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Self-perceived Competence of Student Midwives on Plotting of Partogram in Labour Units of Limpopo Province, South Africa

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ABSTRACT Partogram is a simple, inexpensive decision making tool which gives continuous pictorial overview of labour. It is the easy way to detect prolonged labour.The report on confidential enquiries into Maternal Deaths in South Africa pointed that as many as 27.8% of maternal deaths were due to substandard care, including inappropriate plotting of the partogram and delays in referral once complications occur. The purpose of this study was to determine perceptions of student midwives on their competence with regard to the plotting of partogram during labour.The qualitative research design which was exploratory and descriptive in nature was used. Population comprised of all the student midwives registered with the nursing college under regulation R425. Data was collected through focus group discussion and analysed through open coding method.The results showed that the content taught by college and labour ward staff members on partogram were different and made students to be uncertain of their competence on the plotting. They further expressed the knowledge deficit related to utilisation of a partogram amongst midwives in labour wards. There were contradictions about what is perceived as abnormal during utilisation plotting of partogram.

INTRODUCTION

The education and training for student midwives prepare them to competently plotting and interpreting of the partogram when managing the woman during labour. During midwifery training student midwives are offered theoretical instruction and also clinical exposure about the plotting and interpretation of the partogram. Registered nurses, who are supervising student midwives, have had 2 years training in midwifery for the Diploma or Degree in Nursing (General, Psychiatry, Community) and Midwifery. However, according to the Third report on Confidential Enquiries into Maternal Deaths in South Africa 2002-2004, as many as 27. 8% of maternal deaths were due to substandard care including inaccurate plotting of the partogram (Department of Health 2007).While conducting clinical accompaniment of student midwives it was observed that in some instances, partograms were plotted retrospectively, and student midwives wanted the findings to look as if real labour and partogram were normal.

The competence of these student midwives needed to be explored. The research question that guided the study was *'How do student midwives perceive their competence of plotting the partogram when managing women during labour in Limpopo province?'*Findings would be used to propose recommendations to improve competence of student midwivesof plotting the partogram in labour units of the Limpopo Province.

The Background

A partogram has a 4-hour action line which denotes the timing of intervention for prolonged labour. Health care providers need to regularly plot the foetal heart rate, maternal condition, fluid balance; drugs administered and progress of labour once the woman experiences true labour (Cronje and Grobler 2005). The implementation of partogram has been adopted nationally by the Department of Health in South Africa. Groeschel and Glover (2001) state that once labour progress it is recorded on a partogram; it becomes an official document of labour. Like all other health records, the partogram can be utilized in a court of law during a negligence claim, or by the woman under the Freedom of Information Act. The Australian College of Midwives Incorporated Competency Standards for Midwives (1998) performance criteria state that the midwife will maintain accurate documentation and records that are required by legislation (Australian College of Midwives 1988).

The best way of diagnosing poor labour progress accurately requires the use of a partogram (Cronje and Grobler 2005). The WHO (1994)

in Mathibe-Neke (2009) states that prolonged labour is considered the leading cause of death among mothers and newborns in the developing world. The NCCEMD's fourth report (South Africa 2007) indicates that 163 maternal deaths were directly ascribed to obstructed labour which would have been diagnosed early with the correct implementation of the partogram and intervention could have been taken timely to save these women's lives.In a study conducted in Pikine, Senegal to assess the value of the partogram and efficacy of the alert and action lines (Dujardin et al. 2002), the results show the usefulness and efficacy of the partogram and emphasise the value of medical intervention as soon as the alert line is crossed. A study conducted at the St. Luke's Catholic Hospital in South West Shoa Zone in Ethiopia (2008) has found that 86% of partogram are plotted very well (Kwast et al. 2008). A study conducted in Nigeria (2007) to evaluate the training of health workers in the use of the partogram shows that 76.9% of these records are plotted correctly (Fatusi et al. 2008).The NCCEMD in Saving Mothers (South Africa, 2004) believes that the implementation of recommendation number 8, about partogram would result in a reduction of maternal deaths in South Africa. According to NCCEMD in Saving Mothers (South Africa 2004), the use of the partogram and a maternity case record remains a huge challenge for the entire country. Partograms are not being used correctly and in some cases they are not used at all as evidenced by the relatively low number of institutions that scored satisfactorily during the investigations into the use of partogram. Some provinces like Limpopo, Mpumalanga and North West started with intense training of midwives and doctors on the use of the partogram. The provinces associate lack of, poor, and / or incorrect use of the partogram with a shortage of personnel, high staff turnover and the allocation of inexperienced personnel in managing women who are in labour (South Africa 2004).In a study conducted by Basu et al.(2009) at the Johannesburg hospital, a total of 111 partograms were reviewed and patients' details were recorded in 92% of all cases. Maternal vital signs, foetal heart rate, abdominal foetal descent, vaginal examination and foetal position were completely recorded in 92%, 4%, 30%, 33% and 36% of these events respectively. The study concludes that the health care workers were not utilizing the partogram adequately.In a survey conducted by Lavender and Hart (2008) about the use of the partogram in England it was found that some units were using the partogram in cases considered to be low risk, whereas the program was designed for early detection of slow progress of labour for the purpose of intervention.In the results of the study by Mathibe-Neke (2009) student midwives reported that sometimes midwifery practitioners completed the partogram only after the baby had been delivered and also indicated the midwifery practitioners' lack of understanding and inconsistencies in recording data on the partogram. Sometimes it was done differently by various midwives working in the same unit.

