

Impediments of Optimal Midwifery Experiential Learning Environments in Maternity Units of Public Hospitals

This article was published in the following Scient Open Access Journal:

Journal of Pregnancy and Newborncare

Received October 14, 2019 ; Accepted October 28, 2019; Published November 04 , 2019

MK Thopola^{1*} and M.E. Lekhuleni¹

¹Department of Nursing Science, University of Limpopo, Sovenga 0727, South Africa

Abstract

Background: The purpose of this study was to ascertain the impediments of optimal midwifery experiential learning based on the numeric information of level four learner midwives from institutions of higher learning, who was registered for a Bachelor degree (R.425) a course leading for registration as a Nurse (General, Psychiatric, Community) and Midwifery.

Objective: To identify the impediments of optimal midwifery experiential learning environment in maternity units of Public hospitals. A quantitative, cross-sectional and descriptive designs were chosen in order to describe the impediments of optimal midwifery experiential learning environment in maternity units.

Methods: Simple random sampling was used to select a sample of 149 respondents. Data were collected using a pre-tested and validated self-developed questionnaire which was administered to the total population of learner midwives (N=149) and the response rate was 91% (N=149). Informed consent was received from the respondents as was ethical approval project number: MREC/HS/289/2013 from the relevant authorities. Data were analyzed using SPSS version 23. Descriptive and inferential statistics were used to analyze and describe the data. Relationships between variables were determined by using inferential statistics.

Results: Inadequate resources, limited equipment, poor mentoring and supervision; poor quality of learning opportunities were revealed. Learner midwives were considered as workforce not learners, thus, were forced to execute non-midwifery duties. The processes of checking and countersigning of maternity case registers and workbooks were not well planned. Learning situations were not sufficient nor meaningful. While 73.98% indicated that they received constructive feedback from their supervisors, feedback was not given continuously.

Conclusion: A Learner midwives should train in an environment which is optimal to a clinical experiential learning environment to ensure professional development and growth. The creation and provision of an optimal and favourable midwifery experiential learning environment in terms of resources and equipment for the learner midwives is crucial. Recommendations were increase of midwifery practitioners and availability of material resources to ensure efficient and effective mentoring and supervision to improve quality of midwifery experiential learning.

Keywords: Impediments, Enhancement, Optimal midwifery experiential learning environment

Introduction

Midwifery experiential learning environment (MELE) is of paramount importance in the curriculum of midwifery courses and provides the learner midwives with the opportunity to combine cognitive, psychomotor and affective skills. The midwifery experiential learning environments enable the learner midwives to acquire competencies in the application of midwifery knowledge, midwifery skill and the attitude to midwifery clinical field situations. It is therefore vital that resources, equipment and time should be available and be utilized effectively and efficiently.

Midwifery course requirements are stipulated by the regulatory body, South African Nursing Council (SANC) with an overall aim of equipping learner midwives with the necessary midwifery skills to competently and safely commence practice as a midwife (Carolan-Olah & Kruger, 2014)[1,2]. Furthermore, in general, maternity units of Public hospitals are viewed as facilities that provide midwifery and obstetrical interventions

*Corresponding author: MK Thopola, Department of Nursing Science, University of Limpopo, Sovenga 0727, South Africa

for pregnant women prepartum, intrapartum and postpartum; research and teaching. Furthermore, these units are used as experiential learning environments for learner midwives from universities and nursing colleges to acquire midwifery knowledge and skills.

A non-optimal environment contributes to medical errors, ineffective care delivery and overwork. This in turn might influence an unsafe, inadequate and unattractive working environment, impacting negatively on the culture of learning for learner midwives and the safety of pregnant women (ICN, 2007) [3]. Furthermore, Ulrich, Zimring and Zhu (2008) [4] reported that lack of adequate educational preparation of nursing students is the result of a lack of supervision due to staff shortages.

