CHALLENGES EXPERIENCED BY MIDWIVES ON THE USE OF PARTOGRAM IN LIMPOPO PROVINCE OF SOUTH AFRICA

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ABSTRACT

A partogram is regarded as a valuable tool recommended by the World Health Organization to monitor and document aspects of labour, but often not used effectively in clinical practice. The researchers were interested in exploring the challenges that contribute to the underutilisation of a partogram in the district and to make recommendations for improvement. A qualitative, descriptive and contextual research study was conducted at three hospitals. Semi-structured interviews were conducted with seventeen midwives who were purposively selected. Data was coded and analysed using Tesch's steps of data analysis. Several challenges were highlighted including lack of resources such as staff, time, casebooks and photocopy machines, challenges with allocation of midwives and misunderstanding of the partogram. It is recommended that moral support, in-service training and resources be provided to improve the use of the partogram.

Keywords: challenges experienced, midwives, partogram

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INTRODUCTION AND BACKGROUND

The Millennium Development Goal (MDG) 5 was targeted to improve maternal health and reduce maternal mortality by 75% between 1990 and 2015 (Mabaso, Ndaba & Mkhize-Kwitshana, 2014:184). An estimated 289 000 maternal deaths were reported in 2013, which account to a decline of 45% from 1990, with 62% (179 000) of the global births estimated from sub-Saharan Africa alone (Mabaso et al., 2014:184). In South Africa, 310 deaths per 100 000 live births, and neonatal mortality rate of 56 deaths per 100 000 live births were estimated with Limpopo Province being the second highest in maternal and neonatal deaths in 2009 (Mabaso, Ndaba & Mkhize-Kwitshana, 2014:184). Health worker-oriented problems such as health care provider failure to follow protocols, including delay in referring patients, poor initial assessment and recognition/diagnosis and communication problems, were some of the problems highlighted (Mabaso et al., 2014:184). Countries that have succeeded in reducing maternal deaths make use of an enabling environment, improving referral systems, communication, transport, equipment, drugs and other supplies (WHO, 2014:1). The World Health Organization recommends the use of the partogram to progress labour and delivery with an aim of reducing maternal and neonatal morbidity and mortality (Fujita, Mukumbuta, Chavuma & Ohashi, 2014:192). The South African government showed its commitment to reduce maternal and neonatal mortality by making maternal care an integral component of primary health care and free health services for pregnant women. One of the recommendations indicated in the *South African Guideline for Maternity Care* manual for clinics, community health care centres and district hospitals is the correct use of the partogram as a norm in each institution conducting births and that a quality assurance programme be implemented using an appropriate tool (South Africa, 2007:8).

The partogram is a pre-printed paper developed by Friedman in 1954 and the first formal partograph was developed by Professor Philpott in 1971, which is accepted as a standard for monitoring and documenting the progress of labour (Studd, 1973:451). The partogram provides a pictorial overview in order to alert clinicians of the deviations in maternal and foetal wellbeing, including labour progress, which ultimately leads to early identification of complications such as cephalo pelvic disproportion and to indicate when augmentation of labour is necessary (Studd, 1973:455). It further assists as an early warning system to make decisions on transfer of patients to the next level of care. It is regarded as an effective tool in reducing prolonged labour and consequently maternal and neonatal deaths (Ollerhead & Osrin, 2014:1). The partogram consist of three sections, namely, maternal condition, foetal condition and the progress of labour.

The partogram was found to be inexpensive and effective in developed and developing countries. Lavender, Hart and Smyth (2013:1) conducted a review on articles written on the effect of partogram and concluded that though the partogram

is widely used and accepted, it cannot be recommended as routine for standard labour management and care. Despite formal training on how to use the tool, studies conducted in developing countries including Uganda revealed that partogram use in developing countries was reportedly low or not effective with lack of documentation of some parameters of the progress of labour (Yisma, Dessalem Astatkie & Fesseha, 2013:1; Nyamtema, Urassa, Massawe, Lindmark & Roosmalen, 2008:37; Ollerhead & Osrin, 2014:6; Ogwang, Karyabakabo & Rutebemberwa, 2009:S34).