The initial use of the partogram at the Birmingham Maternity Hospital during 1972 also posed problems like incorrect recording that occurred irrespective of prior preparation of nurses and doctors. Some of these problems were resolved by modifying Phillpott's original partogram (Studd 1973). In this study wrong partogram plotting is not happening. Since the partogram has been in use for some time there is no lack of experience in its use. The correct use of the partogram has been recognised for at least a decade as a key strategy for the effective management of labour. Fatusi et al. (2008) cited a report from the collaborative workshop that was held in Japan in 1990, on the education of midwives revealed that midwives might not be receiving adequate training to enable them to work as competent and confident practitioners.In their study of partogram use in Dar Es Salaam perinatal care results; Nyamtena et al. (2008) find that of all partograms reviewed, 50% have no records of duration of labour, although cervical dilatation and foetal heart rates are recorded on 97% and 94% respectively on the partograms. However, 63% and 91% of these devices are judged to be substandard. As a result, the findings reflect poor management of labour and indicate the need for urgent in-service training to address the importance of documentation and regular partogram audits to reduce maternal and perinatal deaths.In the Third Report on Confidential Enquiries into Maternal Deaths in South Africa (2002-2004), one of the recommendations states that the correct use of the partogram should become a norm at each institution conducting births and that a quality assurance programme should be implemented. These statements indicate that the correct use of the partogram is noticed as a challenge in South Africa.

Lekhuleni et al. (2004) mention that nurse educators are charged with the responsibility of bridging the gap between the worlds of academia

and service in clinical settings during the accompaniment of student midwives. Carlson et al.(2005) state that student midwives need to develop courage to become competent in midwifery practice, including the plotting of a partogram in order to enhance their confidence. The purpose of this study was to determine perceptions of student midwives on their competence with regard to the plotting of partogram during labour.

MATERIAL AND METHODS

The study was conducted at the Limpopo College of Nursing campuses, namely, Giyani, Sovenga and Thohoyandou. A qualitative, exploratory descriptive and contextual research design was used in this study (Hansen 2006; Bowling 2007; Polit and Beck 2008). Population included all the student midwives registered at the Limpopo College of Nursing under R425 programme as prescribed by the SANC Diploma in Nursing (General, Psychiatry, Community) and Midwifery who arein their Level 3 and Level 4 of study (Polit et al. 2001; Neuman 2007). Non-probability, purposive sampling was used (De Vos et al. 2005; Neuman 2007). The ethical conformity of this study was ensured by obtaining permission from the University of Venda Health Research Ethics Committee, the Department of Health Research Committee, the principal of Limpopo College of Nursing l and an informed voluntary consent from each participant. Data was collected through eight (8) focus group discussions (FGDs) with student midwives and taking of field notes. Data was FGDs collected until data saturation was reached, that is, until no new information was obtained and redundancy was starting to occur (Burns and Grove 2011). Data were analysed through open coding method (Creswell 2009). Topics were listed and clustered according to similarity. Theme and subthemes were then formulated. A literature control was conducted by comparing the data with existing research which allowed the findings of the research study to be contextualised within general scientific knowledge without any undue influence of that knowledge (Creswell 2009).Trustworthiness was ensured by four criteria which are credibility, dependability, confirmability and transferability (Speziale and Capenter 2007; Polit et al. 2001).