Jones and Wylie (2008) [5] reported that student midwives indicated that they had difficulty in coping in clinical settings due to a lack of support from the midwives. A review of the literature supports the existence of a gap between optimal midwifery experiential learning environment and optimal midwifery practice environment, adequate number of midwifery practitioners; availability of relevant equipment and material resources; provision of optimal midwifery provision; safety of pregnant women and supervision of learner midwives. The learner midwives' mentoring and supervision will be improved by the availability of relevant material resources and the appropriate and efficient midwifery practitioners. The midwifery practitioners' skills of supervision and mentoring of learner midwives and assessment of patients might also be upgraded (Gerova, Griffiths, Jones & Bick, 2008) [6].

The combination of an increasing shortage of midwives, rising birth-rates and complexity of problems of pregnant women is a dangerous cocktail threatening the safety and quality of midwifery care. It means that many maternity units across England are understaffed and under resourced to meet the demands made of them. Furthermore, a shortage of midwifery practitioners is a concern shared by health care systems globally. This severe shortage of midwives is seen also in Nigeria, Sri Lanka, Burkina Faso and Bangladesh (Roskam, Pariyo, Hounton & Aiga, 2011) [7].

Furthermore, Fujita, Abe, Rotem, Tung, Keat, Robins and Zwi (2013) [8] in their study conducted at Cambodia and Japan focussed on human resource crisis and maternal mortality in fragile resource-constrained environment. The authors concluded that if the fragile resource constrained environment is not addressed it might impact negatively on the maternal and child health. Smith, Dixon and Page (2008) [9] stated that despite the differences in health care systems, staff shortages and their contributory factors and their consequences on quality of midwifery care no longer seem to be solely country-specific.

Public hospitals in South Africa, as in other countries, are facing serious challenges in the care of pregnant women and neonates (Richer, Ritchie & Marchionni, 2009) [10]. Authors such as Richer et al (2009), supported that factors such as shortage of health professionals and material resources have added pressure to the health care system. However, the Department of Health (DoH) (2008) [11] expects midwives to have tools in order to execute their midwifery care effectively and efficiently without any challenges. It is the responsibility of the hospital management to ensure that midwives have material resources and equipment to enable them to practice in safe and efficient ways.

This is supported by a report from the DoH in 2008 (2008) [11] that if pregnant women are not managed efficiently and effectively, it gives the impression of an inadequate clinical practice environment, suboptimal Midwifery Practice Environment and challenged midwifery care in South Africa which might lead to increased maternal and perinatal morbidity and mortality rates.

Methodology

Research Design

This study used a quantitative, cross-sectional, descriptive designs to generate new knowledge about concepts. Through descriptive design, concepts were described and relationships identified that provided a basis for further quantitative research and theory testing (Burns & Grove, 2009) [12]. This designs were also used to identify the factors that impeded the enhancement of midwifery experiential learning environment in maternity units of Public hospitals in Limpopo province.

Population and sampling

The population consists of all 314 learner midwives at fourth level who were doing their final year studies in Midwifery and were registered with universities or nursing colleges. Furthermore, they were registered with South African Nursing Council R425, a course leading for registration as a Nurse (General, Psychiatric, Community) and Midwifery.

The sampling strategy that was used was simple random sampling which means that each element of the population had an equal and independent chance of being included in the sample. Therefore, every learner midwife had equal and independent opportunity to be selected as the respondent. The sample size was 173 respondents, ten (10) respondents participated in the pilot study were subtracted from the sample size; thus, the total sample size which was 163 derived from the total number of R425 final year students. The completed and returned questionnaires from learner midwives were 148 (91%).

Data collection

Data were collected using a pre-tested and validated self-developed questionnaire, which was administered to the total population of learner midwives (N=149), who returned the completed questionnaires. The response rate was 91% (N=149). Informed consent was received from the respondents as was ethical approval from the relevant authorities.

The questionnaires were distributed to the learner midwives who were on duty during the day of data collection. The purpose, objectives and ethical considerations particularly anonymity and confidentiality and the instructions of how the respondents were to complete the questionnaires were explained. The completion of questionnaires was conducted in a spacious room used for meetings. Respondents completed the questionnaires for 45 to 60 minutes, during lunch time in order not to disturb the smooth running of the unit. The researcher collected the completed questionnaires from all the respondents at the selected maternity units where learner midwives were allocated for the midwifery experiential learning purposes. The questionnaires were grouped according to the nursing education institution where learner midwives registered.