One of the recommendations indicated in the *South African Guideline for Maternity Care* manual for clinics, community health care centres and district hospitals is the correct use of the partogram as a norm in each institution conducting births and that a quality assurance programme be implemented using an appropriate tool (South Africa, 2007:8). Although the South African government showed its commitment to reduce maternal and neonatal mortality by making maternal care an integral component of primary health care and free health services for pregnant women, underutilisation of the partogram has been reported in South Africa by Basu, Hoosain, Leistner, Masango, Mercer, Petkar and Tshiovhe (2009:578) who found that partogram is a poorly used monitoring tool. Furthermore, Mathibe-Neke, Lebeko and Motupa (2013:145) conducted a quantitative study in one of the academic hospitals in South Africa on the factors that contribute to the underutilisation of the partogram and found that midwives understood the importance of the partogram but did not effectively use it. In addition, a study that was conducted at a district in Limpopo Province on utilisation of the partogram also found that midwives were failing to plot the foetal status correctly (Shokane, Thopola, Jali, Kgole & Mamogobo, 2013:159). A study that was conducted at Vhembe district of Limpopo Province by Rampfumedzi (2006:59) revealed incomplete recording on the partogram and on other obstetric nursing records. Hence the need to explore challenges experienced by midwives in using the partogram when monitoring women during labour.

STATEMENT OF THE RESEARCH PROBLEM

The partogram is highly valued and regarded as a simple and effective tool to use by clinicians in managing and monitoring women during labour with the aim of reducing maternal and neonatal morbidity and mortality. Guidelines were developed to assist clinicians including midwives on how to use the partogram. Despite the availability of guidelines, problems with effective implementation of the partogram, including documentation, have been highlighted in several research studies that were conducted in Limpopo Province. Furthermore, there has been a slow reduction in maternal and neonatal mortality in the Vhembe district. Most of the studies done on the use of the partogram were quantitative in nature. In this study, researchers conducted a qualitative study in order to present challenges experienced by midwives in using the partogram to monitor women during labour. Identifying challenges

that have been experienced assisted the researchers in making recommendations to improve the effective use of the partogram.

PURPOSE OF THE STUDY

The purpose of the research study was to explore and describe the challenges experienced by midwives in using the partogram during labour.

DEFINITION OF KEY CONCEPTS

An **experienced challenge** in this research article is a barrier that was seen or observed that prevents midwives from using the partogram effectively. An experience refers to the observation, documentation on the partogram and management of women during labour.

A **midwife** is a person who has successfully completed a midwifery education programme that is recognised in the country where it is located and that is based on International Competencies for Basic Midwifery Practice and the framework of the International Confederation of Midwives (ICM) Global Standards for midwifery education (ICM, 2011; Medforth, Battersbay, Evans, March & Walker, 2011:3). In this research article, a midwife is a qualified registered nurse with midwifery qualification and works at the maternity ward of any of the selected three hospitals in Vhembe district.

A **partogram** is defined as a graphical review of the physical elements and events that take place in an individual woman's labour (Medforth et al., 2011:234). In this research article, a partogram is the one indicated on the *South African Guidelines for Maternity* care in South Africa 2007: a manual for clinics, community health centres and district hospitals (South Africa, 2007:37).

SIGNIFICANCE OF THE STUDY

Identification of the challenges experienced by midwives when using the partogram assisted in making recommendations to labour ward managers to improve support, especially in relation to provision of extra staff, equipment and in providing constructive feedback and encouragement. The findings assisted in highlighting important aspects to be emphasised when teaching the partogram as part of the curriculum in midwifery education. In-service training for doctors, midwives and student nurses assist in covering the gaps in knowledge about the partogram and on ensuring that there is common understanding among staff members on how the partogram is utilised, including orientation of new changes on use of the partogram. Further research on the experiences of doctors, managers and student midwives on the use of the partogram will be of benefit to identify other aspects that may assist in improving the use of the partogram.

