

Availability of Resources as a Factor Influencing Integration of Midwifery Theory with Clinical Practice at Training Institutions of Vhembe District, South Africa

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ABSTRACT

Nursing and Midwifery education takes place under nursing school (theory) and clinical placement (practice). Effective learning need classrooms, equipped libraries facilities, whilst conducive clinical areas with enough medical supplies, equipment and other material facilitate application of theory to practice. The aim of the study was to determine factors affecting integration of midwifery nursing science theory with clinical practice in Vhembe district, Limpopo province. A qualitative explorative, descriptive and contextual design was used. Purposive sampling method was used to select 4 lecturers from Nursing College, and 18 level IV (Finalists) student midwives from training hospitals, in Vhembe district. Data from students were collected through three focus group interviews, whilst in-depth face to face interview was used to collect data from lecturers. Interviews were conducted until data saturation was reached and data were analysed through open coding method. Findings revealed that systems and organizational factors hindered the students to integrate theory with clinical practice when allocated for clinical learning experience. This included shortage of accommodation next to the training hospitals, shortage of medical supply, equipment's and other materials. Student's selection systems, shortage of classrooms, library facilities and dilapidated physical structures as well as short period of learning and clinical exposure. Recommendations were made on budget to erect or provide suitable accommodation within the college and next to clinical areas to accommodate students during their training, improve in their selection criteria, college's physical infrastructure needs to be upgraded and to add more classes that will accommodate more students and the management need to advocate for accreditation of more training hospitals.

Keywords

Clinical facilities, Conducive clinical learning environment, Physical structures Theory practice integration, Student midwives.

Introduction and Background

Nursing education consist of a body of knowledge, skills attitude values and habits delivered to learners in classroom settings, and as an organized and supervised clinical training in demonstrations rooms or laboratories in clinical settings where the nurse-client interaction takes place [1]. This takes place in two locations, a nursing school (theory) and clinical placement (practice), inclusive educational environment influences the students' performance and progress. Anarado, Agu & Nwonu, indicated that the well-

organized practice environment as well as adequacy of medical supplies and equipment/infrastructures remained the key factor that influences training of student nurses. They further argued that limited laboratories and laboratory equipment hinders their ability to practice skills and to develop clinical competence [1]. Shortage of resources and poor planning that undermines equipping of classrooms and buying medical supplies in the clinical areas affect theory-practice integration [2]. The physical organization as well as instructions and useful material need to be well organized. The physical organization of the classroom is of importance as it influences student behaviour and affects learning positively or negatively [3]. Well-organized classrooms which are spacious influence learning positively while an unorganized

small classroom affects learning negatively (source). The physical organization ensures that all materials are ready to be used and all mechanical and electronic devices are in good working condition. The facilitator should establish a conducive environment in the classroom as this is encourage proper learning [3].

Pepper and Slabbert in their study, South Africa in the verge of a medical malpractice litigation storm confirmed that South Africa is facing a crisis of shortage of resources making the system of health to compromise standards of medical practice. Due to this shortage the health care environment is disorganized [4]. Furthermore Mcscherry and Douglas in their study acknowledged that a well-organized environment equipped with all materials which are medical supplies, competent/skilled staff and other resources promote good quality care as well innovative and critical thinking nurses and encourages sound nurse and doctors training [5]. In a study conducted in Mali and Senegal lack of resources and material had a negative impact on nursing care and nurse training. This led to poorly skilled nurses hence increased maternal mortality [6].

Lecturers complained about the systems or procedure currently in place for selection of student nurses'. They stated that due to political changes students were just selected without considering the matric scores and subjects relevant to nursing for example life sciences and English, and sometimes no selection test or interviews that would assist to select the candidates with suitable traits for nurse training. Selection criteria also played role in nurse training, WHO also advocates for policies that will select students with personality traits that will make them well-suited for health services training including nursing [7]. The Eastern Mediterranean Region (EMRO) entrance requirements to nursing was that candidates needed to have 12 years of general school and preferably in the science stream, and passed the national secondary school examination with a minimum of 65% or its equivalent. Candidates would be required to attend a personal interview, and admission requirements include proficiency in the language of instruction. This made it easy for students to understand and passed theory in class and they also managed to put what had been taught into practice [8].

