

Competence of Midwives versus Non-Midwives Nurses Regarding Postnatal Care in Saudi Arabia

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Abstract: Objective: Compare the competence of midwives versus non-midwives nurses regarding postnatal care in Madina city, Saudi Arabia. **Methods:** Fifty three midwives and one hundred and thirty seven non-midwives nurses working in Madina Maternity Governmental Hospital were participated in this descriptive cross sectional study. Competence was assessed in two domains; knowledge which assessed through interview schedule, and practices which assessed by two tools; interview schedule and observation checklist. **Results:** Nurses' specialty had a significant effect on their total score of practices in the field of post- natal care. The mean score of practice among midwives nurses (MN) was 49.4±10.3 while non-midwives nurses (N-MN) was 42.9±13.4. No difference between MN group and N-MN group were found with respect to the total score of knowledge in the same area of care.. MN showed high total observation of practices score than did N-MN (80.8±25.7 versus 61.8±34.5) with difference being significant (Z=2.714, P=0.007). **Conclusion:** Midwives nurses more competent in practicing postnatal care than non-midwives nurses and no different were observed in their knowledge in such care.

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1. Introduction:

Postnatal period is the most critical time in mother and newborn life, which begin immediately after the birth of the newborn and extended for about six weeks. Various studies worldwide have focused on the importance of postnatal care services and skilled midwifery care during this period. In general the main purpose of postnatal care is: to promote and monitor the physical and psychological health of the mother; to ensure a successful infant feeding and to monitoring various aspects of infant health; to foster the development of good maternal –infant relationships^(1,2).

The basic aspect of midwifery care take place in the health facility before the mother is going to home. Immediate checking of mother's vital signs is significant for early detection of many fatal complications such as postpartum hemorrhage which is the first leading cause to maternal mortality worldwide and in Saudi Arabia^(3,4). Physical examination and laboratory investigation must take place in first days postnatal to exclude puerperal sepsis and anemia. The delivered woman should be counseled on postnatal hygiene, family planning, breast feeding, nutrition as well as newborn care. Appointment for subsequent visit is a must after six weeks to ascertain the return of the reproductive organs to pre-pregnant state and for advices regarding

her future reproductive activities. Midwives are expected to visit the delivered women at their home within the first week following discharge from the hospital to observe lochia, uterine involution, and breast-feeding and to conduct physical examination for the mother and her baby to exclude complication⁽⁵⁾.

Deaths of women related to pregnancy cycle remain a major health problem worldwide; about 500,000 mothers dies each year in the world from direct results of complication arising during pregnancy, delivery or postnatal. Even though over half of the maternal deaths (estimated at 61-72%) occur in the postnatal period in developing countries. Much attention has been focused on the prenatal care for preventing maternal mortality and the postnatal care still a grossly neglected area^(6,7). Therefore in order to achieve the Millennium Development Goal number five in Saudi Arabia "Reduce the maternal mortality rate by three quarters between 1990 and 2015 (from 48 to 12 per 100,000 live births), considering that maternal mortality rate at 2010 was 14 per 100,000 live births, we must give special attention to post natal care and provide it with competent specialized midwives, who are the key strategy to reduce maternal mortality^(8,9).

The core competence of midwifery practices are, knowledge, psychomotor skills, decision making and communication abilities essential to midwifery

practice. Competence would be objectively measured through a process of structured assessment, using objective standards of professional practice as the criteria of quality, in order to document an acceptable level of performance⁽¹⁰⁾.

The nursing workforce in Saudi Arabia depends largely on expatriates who are recruited from different countries with different nursing education level, specialty and experiences. The percent of Saudi nurses who are graduated from Saudi health institutes, junior college and faculty of nursing with different nursing education programs including midwifery and general nursing technicians programs is about 22% of the total nursing workforce⁽¹¹⁾. Surprisingly, The majority of maternal hospitals employ midwives and non-midwives (general nurses) nurses in order to meet the need of the community to indigenous nurses who provide culturally appropriate midwifery care and to provide more employment opportunity for Saudi nurses in maternity hospitals regardless of their specialty^(12,13).

Dearth of information on the competence of midwives versus non-midwives nurse regarding postnatal care inspired us to carry out the present study to compare the competence of midwives versus non-midwives nurses regarding postnatal care in Madina city, Saudi Arabia.