RESEARCH METHODOLOGY

A qualitative, descriptive and contextual research design was used to explore the challenges that were experienced by midwives on the use of the partogram in monitoring women during labour.

Research site

The interviews were conducted in the maternity wards of the three hospitals from the Vhembe district of Limpopo Province. The hospitals admit women from the surrounding communities and those that are referred from the clinics.

Population and sample

The research population was drawn from the midwives working in the three hospitals at Vhembe district of Limpopo Province. The researcher collected data from the seventeen (17) midwives who were purposively selected, agreed to be interviewed and were available on the days when data was collected (Parahoo, 2006:66). Only midwives working in the labour wards and who had at least six months' experience on using the partogram were selected to participate in the study.

Data collection

Face to face semi-structured interviews were conducted with seventeen midwives working in the labour wards of the three hospitals in the Vhembe district of Limpopo Province during the months of February and March 2012. Participants were given information related to the purpose of the research study and informed consent forms were signed before the actual data collection. The following broad question was asked: 'What are the challenges that you have experienced when using the partogram?' Follow-up probing questions were asked when necessary. Demographic information was obtained by asking structured questions related to age, the midwifery programme and years of experience using the partogram. The interviews were audio taped and field notes were taken. Each interview lasted approximately 40–45 minutes.

Data analysis

The audio tapes were transcribed verbatim and co-coding was done by the researcher and an independent coder. Data was analysed using Tesch's (1990) eight steps of data analysis as cited in Creswell (1994:154–155). The first author read all the transcriptions carefully and highlighted the main ideas, typing the underlying meaning on the margin. A list of all topics was made and similar topics were clustered together into categories and subcategories. Relationships between categories and subcategories were identified and themes were developed.

ETHICAL CONSIDERATIONS

A research proposal was submitted to the Ethics Committee of the University of South Africa and ethical approval was granted (Project no.729-365-8). Written permission to conduct interviews was obtained from the Limpopo Provincial Health Department and from the Chief Executive Officers of the three hospitals. Verbal permission was obtained from the three labour ward managers before the actual data collection.

Written consent was obtained from each participant before the actual interviews. Codes instead of names were used on interview transcripts to ensure that anonymity was adhered to. Participants were allowed to withdraw at any time if they wished to do so. Interviews were conducted in private rooms in the ward to ensure that privacy is maintained. Numbers instead of names of hospitals were used to protect hospitals' identities.

MEASURES TO ENSURE TRUSTWORTHINESS

Trustworthiness in qualitative research is seen to correspond to rigour, that is, the extent to which the research stands up to scrutiny specifically in the areas of credibility, dependability and confirmability, and transferability (Streubert & Carpenter, 2011:49).

Credibility is regarded as confidence in the truth of the data (Efstathiou, Papastavrou, Raftopoulos & Merkouris, 2011:4). The researchers had background knowledge on how to conduct research and on the field of midwifery, which assisted in ensuring that the research process is adhered to and that relevant aspects in the field are considered. The first author engaged with the participants for a reasonable time to ensure that trust is built and to ensure prolonged engagement, which is an element of credibility (Speziale & Carpenter, 2007:49).

Dependability is regarded as the stability of the data that emerged over time and over conditions (Efstathiou et al., 2011:4). Co-coding was done electronically with an independent coder to ensure that dependability was maintained. Triangulation of data collection methods was done by writing field notes, conducting literature review and by conducting individual interviews as data collection methods.

Transferability is regarded as the probability that the study findings have meaning to others in a similar situation (Speziale & Carpenter, 2007:49). The results of this study may have meaning to other hospitals using the partogram with similar situations at Limpopo and in other South African provinces.

Confirmability is regarded as the objectivity and neutrality of the data that assist an external auditor to understand the process that led the researcher to arrive at the conclusion (Speziale & Carpenter, 2007:49). Confirmability determines whether another researcher will arrive at the comparable conclusions if the same process is followed. Peers were involved in reading the questions and a detailed record of raw

data was obtained using interviews and field notes. An audit trail was kept by the researcher and the data was audited by an expert to ensure confirmability.