RESULTS AND DISCUSSION

Data were collected from 8 focus group interviews. Ninety- six (Table 1) student midwives at level 3 and level 4 training who were exposed in plotting a partogram in the labour wards of the Limpopo Province participated in the study.

Correct and excerpts from participants provide more clarity on the competence of student midwives on plotting of partogram in labour wards. One theme and three sub-themes which reflect self-perceived competence on plotting of partogram by student midwives that have emerged during data analysis of this study are summarised in Table 2.

Table 1: Student midwives' profile

Campus	*Level*	*Male student mid wives*	*Female student midwives*	*Repeating level (Midwifery)*	*Total*
Giyani	3	6	10	1	16
	4	8	8	nil	16
Sovenga	3	4	12	1	16
	4	5	11	nil	16
Thohoyandou	3	3	13	1	16
	4	7	9	nil	16
				Total	96

Table 2: Self-perceived competence on plotting of partogram

Theme	*Sub-themes*
1. Partogram content taught by college and labour ward staff members	1.1: Theoretical content corresponds well with practical content
	1.2: Different learning content taught in the clinical area versus college create confusion
	1.3: Content learned led to lack of confidence versus confidence in utilizing the tool

Each theme was illustrated with direct quotations from the participants. Relevant literature was explored and integrated with the findings of the study. The quotations were presented without interfering with the grammar in the statements and coded to facilitate an audit trail.

Fraser et al. (2010) state that the partogram consists of three components, namely: the foetal, progress of labour and the maternal condition. All the focus group discussions pointed that they were taught or guided through these aspects about the partogram at the college. The level 4 participant commented: *"We should write the parity of the woman so that we are able to have an idea of how long can the labour take, and again also monitoring the foetal condition which include the foetal heart rate, the lie, the caput and the moulding so that we can know if the foetus is still doing well, and also monitor the membranes if they are still intact or ruptured and to indicate whether the liquor is meconium stained or clear so that we have an idea whether the foetus is going into distress or not. With the theory given we are informed, but the challenge is when we suppose to plot in the clinical area."* According to Woods et al. (2009), when the condition of the mother and the condition of the foetus are normal, with no signs of cephalopelvic disproportion, the next complete examination must be done 2 hourly during active phase and 4 hourly at latent phase.

T**heme 1: Partogram Content Taught by College and Labour Ward Staff Members**

During the focus-group discussions student midwives indicated that they were given different content by the lecturers from college and the ward staff members. This lead to confusion since students ended up not knowing which procedures were correct and which one were not. They further pointed that the content taught by their lecturers at the college needed to be put into practice during their clinical learning experiences. They perceived they were not competent on plotting the partogram because of the iruncertainty.

Sub-Theme 1.1: Theoretical Content Corresponds Well With Practical Content

There was an indication by the student midwives that the theoretical content taught at the college do not correspond well with the practical content at the clinical area. They further indicated that the clinical staff just do not practice the way it was stated in the theoretical books taught at the college. It was revealed by a quotation of a participant who was registered for level 3 training when saying: *"At the hospital they say we must start plotting at when the cervical dilatation is 3 centimetres but we were taught at the college to start plotting when we are sure that the woman is in true labour. Some women are multipara, even those who present with false labour the cervical os is 3-4cm."* Fraser and Cooper (2003) indicate that the cervical canal shortens from a length of 3 cm to less than 0.5 cm long during the first stage of labour. The active phase is when the cervix undergoes more rapid dilatation. It begins when the cervix is 3 - 4 cm dilated and is complete when the cervix is fully dilated or is 10 cm dilated (Fraser and Cooper 2003).