Selective admission processes are seen to protect the high standards of professional nursing practice. The high use of score for student selection is evident in many places including Australia and United Kingdom. Students with higher level entry qualifications are seen to consistently achieve higher grades than those with lower level entry qualifications [9].

Length of clinical practice is important as this allow student time to apply theory to practice. Theory should make up 30% and practica 70% of the curriculum, with clinical practica for learning comprising 30% and clinical practica for role-taking 40% of the total. This allows students to be placed in clinical areas for not less than a month allowing students to gain enough exposure to clinical practice hence improving their competency [10].

Hence, the aim of this study was to explore and describe the impact

of systems and organisational factors on integration of midwifery theory with clinical practice in training institutions of Vhembe district.

Problem Statement

According to the Department of Health's Saving Mothers Report [11], South Africa as a country had a challenge of increased maternal and neonatal morbidity and mortality, approximately 4,867 women died in South Africa between 2008 and 2010, with an increase of 867 of the deaths reported in the 2005-2007 report. According to the Department of Health's Saving Mothers Report [11], Limpopo Province recorded 222 deaths. The Vhembe District Health Information System (DHIS) Limpopo (2011/09/10) revealed that 172 women died in the year 2011. Maternal deaths affect both individual and community by causing grief and stress due to permanent loss. Government was also losing money through the lawsuits connected to negligence and incompetent practices by midwives. The SANC professional misconduct report (2003-2008) registered 843 offences by all categories of nurses and midwifery cases were 135, the third highest number of lawsuits of all the cases, in South Africa. Limpopo Province registered five (5) misconduct cases.

From the 2005 to date, the researcher, a lecturer at the Limpopo College of Nursing has been involved in teaching and accompanying students at maternity units in Thulamela municipality training hospitals, namely, Tshilidzini, Donald Fraser and Siloam. During these sessions, the researcher learnt from nurse managers that newly qualified midwives trained under the R425 programme were mostly incompetent, lacked confidence and could not take responsibilities and clinical decisions. These new graduates were said to be unable to manage a unit independently. The increasing rate of maternal and neonatal death was linked to incompetent midwives. The poor integration of theory with practice during midwifery training is allegedly linked to an incompetent care of nurses and midwives. This study, therefore, sought to identify and document factors affecting integration of midwifery nursing science theory with clinical practice in training hospitals in the Vhembe District of Limpopo Province.

Definition of the Concept

- Theory practice integration is the process of assisting student midwives to put into practice or to assimilate theory learned in class and real-life practice.
- Student midwives are learners registered to train in midwifery, specializing in pregnancy, childbirth, postpartum, women's sexual and reproductive health and new born care and are adult who is willing to learn and work under the supervision of professional nurses in maternity units and take part in his/her learning.
- Conducive clinical learning environment is an ideal environment that would assist students to practice what they were taught in class at ease, therefore integrating theory with clinical practice.
- Physical structures are the classroom, laboratory, library etc. an is of importance as it influences student behaviour and

affects learning positively or negatively.

- Clinical facilities are institution where midwifery students are placed to practice what they have learned in class to become competent midwives.

Purpose of the Study

The purpose of this study was to identify factors affecting integration of midwifery nursing science theory with clinical practice in selected training hospitals in the Vhembe District of Limpopo Province.

Research Questions

This study sought to answer the following question: “What could be the factors that affect integration of midwifery nursing science theory with clinical practice in training hospitals in Vhembe district?”

Objectives

The objectives of the study were to:

- Explore factors that were affecting the integration of midwifery nursing science theory with clinical practice.
- Describe factors that were affecting the integration of midwifery nursing science theory with clinical practice.

Research Methodology

Research design

A qualitative explorative, descriptive, contextual research design was used. The population consisted of student nurses and lecturers from Thohoyandou nursing campus and midwives in Vhembe District training hospitals

Population and sampling

Purposive sampling was employed to sample three training hospitals in Vhembe district which was Donald Fraser, Siloam and Tshilidzini. About 18 students who were in level four doing midwifery level II were selected, 6 per facility. Then 10 lecturers were selected. Sampling size was determined by data saturation [12].