RESEARCH RESULTS

Demographic characteristics

All seventeen participants were females with ages ranging from 31 to 64. Seven of the participants completed the two-year midwifery training programme, five completed the Diploma in Nursing (general, community, psychiatry) and midwifery, four underwent the one year diploma course, two were advanced midwives and one had a degree in nursing. Three participants were labour ward managers whereas the rest were not in the managerial positions.

The three main themes derived from the data analysis were (1) lack of resources, (2) challenges of allocating midwives to patients, and (3) misunderstanding of the programme.

Theme 1: Lack of resources

Participants verbalised lack of resources, which included shortage of midwives, lack of time and lack of equipment as major challenges when using the partogram to monitor women during labour.

Shortage of midwives

Shortage of midwives was indicated as one of the major problems that hinder midwives in using the partogram according to the stated guidelines. Some of the problems related to shortage that were indicated include the overcrowding of patients and not categorising patients according to the different stages of labour. The following statements related to the shortage of staff were indicated:

> If it is only four midwives during the night and there is this issue of picking patients who are in labour from home or from the clinic, it makes patient flow too much per one night. You may find that we have admitted maybe 30 patients per night with 4 nurses on duty and 15–16 deliveries per night.

Lack of time

Lack of time to observe and record findings after monitoring women in labour were cited by midwives as one of the challenges that negatively affects the correct use of the partogram as a guideline. One participant said:

> The problem is the time factor, especially when the patient comes in being at advanced stage of labour that you are not able to check the patient and record there and there.

Midwives indicated that they fail to observe and chart on the partogram because of the frequency in which some of the aspects should be observed. One of the participants said:

> Sometimes it is not possible to check the patient hourly, you'll realize that the half hour is over maybe is one and half hour or two hours and you have not observed the patient.

Participants indicated that recording on both the partogram and other charts is repetition and a waste of time. One of the participants said:

> You are expected to plot on the partogram and also to write the notes on the charts, it is time consuming and is repetition … everything is supposed to be checked and you'll find that the information is not written on the partogram, but only written on the charts.

Lack of necessary equipment

Participants described how frustrating it was to work in the labour ward without the necessary equipment. One of the participants indicated that there is a shortage of the cardio-tocographic machines (CTG), whereas one participant from another hospital was thankful that they have CTG machines that were used for continuous monitoring of the contractions and foetal heart rate. One of the participants said:

> There are some portions of the partogram which are supposed to be done using the machines but we are running short of the equipment [cardiotocographic machine].

In contrast to the above statement, one of the participants from another hospital said:

> It is fortunate enough that we are having CTG machines which we use for continuous monitoring of the contractions and foetal heart rate.

Theme 2: Challenge of allocating midwives to patients

Allocating many midwives to one patient, allocation of two or more women to one midwife and placing patients in different stages of labour in one area were challenges expressed by midwives that were related to allocation.

Challenges related to one patient being monitored by many midwives

Participants indicated that when many midwives are monitoring the same patient, they obtain different findings, which leads to a patient being mismanaged. A midwife made the following comment:

> … the disadvantage of the partogram is, if the patient went through many people [staff] during the progress of labour, and our findings are different the patient may end up going for unnecessary caesarean section or may be delayed because somebody will say the cervical dilatation is four centimetres now, and next two hours another midwife's finding is not four centimetres.

Challenges related to a midwife monitoring more than one woman at the same time

Participants indicated that it is impossible to monitor two or more women at the same time during labour:

> The difficulty is that you cannot complete the partogram if you are monitoring more than two women at the same time because of the shortage, so you can find that the partogram can sometimes be incomplete.

Theme 3: Misunderstanding the partogram

Midwives verbalised that there was lack of understanding of the partograms by students and midwives at the hospitals and clinics as a result of the changes that were introduced on the partogram and the manner in which it was designed.