Validity and reliability

To ensure validity and reliability, the questionnaire was reviewed by four midwifery specialists and 4 research experts during its development. Pilot study was conducted where the questionnaire was distributed to 10 respondents who did not form part of the main study. The results of the pilot study revealed minor changes that were affected prior commencement of the main study.

Data analysis

Data were analyzed using the IBM Statistical Package for Social Sciences (SPSS) version 22 for Windows was used for quantitative data analysis with the aid of a statistician. Descriptive and inferential statistics were used to analyze and describe the data. Relationships between variables were determined by using inferential statistics.

Results

The purpose of using the demographic information was depicting an accurate picture of the group of respondents who participated in the survey. These demographic profiles of learner midwives were discussed.

Availability of basic material resources

Table 1 indicated the lowest lack of sanitary pads at 110 (73.8%), linen at 77 (72%) gloves at 89 (59.8%) and soap 69 (46.6) according to learner midwives respectively. This support the narrated data that there are no sanitary pads and soap thus puerperal mothers were made to buy. Linen is not available thus pregnant women were found delivering on plastics (Hassan-Bitar and Narrainen, 2009) [13].

Availability of medical material resources

The results shown in (Table 2) reveal that learner midwives were experiencing the lack of gloves, urine catheters and urine dipsticks. There is high percentage of gloves that are hardly ever available of 78 (73%) of learner midwives; urine catheters. Based on limited material resources learner midwives improvised,

Table 1: Availability of basic material resources

Availability of:	Hardly ever f (%)	Sometimes f (%)	Often f (%)
1.Linen	77 (51.7)	66 (44.3)	6 (4)
2.Night gowns	51 (34.2)	63 (42.3)	35 (23.5)
3.Paper towels	69 (46.3)	45 (30.2)	35 (23.5)
4.Pillows	39 (26.4)	51 (34.5)	58 (39.1)
5.Sanitary pads	110 (73.8)	31 (20.8)	8 (5.4)
6.Soap	69 (46.3)	66 (44.3)	14 (9.4)

Table 2: Availability of medical material resources

Item	Hardly ever f (%)	Sometimes f (%)	Often f (%)
1.Admin sets	8 (4.9%)	31 (21%)	110 (76%)
2.Endotracheal tubes	24(18%)	43 (29%)	82 (56%)
3.Gloves	78(73%)	66 (45%)	5 (3%)
4.Suction catheters	10(7%)	43(29%)	96 (65%)
5.Sutures	10 (7%)	44 (30%)	95 (65%)
6.Urine bags	12 (8%)	40 (27%)	97 (66%)
7.Urine catheters	97(66%)	40 (27%)	12(8%)
8.Urine dipsticks	46 (31.6%)	66(44.6%)	37(25.4%)

and this put the lives of pregnant mother and fetus in danger. The lowest mean score of urine dipsticks was 2.1, followed by endotracheal tubes at 2.6, gloves at 2.8, however, the moderately available material resources mean score of 2.9 was sutures, urine catheters and suction catheters. This posed a challenge in terms of non-availability of urine dipsticks for respondents to test urine for high risk pregnant women. Therefore, this is the evidence that there is scarcity of material resources in the maternity units of public hospitals in Limpopo Province.

Availability of essential equipment

Table 3 shows the high percentage of limited BP apparatus at 105 (70.9%); stethoscope 99 (66.9%); CTG machine 99 (68.9%) and tracing paper 79 (54%) based from learner midwives' numeric data. Therefore, learner midwives were unable to practice appropriately the midwifery skills due to lack of equipment. There was also lack of essential equipment in maternity units of public hospitals, Limpopo Province. Doptone mean of 1.8 proves that there is lack of doptones followed by lack of Non Stress Test machines with 2.3 mean, CTG tracing paper with 2.6 mean, CTG machine 2.7, stethoscopes 2.9 mean, then BP apparatus and fetoscope of 3.2 the highest mean.