Measures to ensure trustworthiness

Credibility was ensured by prolonged engagement to increased rapport and clarify descriptions with participants through familiarity so that participants are able to talk about more hidden and sensitive information. Data triangulation was ensured by using different data collection methods. Field notes and in-depth individual interviews were used to collect data. Member checking was done to confirm and validate the findings through interviews and discussion with colleagues in order to discover the truth.

Data Collection

Data from students were collected through 3 Focus Group discussions consisting of 6 students each. In-depth face to face was used to collect data from lecturers and midwives. The interview guide was used, and the questions were “what do you think could be the factors affecting integration of midwifery science theory with clinical practice”? Interviews were conducted at

venues convenient to participants, in local language and verbatim statements were translated into English. Interviews lasted for not more than 45 minutes. The probing was used as a strategy to get more information from participants. The use of note taking and a voice recorder was done in order to capture information from the participants.

Focus group 1

These were students placed in Donald Fraser Hospital. Six level IV students volunteered to participate in the study and all honored the appointment, all students were females. This group was interviewed on Monday the 10th of September 2013 from 13h00 to 13h45; the session lasted for 45 minutes.

Focus group 2

This group comprised of level 4 students placed in Tshilidzini hospital. Eight students volunteered, but 6 students honored the appointment; 4 females and 2 males; their session was on Tuesday 11th September 2013 from 13h00 to 14h30, the session lasted 1hour and 30 minutes. For this group the data were more and it was thus easy to reach data saturation.

Focus group 3

This was the last group of level IV students placed at Siloam Hospital. Seven students volunteered to participate, 6 honored the appointment; 2 males and four 4 females. Their session was on the 12th of September 2013 from 13h00 to 13h30, lasting for approximately 30 minutes.

Lecturers had been interviewed at Thohoyandou Nursing campus. The first encounter between the researcher and respondents took place during lunchtime, following arrangements made with respondents to be interviewed after work from 16h00 to 17h00 to avoid interfering with their work. Some were interviewed at their homes during their times off from work. Data saturation was reached with the 4th lecturer and the lecturers were interview on the 2nd, 3rd, 4th and 5th of August 2013 respectively.

Permission to conduct the study

Ethical principles were adhered to throughout the study. Ethical clearance was obtained from University of Venda, Ethics Committee (SHS/13/PDC/07/1605). Approval and permission to access the facility was obtained from Limpopo Provincial Research Committee and the Nursing Managers of the Nursing colleges and training institutions. Informed consent was obtained from each Lecturers and students.

Meta Analysis

Focus Group	Number in Group	Level of Study	Male	Female
1	6	4	2	4
2	6	4	2	4
3	6	4	0	6
Total	18		4	14

Table 1.1: Demographic profile of students.

Lecturers	Age Range	Teaching Experience (Years)	Male	Female
1	40-50	4	0	1
2	50-60	≥20	0	1
3	60-65	≥20	0	1
4	40-50	≥10	0	1
Total			0	4

Table 1.2: Demographic profile of lecturers.

The narrative data from the focus groups and in-depth interviews were analysed qualitatively using Tesch’s open coding method [13]. The method included the following steps: the researcher read carefully through all the transcripts to get a sense of whole. After the completion of all transcripts, a list of similar topics was compiled. Theme and its sub- themes emerged and field notes were also coded and categorized. A literature control was done to contextualize the results of the study in existing literature [14].

Research Findings

The results revealed one theme and sub-themes on system factors in the organization that hinder/ facilitate integration of midwifery theory to clinical practice (Table 1).

Themes	Sub-themes
1. Factors related to systems in the organization as perceived by students	1.1. Shortage of student accommodation next to clinical placements
	1.2. Short periods of learning and clinical exposure
2. Factors related to systems in the organization as perceived by lecturers and midwives	2.1. Poor planning and procurement service causing shortage of material resources and physical structures, e.g., classrooms and hospitals
	2.2. System of Student selection

Table 1: Theme and sub-themes on system’s factors in the organization that hinder/ facilitate integration of midwifery theory to clinical practice.