Misunderstanding related to the changes that were made on the partogram

Participants were experiencing challenges with the new partogram, which led to wrong plotting and mismanagement of women during labour.

> … the problem that we experience is that some midwives don't understand the partogram and now it has been changed, the one that we are using in the maternity is no longer the one we were using with those maternity books, I mean the books that we are using to admit patients here at Limpopo.

Lack of understanding of the partogram by midwives at the hospital

Challenges with recording on the partogram, which may lead to mismanagement of the patient were highlighted. A participant said:

> … and you find that the partogram is not well done it means that the patient is not going to be progressed well and you end up mismanaging the patient … another thing is that you will find that the information is recorded incorrectly, that's why it is very difficult for me to correct it. Let me give you an example when the woman is not in labour and the cervical dilatation is recorded as two centimetres … it is a very serious problem.

Lack of understanding of the partogram by clinic nurses

The participants indicated that midwives at the clinics sometimes transfer patients with wrongly plotted partograms and that those clinics' midwives fail to attend perinatal mortality meetings that are held at the hospitals. One said:

> … if the woman is from the clinic, you can find that they have already started the partogram, meaning that when the patient arrive here at the hospital, you find that the woman is not in a real labour, but the partogram is already plotted, we are forced to use another partogram when the woman is already in established labour… and they [clinic nurses] don't want to attend the perinatal mortality meetings at the hospital.

Misunderstanding related to the design of the partogram

The use of abbreviations and the small blocks wherein midwives should plot the findings were indicated as challenges that hinder the proper documentation on the partogram.

> I don't know whether is impossible to improve on the chat itself, it is too small. Yes ... maybe if it's made bigger so that the pages can be more visible, where you can see everything. I think it can improve the use of the partogram because some nurses cannot see easily which also affect its use. I cannot stress myself by those small words and figures on the partogram and I don't want to develop the attitude and say it is difficult even if is not difficult.

Misunderstanding related to when the partogram should be started

According to participants, there is lack of consensus on when clinicians need to start to plot the observations on the partogram in different hospitals. One midwife said:

> The problem is knowledge related to when partogram should be started by the midwife … that is the problem that we meet in many places. For instance, the other hospitals start to plot the partogram when the woman is 4 centimetre … some start to plot the partogram when the woman is 3 [centimetres] or 2 [centimetres].

DISCUSSION OF RESEARCH RESULTS

Almost all except one midwife had five or more years of experience working in the labour ward and using the partogram, and almost half of the participants had 11 to 15 years of working in the labour ward, which is commendable. According to Fawole, Hunyimbo and Adekanle (2008:25), the more the years of experience in working in the labour ward, the higher the level of understanding of the partograms. Furthermore, Opiah, Ofi, Essien and Monjok (2012:128) conducted a study on knowledge and utilisation of the partogram among midwives and found that there is a

significant relationship between the years of experience of midwives and their use of the partogram. The highest number of midwives (seven) was trained for the two-year midwifery programme, five were trained for a four-year Diploma in nursing (general, community, psychiatry) and midwifery, four were trained for one-year Diploma in Midwifery and one had a nursing degree. Two of the midwives interviewed were advanced midwives, Fawole et al. (2008:25) found out that respondents with higher levels of formal qualifications were more knowledgeable about the partogram than those who had a lower level of training.

The findings of this research study revealed several major challenges that were experienced by midwives when using the partogram. Staff shortage was associated with allocation of midwives and overcrowding of patients in the labour ward. According to the *South African Nursing Council Regulation R2488* of 26 October 1990, chapter 2 (subsection 7), a midwife is expected not to leave the woman throughout the process of labour until delivery. However, if there is shortage and a midwife is expected to monitor more than one woman, it may be impossible to comply with the regulation stipulations.