Furthermore, Table 3 indicates the lack of essential equipment in maternity units of public hospitals, Limpopo Province. Episiotomy scissors according to the learner midwives 117 (79.6%) were limited. Episiotomy scissors might be available although blunt not functioning well. This is supported by the narrative data from learner midwives revealed that episiotomy scissors were blunt thus participants improvised and used the scalp blade to cut an episiotomy. This is an indication of suboptimal care that could cause medico-legal hazards. Vaginal packs were few these might influence unsterile per vaginal examinations, thus hinder the good practice of performing sterile per vaginal examination procedurally as stipulated.

Competency of learner midwives

Table 4 indicated the competency of learner midwives based on how they perceived themselves. These competencies are done during the intrapartum period focusing on the monitoring of maternal and fetal statuses as well as resuscitation of a new born infant. Some of the skills that the learner midwives which they rated themselves high were as follows: able to plot and analyse findings plotted on Partograph and fetal and maternal status. Furthermore, ability to interpret progress of labour plotted on Partograph was 139 (95%); knowledge regarding analysis of CTG 117 (80%) and interpretation of CTG 111 (76%); ability to perform intrapartum resuscitation based on CTG 101 (70%) and resuscitation of new born baby 103 (70%).The findings

Table 3: Availability of essential equipment

Availability of:	Hardly ever f/%	Sometimes f/%	Often f/%
1.BP Apparatus	105 (71)	35 (24)	9 (6)
2.CTG Machine	99 (66)	31(20)	24 (16)
3.Doptone	78 (52)	66 (44)	5 (3)
4.Fetoscope	14 (9)	21 (14)	114 (77)
5.Non Stress Test	65 (44)	49 (33)	35 (24)
6.Stethoscope	99 (66)	31 (20)	19 (13)
7.Tracing paper	79 (53)	46 (31)	24 (16)
8. Episiotomy	117 (79)	23 (15)	9 (6)

Table 4: Competency of learner midwives

Competency	Somewhat f(%)	Fair f(%)	Good f(%)
1.Utilization of Hemoglobin equipment	18 (12)	22 (15)	107 (73)
2.Utilization of Non Stress Test (NST) machine	29 (20)	30 (20)	89 (60)
3.Analysis of NST	27 (18)	32 (22)	88 (60)
4.Interpretation of NST strip	21 (14)	33 (23)	92 (63)
5.Knowledgeable regarding Cardiotocograph (CTG) machine	5 (3)	35 (24)	108 (73)
6.Analysis of CTG	5 (3)	25 (17)	117 (80)
7.Interpretation of CTG	8 (6)	27 (19)	111 (76)
8.Ability to perform intrapartum resuscitation based on CTG	12 (8)	32 (22)	101 (70)
9.Implementing the Prevention of Maternal-to-Child-Transmission (PMTCT) strategy	1 (0.7)	17 (12)	127 (88)
10.Ability to plot fetal heart rate on Partograph	1 (0.7)	8 (6)	136 (94)
11.Ability to plot the station of fetal head on Partograph	3 (2)	19 (13)	126 (85)
12.Skillful in plotting cervical dilatation on Partograph	1 (0.7)	7 (5)	139 (95)
13.Analysis of findings plotted on Partograph	1 (0.7)	9 (6)	138 (93)
14.Ability to interpret fetal and maternal statuses plotted on the Partograph	0 (0.0)	9 (6)	138 (94)
15.Ability to interpret progress of labour plotted on Partograph	0 (0.0)	9 (6)	139 (95)
16.Resuscitation of newborn babies effectively without complications	9 (6)	35 (24)	103 (70)

indicate that these respondents feel that they have acquired knowledge and skill of midwifery; however, few of respondents are having between somewhat and fair regarding the knowledge and skills of midwifery. These respondents still need support of their facilitators and mentors in order to develop and grow professionally.