Theme 1: Factors related to systems in the organization as perceived by students

Findings of this study revealed that shortage of material and medical supplies in the training hospitals affected the training of students. They further explained that the institutions lacked necessary supplies like gloves, few available gloves were being used by professional nurses in the unit. These made students to remain spectators as they were no enough supply for them leading to poor integration of clinical theory with practice. The other factor indicated was no provision of accommodation inside the clinical areas which led to traveling by students from the college to hospitals resulting in them losing critical hours to be spent in the unit trying to merge theory with practice.

In support of the above a study done in Nigeria indicated that lac of equipment /infrastructures like laboratories and libraries as well as medical supplies were factors that hinders clinical training. In both programs diploma and degree in Nigeria students cited the factor of no enough equipment to practice [1,15].

Sub-Theme 1.1: Shortage of student accommodation next to clinical placements

The participants mentioned the factor of lack of accommodation inside the hospital or inside the nursing campus. They further argued that it was ideal for student to be next the clinical placement as this would give them more time to practice, if they stayed inside campus or the clinical area, they could also use their spare time to go to the units and rehearse or practice the skills they were not yet competent in. This factor, according to them, contributed to late coming and early departure leading to students having less time of exposure to clinical placement and thus poor integration of theory with practice. The students also mentioned this factor caused students to stay away from the clinical placement and, as such, they were transported daily to their clinical placements. Daily traveling exhausted them and contributed to late arrival at work and early departure; they also arrived late at their residential areas and failed to read or rehearse what they have learned due to exhaustion. This problem made them to lose hours and fail to meet clinical requirements. Some of the clinical learning experiences happen when the students are off; if they stay nearer clinical facility they would be called to come see some rare conditions significance to their learning experience.

Student #1, Focus Group1, said: *“The issue of traveling is a problem, we become tired before we arrive to work, even the knock-out time, suppose you have the patient to monitor, then the bus comes, you had to leave the patient and go.”*

Student # 2, said: *Daily traveling exhausted students and contributed to late arrival at work and early departure; they also arrived late at their residential areas and failed to read or rehearse what they have learned due to exhaustion. This problem made them to lose hours and fail to meet clinical requirements.*

If most of the time available for clinical learning is used to transport students to their area of allocation, the time which students actually spent in the area will be shortened. This made a negative impact on the integration of theory and practice [14].

Sub-Theme 1.2: Short periods of learning and clinical exposure

The lecturers mentioned this factor repeatedly in almost all their interview sessions. The lecturers explained that the students were expected to cover all objectives for 4 major subjects in 4 years, which is sometimes not possible. Students tended to gain more theory than practice because of time. They further said that theory was easy to cram and recite, but practice needs prolonged exposure and proper supervision in clinical placement.

Lecturer #4 said: *“Time allocated for the programme is limited; the students are taught at the same time they are being evaluated, at the same time they need to practice and you find that mostly the students they just want to fill the requirements, they want to complete the requirements instead of learning and as a result once the students finish the requirements they are no more keen to practice, they are no more keen to clinical exposure. They rather give themselves time off or they sit and do nothing at all.”*

Rumpus indicated that long lectures overload students with information and did not ensure that students had learned. Students usually lose concentration within 15-20 minutes and if a lecturer continued they would not learn from such presentation [17]. If a lecturer took long some students lose track and resort to their cell phones and other things. This affects students' ability to retain the theory and apply it in practice [17].

Similarly another study confirmed that students learn more effectively if they are allocated for a long time in the familial or clinical setting they were allocated before than rotating to different clinical facility after each block [18].

Theme 2: Factors related to systems in the organization as perceived by lecturers and midwives.

Theme 2.1: Poor planning and procurement service causing shortage of material resources and physical structures, e.g., classrooms and hospitals.

Lectures and midwives complained of the shortage of medical equipment and supplies as another factor that put the training of midwives at risk. There is shortage of gloves, per vaginal (PV) examination packs and other medical supplies. Lack of gloves does not allow midwives to teach procedures like PV examination, suturing of episiotomy and many others; in fact in maternity sections, gloves are a priority because health care providers are dealing with human blood and other body fluids that are potentially infectious. Thus, the absence of packs makes it difficult to demonstrate sterile and other surgical clean procedures. Shortage of all this is alluded to poor planning and poor procurement hence jeopardizing training of students.