One on one midwife-patient care is important as stipulated in the SANC regulation; however, it was reported as being impossible because of shortage of midwives. The findings of this study are in line with those of Mathew, Dougall, Konfortion and Johnson (2011:585) who found out that labour ward coordinators are required to have an overview of the care of the women in order to meet the expectation of one to one care in a constantly changing environment. Furthermore, overcrowding of patients was reportedly leading to gaps in records due to lack of time (South Africa, 2012:265). The findings of this study on shortage of midwives concur with those of Opiah et al. (2012:129) in that midwives regard the partogram as time consuming.

The manner in which patients are categorised in some of the labour wards was indicated as a concern as patients might be neglected. According to a document on intrapartum care written by Medical Research Council (2005:13), the design and functioning of labour wards in the South African public health sector contribute to their inefficiency due to the fact that many labour wards are not dedicated management arrears such as admission and first stage, and patients are housed where they are infrequently monitored or totally neglected until the second stage when they are in labour.

Lack of time, which was attributed to women arriving in the labour wards at an advanced stage of labour, frequency of observations and recording in partogram and other charts, was indicated as a challenge. Enough time to monitor and record findings is important in enhancing quality in maternity care. Patients need to arrive at the institution not at an advanced stage of labour to make sure that midwives have the opportunity to check them. Salama, Allah and Heeba (2010:172) indicated that midwives lack the time to chart on the partogram unless they are assisted by student nurses if allocated in the labour ward. Midwives indicated that it was impossible to

document aspects such as foetal heart rate and maternal pulse half hourly due to lack of time.

Lack of equipment such as partogram documents, case books, photocopying machines and CTG machines in some labour wards was highlighted as a challenge that leads to incomplete documentation on the partogram. Ploeg et al. (2007:214) indicate that provision of equipment is one of the aspects that facilitate the implementation of guidelines. Besides lack of equipment, lack of knowledge and skill was also indicated as a challenge especially for clinic midwives who were sometimes transferring patients to hospitals with wrongly plotted partograms. The findings also highlighted that some of the clinic midwives are unable to attend perinatal mortality meetings conducted at the hospitals, which can be attributed to midwives' attitudes or shortage of staff at the clinics.

According to Leanza, Leanza and Monte (2011:325), physicians and midwives need to be trained on how to use the partogram correctly. Furthermore, Forsner, Hansonn, Brommels, Wistedt and Forsell (2010:6) conducted a study on barriers to implementation of the guidelines and found lack of understanding is one of the major barriers to implementation of guidelines. This concurs with the results of this study on lack of understanding. Midwives highlighted problems with the design of the partogram, which contributes to difficulty in its use. It was indicated that small blocks and abbreviations were posing a challenge to midwives. However, some midwives indicated that they have a guideline to follow with extra information on how to use the partogram. This is in line with Gagliard, Browers, Palda, Lemieux-Charles and Grimshaw (2011:2) who recommended that extra information be included within the guidelines in order to assist users to have more understanding. The format and content of the guideline are essential to influence its use by staff.

The results of this study revealed problems with the introduction of new changes that were effected on the tool. Some participants were in favour of the design of the old tool. Jones, Suurdt, Quelette-Kuntz and Heyland (2010:453) indicated that resistance to change was the greatest barrier to guideline implementation.

CONCLUSION

It can be concluded that midwives face major challenges in the labour ward, including shortage of staff, shortage of equipment, lack of knowledge and skill, misunderstandings related to the design of the partogram. These challenges may lead to failure to use the partogram as indicated on the guidelines for maternity care in South Africa. These aspects need consideration to improve the quality of care rendered to women in labour.

RECOMMENDATIONS

Based on the findings of this research study, provision of more midwives, provision of support by management, provision of equipment, review of the design of the partogram and in-service training on the use of the partogram may assist in improving the effective use of the partogram. The partogram needs to be included and emphasised in midwifery education to ensure that students gain an understanding before being allocated to the labour wards. Research on the perceptions of doctors and student midwives towards the partogram is recommended.

LIMITATIONS OF THE STUDY

Although the study highlighted important aspects to be considered to improve the use of the partogram, the results may not be generalised to other settings as it was conducted in one district of Limpopo Province of South Africa.

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