Hashem (2015), conducted a study at Egypt to assess the quality of immediate postpartum nursing care provided to women after cesarean section in Tanta city mentioned that, almost all the studied nurses didn't attend any in-service training program about the quality of immediate postpartum nursing care.
Related to total knowledge about postpartum period and its management, the current study revealed that there was a marked improvement in total nurses knowledge about postpartum period and its management post implementation of standard nursing care protocol with highly statistically significant difference between pre, post and after 3 months of the implementation. As noticed, more than half of the studied nurses had poor level of total knowledge about postpartum period and its management at pre implementation of standard nursing care protocol. While, less than two-thirds of them had good level of total knowledge at post and after 3 months of implementation of standard nursing care protocol, respectively.

This result may probably be due to the immediate effect of the educational program sessions supported by the provided booklet about postpartum care which was helpful as ongoing reference. However, 3 months later, the nurses’ scores were somewhat reduced but still significant which may probably be due to the absence of the continuing training and education and work overload. By meaning of that improvement of knowledge post program in the current study may be attributed to the ability and interest of the nurses to gain and update their knowledge.

These results were consistent with El-Khawaga et al., (2019) who conducted a study to assess “The effect of nursing care based on comfort theory on women's postpartum comfort levels after caesarean sections” and revealed that improvement in the total knowledge score level immediately and 3 months post program implementation compared by pre implementation of the educational program.

According to total nurses’ practice related to postpartum and newborn care, the current study revealed that there was a marked improvement in total nurses’ practical related to postpartum and newborn care post implementation of standard nursing care protocol with highly statistically significant difference between pre, post and after 3 months of the implementation. As noticed, less than two-thirds of the studied nurses had unsatisfactory level of total practice related to postpartum and newborn care at pre implementation of standard nursing care protocol. While, around two-thirds of them had satisfactory level of total practice at post and after 3 months of implementation of standard nursing care protocol, respectively.

This result reflected the significant positive effect of practical training programs on achieving quality performance. While the decline of improvement after 3 months might be due to lack of continuous education, training and feedback.

These results were agreement with Abd El -Galil et al., (2019) who carried out a study about “Effect of Staff Development Program on Nurses’ Performance Regarding Quality Standards of Neonatal Care” and revealed that there was a positive effect from staff development program on nurses’ on their practices and on the achievement of quality standards of neonatal care.

Regarding to total mothers’ satisfaction related to quality of care during post-partum period, the current study revealed that there was a marked improvement in total mothers’ satisfaction related to related to quality of care during post-partum period post implementation of standard nursing care protocol with highly statistically significant difference at between pre, post and after 3 months of the implementation. As regard, less than half of the studied mothers had minimal and moderate level of total satisfaction related to postpartum and newborn care at pre implementation of standard nursing care protocol. While, about two thirds of them had high level of total satisfaction at post and after 3 months of implementation of standard nursing care protocol, respectively. These results may be due to the implementation of standard nursing care protocol that could improve mothers’ satisfaction about quality of care during post-partum period.

These results were consistent with Hospital et al., (2018) who carried out a study to assess “Mothers’ satisfaction with immediate postnatal care provided at ndola central hospital” and revealed that improvement incommunication, information orientation and quality of care during post-partum period would significantly improve postnatal mothers’ satisfaction with customer care aspects.

According to relation between socio-demographic data of the studied nurses and their total knowledge about postpartum period and its management, the current study revealed that there was highly statistically significant relation between total knowledge about postpartum period and its management of the studied nurses and their job title, education level and years of experience. This results might be explained as, most of nurses who had good to average score of knowledge were graduated from bachelor of nursing and had more years of experience. These results agreement with Ibrahim & Abdel-Menim (2016) who revealed that there was significant statistical
positive effect from demographic characteristics as qualification and years of experience of the studied sample on their knowledge score.

Related to relation between socio-demographic data of the studied nurses and their total practice related to postpartum and newborn care, the current study revealed that there was highly statistically significant relation between total practice related to postpartum and newborn care of the studied nurses and job title, education level and years of experience. In addition, there was statistically significant relation with age. This results might be explained as, most of nurses who had satisfactory practice were graduated from bachelor of nursing and had more years of experience. In addition, satisfactory practice were more encountered among nurses with age group 30-<40 years. These results agreement with Abd El-Galil et al. (2019) who revealed that there was highly statistically significant relation between nurses practice and their education level and years of experience.

The present study revealed that there was a positive correlation between total nurses’ knowledge about postpartum period and its management and their total practice. In addition, there was a positive correlation between total mothers’ satisfaction and nurses’ knowledge and practice. This might be explained as, most nurses who had satisfactory level of practice, had good score of knowledge. These results agreement with El-Khawaga et al. (2019) who found that there was highly significant correlation between total practices of studied nurses and their knowledge. In addition, Kamau (2019) reported that good level of knowledge among nurses was more encountered among those nurses with competent level of practice. In addition, there was a positive correlation between total mothers’ satisfaction and nurses’ knowledge and practice.

Nursing implications

Helps nurses to improve their knowledge about postpartum period.

Helps nurses determine effective best practices and improvement patient care.

Helps study setting for policies preparation and procedures guide.

V. CONCLUSION

According to this study, Postpartum is a time for physiological and psychological adjustment for both the woman and her baby. So, the nursing care according to standard of care improves quality of care and should be safe, positive and satisfying care to the woman. As a general conclusion, from all the above mentioned points, the result of the study shown that the nurses knowledge and practice skills improved after applying standard nursing care protocol and highly women satisfaction.

VI. RECOMMENDATIONS

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

Continuous in-service training program in maternity hospitals regarding postpartum unit.

Activate policies and regulations of nurse/patient ratio to improve the quality of health care.

REFERENCES