Lecturer #1 said: *"You may find that maybe you want to demonstrate the students how to do per vaginal examination, you'll find that there is no complete pack where you find that you will have to improvise and learners usually grab things that they see in the first day. This also makes you do the wrong things or not able to show students the correct way of doing things."*

In support of what the respondents said, the National Perinatal Morbidity and Mortality Committee Report 2008-2010 outlined the survey of equipment, which was done by Nkwanama and Velaphi in neonatal units of South Africa. The report showed that 64 district hospitals accounting for 68% of total hospitals lacked radiant warmers, 63 lacked resuscitation equipment and 19 had no suction machines, while 82 lacked equipment to monitor vital signs. The shortage of equipment affected training negatively as students would not get the opportunity to observe essential procedures as there was no equipment to perform such procedures. Midwives did not execute their duties procedurally where there were no gloves and this interfered with their functions as role models and mentors to student midwives [11,19].

The strategic plan for nurse education, training and practice 2012/13-2016/1, advocated for enforcement of the environment that would enable and facilitate training of nurses, for example

promote proper financial management and administration and good procurement policies that promote purchasing of all equipment the would enhance nurse and midwifery training in south Africa (Strategic plan for nurse education, training and practice, 2012/13-2016/1).

Theme 2.2: System of Student Selection

The lecturers complained about the student nurses' selection criteria. They stated that due to political changes students were just selected without considering the matric scores and subjects. Previously, for a student to qualify for selection s/he was supposed to have science subjects and English as an additional language. The subjects were no longer considered; every student who had passed grade 12 with bachelor's certificate was selected for training. This factor affected the training as other students who were selected without the basics of science subjects were not coping with the training.

Lecturer #4 said: *"As far as students' selection is concerned, I'm concerned about the subjects; nowadays they take all the subjects even accounting and economics, previously they used to consider biology which has something to do with nursing, you are to consider English and you find that at some stage students are not able to express themselves, in writing you will find that in the midst of the script she uses her own language to express herself, that is another problem. Another thing is the M-score is it not that the M-score has been reduced. Previously the score used was 30 M-score. The failure rate we see today was not there during that time, when they really take students that had passed well."*

A study conducted in one of the nursing college in Gauteng province indicated that student's selected for nursing without biology and physics performed poorly in biological and natural science whilst those with biology and physics performed well and had greater chance to progress to the last year of their study [20].

The Durban University of Technology (DUT) Handbook indicated that for a student to be admitted for a nursing degree s/he must have a national senior certificate with endorsement or a matric certificate with exemption [21]. The compulsory subjects were English with E higher grade (HG), life sciences or biology with D (HG) and physical science or math literacy/mathematics with D (HG). The criterion was meant to select students who would be able to cope with training and pursue the degree until fourth level and register with the SANC as a nurse or a midwife. The student would have ability to learn in class and implement the theory learned into clinical practice [21].

Limitations

The study was conducted amongst the lecturers and students from one Nursing College in Vhembe district. The findings will not be generalized to other colleges and students allocated at other training hospitals in Limpopo Province.

Conclusion

The results indicated poor integration of midwifery nursing

science theory with clinical practice in the Vhembe District attributed to shortage and dilapidated infrastructures including students classrooms, library and accommodation. Other factors were students' selection criteria, as well as shortage of equipment and medical supplies in clinical areas.

Recommendations

The college's physical infrastructure needs to be upgraded to be habitable and to add more classes that will accommodate more than 50 students. In addition the college need to budget for a library which is accessible to students even after hours and is equipped with up to date technology to facilitate learning and acquisition of skills to promote quality Maternal care. The management need to advocate for accreditation of more hospitals to accommodate increases in the clinical placement loads and avoid students overcrowding during clinical placement.

The system and organizational policies and procedures need to be in place to facilitate mechanisms that promote buying of equipment and supplies to create facilitate nurse education and training. The system needs to budget for equipment and supplies to minimize the identified shortages as this interferes with midwifery training. They need to provide students with suitable accommodation within the college and next to clinical areas to accommodate students during their training. They need to budget and put in place back up electricity systems in case of power failures on campus.

They need to improve in their selection criteria, at least considering English and Life Science/biology subject for prospective nursing students.

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