Sub-Theme 1.2: Different Learning Content Taught in the Clinical Area Versus College Create Confusion

The student midwives stated that they were getting confused since they were taught different content by the lecturers and by the ward staff members about when to start/ initiate plotting the partogram when the woman is in labour. Some of the level 3 participants in this study responded by saying: "*Theory is more easy than practical. Sometimes when we go to the labour wards they teach us things that we don't know, they teach us different things from what we learned in class (sighing)… We get lost and remain not yet competent."* It also reflected in the quotation of one of the level 3 student midwives: *"At the hospital they say we must start to plot when the cervical dilatation is 3 centimetres, but at college we were taught to start when the woman is in true labour."* One of the participants in level 3 said: "*You find that the sisters tell you to start plotting at 4 centimetres and when the lecturer comes she would not be happy with that. So we end up not knowing what to do."*

One of the level 4 participants said: "*We usually go with what is done in the ward. They say some points don't apply in practical. It seems as if we are living in two worlds.*" The other participant said "*clinical staff don't plot the way the lecturers teach us. The sisters will say there*

is no lecturer here and when I do it the way it is done in the ward, when the lecturer comes for assessment it becomes difficult as I am already used to doing it the way it is done in clinical and am found not yet competent." The study done by Conco (1998) supports the issue of different learning content between theory and practice which indicates that students complain that teaching in the classroom does not correlate with what they learn in clinical practice. The research also reveals that the clinical setting does not reflect a learning environment for the student midwives.Reuter et al. (1997) as cited by Carlsonet al. (2005) state that student midwives are intensely aware of the discrepancies between what they experience in hospital practice and what they are taught in the classroom and they cope with the discrepancy by rationalizing and compartmentalizing. It is explained that compartmentalization happens when student midwives move from the classroom to the clinical area; they have to come to terms with two versions of nursing each with its own standards and rules. Instead of questioning or confronting the diverse philosophies, students cope by rationalizing that they are just passing through and apparently cope by fitting in with each philosophy when in that particular situation. At completion of the course, the students are uncertain on how to plot the partogram.

Sub-Theme 1.3: Content Learned Led to Lack of Confidence Versus Confidence in Utilizing The Tool

Other student midwives indicated that after they have received theory related to the plotting of the partogram, they felt confident, while another group felt not confident to implement the partogram. The abovementioned statement was substantiated by quotations like: *"I felt like I could just plot it without any problem, but it was a different story when I had to do it practically, I felt not yet competent."*Another participant said: *"Mmm… I felt not fully equipped and not yet competent, because the first time I plotted the partogram I received different guidance which left me confused."*According to Woodward (2000), formal theory alone is insufficient to enhance competency in using the partogram; theory should form the basis for clinical practice.In contrast to the study conducted by Hallin and Danielson (2010) in Sweden about the registered nurses' perceptions of nursing students' preparation and study approaches in clinical education, it was revealed that most registered nurses (49%) rated student midwives as very good with regard to theoretical preparation and only 14% rated them as poor.

CONCLUSION

Student midwives indicated the different content was taught to students from the college and the labour units. The aim of the study was to determine the perceived competence on plotting of partogram by student midwives in the labour units of the Limpopo Province. It was evident from the research findings that student midwives perceived themselves as not yet competent, because they were uncertain about how, when and what to plot in the partogram when the woman is in labour. The findings of this study were sufficient to propose recommendations to improve competence of student midwives of plotting the partogram in labour units of the Limpopo Province.

LIMITATIONS

The study was conducted at the campuses of Limpopo Nursing College only. Consequently, the results may not be generalised to other nursing colleges of other provinces in South Africa.

RECOMMENDATIONS

The following recommendations were made for nursing practice, nursing education and research.

Nursing Education

- The need to conduct periodic in-service trainings sessions between the lecturers and clinical staff on plotting of the partogram so that it is done the same way for the students' training and consistency throughout the midwifery units in the country.
- The college need to employ preceptors/ clinical instructors who are responsible for clinical teaching of student midwives.
- The lecturers need to visit the clinical area during the student midwives' clinical expo-

sure with the purpose of clarifying some of the things and also giving support to the students.

Nursing Practice

- In-service training should be instituted regularly to refresh and remind the midwives about updates on plotting of the partogram.
- Student midwives should be asked for feedback and recommendations on their departure from clinical exposure and present this to lectures so that challenges could be addressed.
- Regular audits and peer evaluations need to be instituted per hospital in order to keep midwives as alert about the utilisation of the partogram.

Nursing Research

- Further research to be conducted on the experiences of the midwives and college lecturers on clinical teaching of the student midwives on plotting of the partogram.

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