Methods

All nurses with different specialties (midwives and non-midwives) and nursing education level working in Madina Maternity and Children Governmental Hospital in Madina city, Saudi Arabia between January 12, 2012 to April 20, 2012, were voluntary participated in the present descriptive cross sectional study. The number of nurses in antenatal, postnatal, gynecological departments and also at delivery room, outpatient clinic, emergency room, intensive care units and operating theater were 224 in which only 201 nurses were in duties, 23 nurses were in sick, maternity, or annual leave at time of data collection. Only 11 nurses refusing to participate in the study and 190 nurses signed their consent, allowing the use of anonymous data for research. The ethics committee of the Madina Maternity Governmental Hospital in Madina city, Saudi Arabia approved the study protocol.

The data was collected through direct personal interview using an interview schedule and observation using an observation checklist. Both the interview schedule and the observation checklist were specially designed for the study using INTRAH criteria for postnatal care⁽¹⁴⁾. The direct personal interviews and the observation were conducted by well-trained three interviewers (internship nursing student), who were

provided by the researchers enough knowledge and training regarding postnatal care.

The interview took place in nurse's place of work at private room. The interview schedule was used to collect data about the age, working department, qualification, nationality and specialty of nurses. And then the questions were divided into two domains:

- First domain contain questions related to nurse's knowledge regarding to:
 - Signs of postpartum hemorrhage, infection and anemia. Score range: 0-5.
 - Advantage, positions and ten steps of successful breast feeding. Score range: advantages: positions 0-5; steps 0-10.
 - Nutrition. Score range 0-6.
 - Family planning. Score range 0-4.
- Second domain contain questions related to nurses practices of postnatal care as:
 - General and local examination. Score of Each items ranged between 0-7.
 - Health education regarding postpartum exercises, hygienic care and nutrition. Score of Each items ranged between 0-7.
 - Breast feeding education. Score range 0-6.
 - Family planning counseling. Score range 0-5.

The observation was carried in the nurse's ward during their working shift (8 hours) and practicing postnatal care to the women after they giving birth and before their discharge the hospital, the observation was carried out without any discussion for only 90 nurses who were working in post natal ward and delivery room. The observation checklist had items addressing nurses' practices of postnatal care as general examination; local examination and health education related to postnatal hygienic care, nutrition, exercises, family planning, and breast feeding. Each item enrolled many tasks which was scored as 0 if not done; 1 if done incorrectly; 2 if done correctly.

The raw data were coded and transformed into coding sheets. The results were checked. Then, the data were entered into SPSS system files (SPSS package version 18) using personal computer. Output drafts were checked against the revised coded data for typing and spelling mistakes. Finally, analysis and interpretation of data were conducted. The following statistical measures were used: 1- Descriptive statistics including frequency, distribution were used to describe different characteristics. 2- Univariate analyses including: Chi-Square test, Yates-corrected Chi-Square test, and Monte Carlo test were used to test for significance among qualitative variables. Moreover, t-test and Mann Whitney test were used to test for significance among quantitative variables. 3- Spearman Rho Linear correlation was used to show relation between score (%) of knowledge and practice

among the studied midwives and non-midwives nurses. The significance of the results was at the 5% level of significance.

3. Results:

An analysis of the demographic characteristics showed that, there was a significant relationship between nurses' specialty (midwives nurses MN

versus non-midwives nurses N-MN) and their working departments. No difference between MN group and N-MN group were found with respect to the nurses' mean of age, their graduated nursing program, years of experience, and their nationality (Table 1).

Table 1 Demographic characteristics of the study subjects.

Item	MN ^a (n=53)	N-MN ^a (n=137)	Significance
Age (years) Mean±SD	31.4±10.7	28.7±7.5	^{MC} $P=0.066$
Department			
Ante-natal and gynecology	8 (15.1)	52 (38.0)	^{MC} $P<0.0001$ *
Labor room	35 (66.0)	1 (0.7)	
Postnatal	4 (7.5)	50 (36.5)	
Outpatient	4 (7.5)	19 (13.9)	
Operating room & ICU	2 (3.8)	15 (10.9)	
Graduated nursing program			
2 years Arabic nursing education	1 (1.9)	6 (4.4)	^{MC} $P=0.095$
2 years English nursing education	8 (15.1)	40 (29.2)	
3 years English nursing education	43 (81.1)	85 (62.0)	
4 years English nursing education	1 (1.9)	6 (4.4)	
Years of experience			
Less than 5 years	35 (66.0)	97 (70.8)	^{MC} $P=0.181$
5 <10	4 (7.5)	20 (14.6)	
10 < 15	2 (3.8)	4 (2.9)	
15 or more	12 (22.6)	16 (11.7)	
Nationality			
Saudi	41 (77.4)	108 (78.8)	$X^2=0.049$ $P=0.825$
Non-Saudi	12 (22.6)	29 (21.2)	

Abbreviations: MN, midwives nurses N-MN, non-midwives nurses

^a Values are given as mean ± SD or number (percentage) unless otherwise indicated

^{MC}P: Monte Carlo test X^2 : Chi-Square test *Significant at $P\leq 0.05$

Nurses' specialty had a significant effect on their total score of practices in the field of post-natal care. The mean score of practice among MN was 49.4±10.3 while N-MN was 42.9±13.4. No difference

between MN group and N-MN group were found with respect to the total score of knowledge in area of post natal care (Table 2).