Consultation of learner midwives

Figure 1 shows that the learner midwives consulted their seniors, sought senior opinion, applied protocols and guidelines and referred patients. This is the indication of learning and developing of these respondents in becoming knowledgeable and skillful.

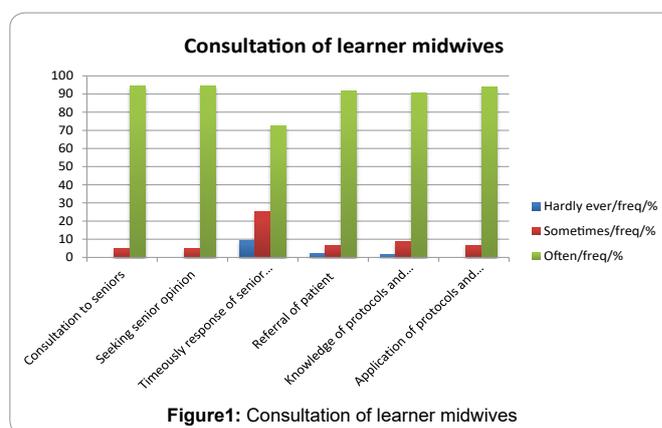


Figure 1: Consultation of learner midwives

Assessment of learner midwives

Figure 2 indicates that the respondents' midwifery case registers, workbooks were checked and continuous assessment done for grading the learner midwives. In South Africa the midwifery profession is regulated by the South African Nursing Council which lays down rules and standards to determine the preparation of learner midwives (SANC, 2005) [14] and practice of midwives (SANC, 1993) [15]. The number of continuous assessments, number and types of skills in the workbooks and midwifery case registers are to be completed according to SANC's requirements for the individual learner midwife to have accomplished her training. The university and colleges also have to follow the requirements as laid down by the institution. These are evidence that the learner midwife's training is standardised nationally and internationally.

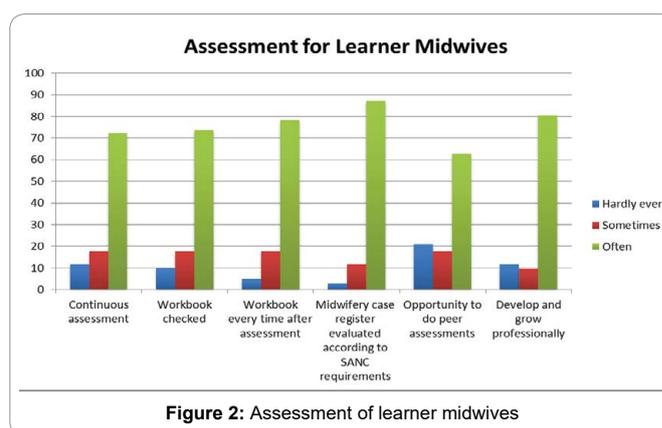


Figure 2: Assessment of learner midwives

Discussion

The results revealed that R 425 learner midwives are mostly females (75.7%) than males (22.3%). There is a possibility that females are more likely to choose nursing as their profession. However, males are increasing in choosing nursing as a profession. In terms of the experiential learning environment results revealed that most R 425 learner midwives were placed in intrapartum unit were 55 (37.2%), puerperium 42 (28.4%), Antenatal unit 39 (26.4 %) and High care 11(7.4%) during data collection period. However, all the R 425 learner midwives should have equal

exposure in all maternity units for professional development and growth, skill development and competency acquisition.

Number of beds might give indication of the size of the unit, how many patients in the unit and how many learner midwives versus patient ratio. These learner midwives depend on midwifery practitioners for supervision, mentoring and coaching for professional development and growth. The acuity and the learner midwife-patient- ratio determines the business of the maternity unit. Based on the availability of basic material resources table

4.9 indicated the lowest lack of sanitary pads, linen, gloves and soap according to learner midwives respectively. Linen is not available thus pregnant women were found delivering on plastics (Hassan-Bitar & Narrainen, 2009) [12].