Table (2) Score of knowledge and practice regarding postnatal care among the study subjects

Score	MN (n=53)	N-MN (n=137)	Significance
Knowledge score (%)			
Min-Max	0.0-52.0	4.0-48.0	$Z=1.528$
Mean±SD	25.1±12.4	22.4±9.5	$P=0.127$
Practice score (%)			
Min-Max	28.0-80.0	12.0-88.0	$t=3.516$
Mean±SD	49.4±10.3	42.9±13.4	$P=0.001$ *

Abbreviations: MN, midwives nurses N-MN non-midwives nurses Z: Mann Whitney test t: t-test *significant at $P\leq 0.05$

The nurses were observed while providing post-natal care for women after giving birth in the delivery room and post natal unit, it was noticed that the MN performed general and local examination for the delivering women and giving them advice on breast feeding more than N-MN, also MN educate the mothers more than N-MN in the area of post-natal

exercise, hygienic care and nutrition. No difference was observed between the MN and N-MN groups with respect to their advice on family planning. MN showed high total observation of practices score than did N-MN (80.8±25.7 versus 61.8±34.5) with difference being significant ($Z=2.714$, $P=0.007$) (Table 3).

Table (3) Score of observed postnatal nursing practices provided by the study subjects

Score of Observed postnatal nurses' practices	MN (n=39)	N-MN (n=51)	Significance
General and local examination			
Min-Max	0.0-100.0	0.0-100.0	Z=2.818
Mean±SD	91.3±19.4	70.9±35.8	P=0.005*
Advice on breastfeeding			
Min-Max	0.0-100.0	0.0-100.0	Z=2.842
Mean±SD	83.8±24.5	62.7±36.9	P=0.004*
Health education regarding postpartum exercises, hygienic care and nutrition			
Min-Max	0.0-100.0	0.0-100.0	Z=2.289
Mean±SD	73.7±38.0	56.4±38.4	P=0.022*
Advice on Family Planning			
Min-Max	0.0-100.0	0.0-100.0	Z=1.597
Mean±SD	64.1±48.6	48.0±47.9	P=0.11
Total observed practices score			
Min-Max	7.14-100.0	0.0-100.0	Z=2.714
Mean±SD	80.8±25.7	61.8±34.5	P=0.007*

Abbreviations: MN, midwives nurses

N-MN non-midwives nurses

Z: Mann Whitney test

*significant at $P \leq 0.05$

No significant differences were observed between Saudi and non-Saudi MN regarding their knowledge, practice and total observed practices scores. Meanwhile, practice and the total observed practices scores of non-Saudi N-MN were

significantly higher as compared to scores of Saudi N-MN. The differences was statistically significant ($P < 0.0001$, $P = 0.004$). Still, both Saudi and non-Saudi N-MN did not show significant difference regarding their knowledge score (Table 4).

Table (4) Score of knowledge, practice and observed practices regarding postnatal care among the MN and N-MN according to their nationality.

Score	MN (n=53)			N-MN (n=137)		
	Saudi (n=41)	Non-Saudi (n=12)	Significance	Saudi (n=108)	Non-Saudi (n=29)	Significance
Knowledge score (%)						
Min-Max	0.0-52.0	8.0-52.0	Z=0.054	4.0-48.0	8.0-48.0	Z=1.443
Mean±SD	24.9±12.7	25.3±11.7	P=0.957	21.8±9.2	24.7±10.5	P=0.149
Practice score (%)						
Min-Max	28.0-80.0	32.0-72.0	t=0.136	12.0-88.0	20.0-72.0	t=3.901
Mean±SD	49.5±9.8	49.0±12.2	P=0.892	40.8±13.0	51.2±11.6	P<0.0001*
Total observed practices score (%) [n=90]						
Min-Max	(n=28)	(n=11)	Z=0.238	(n=42)	(n=9)	Z=2.873
Mean±SD	7.14-100.0	21.4-100.0	P=0.812	0.0-100.0	71.4-100.0	P=0.004*
	80.9±26.2	80.5±25.8		55.4±34.5	91.3±13.3	