The results revealed that learner midwives are experiencing the lack of gloves, urine catheters and urine dipsticks. Based on limited material resources learner midwives and midwifery practitioners improvised, and this put the lives of pregnant mother and fetus in danger. Learner midwives were unable to practice appropriately the midwifery skills due to lack of equipment. This support the narrated data that revealed limited essential equipment that made participants unable to diagnose timeously and prevent complications. Therefore, this is the evidence that there is scarcity of material resources in the maternity units of public hospitals in Limpopo Province. This is supported by Hassan-Bitar and Narrainen (2009) [12] who affirmed that across the globe, midwives find themselves practicing in impoverished and low – resource settings.

Episiotomy scissors according to the learner midwives 117 (79.6%) were limited. This is supported by the narrative data from learner midwives that episiotomy scissors were blunt thus participants improvised and used the scalp blade to cut an episiotomy. This is an indication of suboptimal midwifery intervention that might cause medico-legal hazards.

The learner midwives consulted their seniors, sought senior opinion, applied protocols and guidelines and referred patients. This is the indication of learning and developing of these respondents in becoming knowledgeable and skilful. The respondents' midwifery case registers, workbooks were checked and continuous assessment done for grading the learner midwives. The results revealed that the competency of the respondents was ranging between good and very good. Respondents rated themselves very high which is unlikely in all the questions of their knowledge and skills. The respondents were given opportunities to upgrade themselves thus keeping themselves abreast in terms of knowledge and midwifery skills.

Recommendations

- Regular audits of midwifery experiential learning environments that learner midwives are placed in.
- Accompaniment programs strengthened to ensure

continuous support of learner midwives and on-going record of continuous assessment and practical attendance.

- Remedial demonstrations of critical midwifery skills to ensure upgrading of the affected learner midwives' skills.
- Initiate and implement peer assessments among learner midwives to enhance their learning and reflection.

References

1. Carolan Olah M, Kruger G, Walter R, Mazzarino M. Final year students' experiences of Bachelor of Midwifery course. *Midwifery*. 2014;30:519-525.
2. World Health Organization. The World Health Report 2006: Working together for Health. WHO. Geneva. 2006.
3. International Council of Nurses. Factsheet, positive practice environments. ICN: Geneva.2007.
4. Ulrich R, Zimring C, Zhu X, et al. A review of the research literature on evidence-based healthcare design. *HERD*. 2008;1(3):61-125.
5. Jones D, Wylie L. An exploration of factors that cause stress to student midwives in the clinical settings. 2008.
6. Gerova V, Griffiths P, Jones S, Bick D. The association between maternity staffing outcomes in maternity services in England: observational study using routinely collected data. Kings College, London. 2008.
7. Roskam E, Pariyo G, Hounton S, Aiga, H. Midwifery Workforce management and Innovation, The state of the world's midwifery. 2011:11.
8. Fujita N, Abe K, Rotem A, et al. Addressing the human resources crisis: Cambodia's efforts to reduce maternal mortality (1980-2012). *Health policy Research*. 2013.
9. Smith AHK, Dixon AC, Page LA Health-care Professionals views about Safety in maternity services: a qualitative study. *Midwifery*. 2008; 25(1):21-31.
10. Richer MC, Ritchie J, Marchionni C. If we can't do more, let's do it differently! Using appreciative inquiry to promote innovative ideas for better health care work environments. *J Nurs Manag*. 2009; 17(8): 947-955.
11. Department of Health. Saving Mothers Fourth Report on Confidential Enquiries into maternal Deaths in South Africa 2005-2007. Pretoria: Government Printers.2008.
12. Burns N, Grove S. The Practice of nursing research, appraisal, synthesis and generation of evidence. 6th edition. St Louis Missouri: Saunders Elsevier. 2009.
13. Hassan-Bitar S, Narrainen S. "Shedding light' on challenges faced by Palestinian maternal health-care providers". Palestine. Elsevier Ltd. 2009.
14. South African Nursing Council. Nursing Act, No 33 of 2005. Pretoria: Government Printers. 2005.
15. South African Nursing Council. Scope of Practice, Regulation 2598 of 1984. Pretoria: Government Printers. 1993.