Z: Mann Whitney test

t: t-test

*significant at $P \leq 0.05$

4. Discussion

The present findings show that about three quarters of the MN (77.4%) and N_MN (78.8%) were Saudi which is encouraged and supported by the Ministry of Civil Service in KSA as it give the priority in the employment in any jobs including nursing field to the Saudi civil⁽¹⁵⁾. Moreover, Madina Maternity and Children Hospital is the only governmental Maternity Hospital in Madina city with high turnout from Saudi nurses. Approximately two thirds of MN working in labor room, it may attributed to that, midwife's primary task is to encourage and support the expectant mother through the birth process and to be intimately with her strengths and weakness⁽¹⁶⁾. So the majority of midwives prefer to

work in labor ward. Different studies mentioned that constant presence of a midwife and proper care during delivery can reduce complications during birth, the requirement of pain relief drugs and the need for surgery^(17,18). Another study reported that, staff shortage on labor wards, leading to an increased demand for midwife to fill the vacancies of physician⁽⁵⁾. Furthermore, the attitude towards the role of the midwife in hospitals has changed from assistant to independent care provider; they conduct the births on her own responsibility⁽¹⁰⁾.

Midwives nurses were more competent in their practices as they mentioned than N-MN, midwives mean score of practice was higher than N-MN. All midwives working in Saudi Arabia must be certified

from Saudi commission for health specialties (the only formal commission which provide such certification) to practice their profession⁽¹³⁾. Certified Professional Midwives are trained and credentialed to offer expert care, education, counseling and support to women during pregnancy, birth and the postpartum period⁽⁵⁾. The mean score of knowledge among the MN and N-MN were approximately Convergent which may interpreted by, that the N-MN may gain their knowledge through reading textbooks to fulfill their knowledge deficiency in midwifery care and meet to their jobs need for knowledge.

Scores of observed postnatal nursing practices ranged widely from zero to 100% of practices. Midwives nurses were more competent than N_MN in performing general and local examination and advising the delivering mothers about breastfeeding and newborn care. Moreover, MN provides the mothers with essential health information in many aspects such as postpartum exercise, hygienic care, and nutrition. WHO and other research mentioned that, the scope of midwifery practice include health education and counseling on contraceptive methods, nutrition in addition to provision of care and advice on breast feeding, hygienic care and exercises during postpartum period^(10,19). The most neglected area in MN and N-MN while observing their practices was family planning advice and counseling. These result was omitted the needs of women as it mentioned in recent study concerned with the use of family planning methods in Saudi Arabia which reported that, most women and their husbands showed acceptance to the use of contraceptives for birth spacing, they preferred birth interval of 2-3 years⁽²⁰⁾. Unforeseen, Non-Saudi N-MN were more competent in their practices than Saudi N-MN as they mentioned and observed. It can be attributed to the fact that most of foreigner nurses always trying to prove their competence in their duties in order to gain confidence of health organization and to renew their contracts. Second, non-Saudi N-MN may study in their general graduate nursing programs more lessons and practical or field training in maternity hospitals unlike Saudi N-MN who receive 30 credit practical hours only in maternity hospital as they mentioned. Low experience in midwifery care may be the third factor which influence the competent practice of non-Saudi N-MN.

Several limitation of the present study should be pointed out. First, competence of midwives and non-midwives nurse was assessed in one maternity hospital, assessment of such competence was preferred to be assessed in many health settings including primary health care centers and general hospitals with maternity wards. Second, the present study assesses two aspects only in the midwives

aspect of competence, knowledge and psychomotor skills. However other aspects of competence as communication and decision making ability have not been investigated. One of the strengths of the present study is the assessment of midwives and non-midwives practices by two ways; the first, by asking them direct question related to their practices of post natal care. Second, by observing their practices (only for 90 nurses who working in labor and postnatal ward) throughout their working hours for one shift. The use of two methods is more powerful strategy than reliance on single method.

In conclusion, considering the two aspects of competence in nursing; knowledge and practice there is no significant difference were found between midwives and non-midwives nurses in respect to their knowledge in postnatal care while midwives nurses were more competent in their practices in many aspects of care as physical examination and postnatal health education and advices. The most neglected area in postnatal counseling was family planning. Non-Saudi non-midwives were more competent in their practices than Saudi non-midwives.

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Conflict of interest

The authors have no conflicts of interest.

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