

## **The utilization of the partograph by midwives in Lebowakgomo and Zebediela Level 1 hospitals in Capricorn district, Limpopo Province, South Africa**

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### **Abstract**

The purpose of this study was to evaluate the utilization of the partograph by midwives when monitoring pregnant women in labour wards of the Lebowakgomo and Zebediela level 1 hospitals in the Capricorn District in Limpopo Province, South Africa. A qualitative, descriptive, explorative and contextual research design was used. The population included 34 midwives registered with the South African Nursing Council (SANC) and who are practicing as such in Lebowakgomo and Zebediela level 1 hospitals. A purposive sampling technique was used to select 15 participants. Data were collected using semi-structured in-depth interviews. Data were analyzed qualitatively by means of the open coding methods and four themes emerged, namely, monitoring and plotting of foetal status during the intrapartum phase, monitoring and documenting the progress of labour during the intrapartum phase, monitoring and plotting maternal status during intrapartum phase and lack of human resources. The study found that midwives were failing to monitor and to plot the foetal status correctly during the latent phase of labour and also the latent phase of the progress of labour. The study also revealed staff shortage in labour wards which made it difficult for midwives to provide quality midwifery care through the utilization of the partograph.

**Keywords:** Partograph, monitoring, midwifery care, intrapartum.

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### **Introduction**

A partograph is a graphic presentation of the progress of labour and dilatation of the cervix in a pregnant woman who is in labour (Soni, 2009). The graphic presentation of the progress of a labour is able to identify problems that are likely to occur or that have occurred and were missed before the pregnant woman went into labour. The World Health Organization (WHO, 2008) recommends the use of the partograph especially in low resourced countries (Soni, 2009). In South Africa, the Department of Health (2000) has standardized and issued a policy stressing the use of a partograph by all midwives. It is therefore, compulsory that the progress of labour for all women should be

monitored using the partograph so that a live baby can be delivered without any complications (Ratchliffe, 2001). Studies conducted by Javed, Bhutta and Shoaib (2007) and Mohammad and Chongsuvivatwong (2005) assessed the effectiveness of promoting the utilization of the partograph by midwives caring for women in labour as well as tested the role of the partograph in preventing prolonged labour. The study revealed that education, training and supervision of the midwives resulted in a higher rate of the utilization of the partograph which reduced the number of vaginal examinations, augmented labour, poor Apgar score at first minute, obstructed labour and increased referral.

In sub-Saharan Africa the utilization of partograph as a tool for intrapartum monitoring by midwives is still a challenge. Fawole, Hunyinbo and Adekanie (2008) found that in Nigeria the partograph was commonly not used to monitor Nigerian women in labour since knowledge about the partograph was poor. Dangal (2007) and Mathai (2009) also highlighted the partograph as a tool that served as an initial warning system which assist in early decision making on transfer actions and ongoing evaluation of the effect of midwifery interventions. Mathibe- Neke (2009) also states that midwives in South Africa use the partograph incorrectly and inappropriately.

Soni (2009) also suggests that the partograph does not necessarily have an appropriate quality to measure the progress of labour correctly. However, he further states that it could still be used in low resourced countries like South Africa. He further indicates that in South Africa, it may be somehow unrealistic to use the partograph to monitor the latent phase of labour as quite often pregnant women present to health services already in the active phase of labour due to transport problems amongst other challenges.

The recording of assessment, observations, midwifery interventions and treatment constitutes a legal record. It is, therefore, the midwife's professional responsibility to keep accurate records of labour, delivery and the condition of the newborn (Searle, 2006). Failure to keep accurate records constitutes betrayal of the midwife-patient relationship (Searle, 2006). Mulondo (2007) found that midwives were incompetent in recording the progress of labour and in correct plotting of the partograph. Failure to utilize the partograph to monitor pregnant women in labour, to analyze and interpret the findings depicted on the partograph, as well as the lack of addressing identified problems, can cause an unwanted increase in the maternal and perinatal morbidity and mortality rates (Farrel, 2007).

In South Africa, the perinatal mortality rate related to intrapartum asphyxia has risen from 18% in 1999 to 20% in 2003. This high perinatal mortality was correlated with failure to detect foetal distress and poor management of labour by the midwives (Pattison 2007). According to the Saving Mothers Report (2001)

the maternal mortality ratio in South Africa is high at 150 per 100 000 deliveries compared to a mortality ratio in the United Kingdom of 11 per 100 000 deliveries. In South Africa, the Limpopo province has a mortality ratio of 62 per 100 000 deliveries. However, 27% of maternal deaths in the province occur as a result of postpartum hemorrhage and sepsis. These complications are directly related to the lack or incorrect utilization of the partograph to monitor pregnant women in labour. The Saving Mothers Report (2006) states that there were 281 maternal deaths in the 2002-2004 triennial periods in the Limpopo province and a total of 3406 deaths in South Africa during the 2005-2007 triennial periods.

It is observed that midwives frequently do not utilize the partograph appropriately when monitoring pregnant women in labour by not plotting, incomplete plotting, not analyzing or by not interpreting the findings correctly. This was supported by the Perinatal Problem Identification Programme (PPIP) of Lebowakgomo level 1 hospital that showed a high perinatal mortality rate (PMR) of 36.9/1000 live births in 2009. Therefore, this study was designed to explore and describe the utilization of the partograph by midwives when monitoring pregnant women in labour in Lebowakgomo and Zebediela level 1 hospitals in Capricorn District, Limpopo Province, South Africa.

## **Methodology**

### Research design

A qualitative and explorative research design was used to describe the utilization of the partograph by midwives. The research design enabled the researchers to familiarize themselves with and to gain insight into the phenomenon being studied (Babbie, 2007). The study was contextual as it was conducted in the labour wards where the partograph was used.

### Population and sampling

The population consisted of 34 midwives currently registered with SANC and who were practicing in the Lebowakgomo and Zebediela level 1 hospitals in Capricorn District, Limpopo province. A non-probability purposive sampling technique was used to obtain a sample size of fifteen (15) participants, six (6) of whom were selected from the Zebediela hospital and the remaining (9) nine were selected from the Lebowakgomo hospital. Sampling was continued until data saturation was reached.

### Ethical considerations

Ethical clearance was obtained from the University of Limpopo Medunsa Ethics Committee (MREC). Permission to conduct the study was also obtained from the Limpopo Provincial Department of Health and Social Development.

The purpose of the study was explained to the participants who were informed that participation was voluntary and that they had the right to withdraw without victimization if they did not wish to continue with the study. The researchers requested the participants' permission to tape-record the interviews and also to take notes that enabled them to log the complete information for retrieval and analysis (Brink, 2006).

Confidentiality and anonymity were ensured by using numbers on the tape recorder and on the fields-notes instead of names of participants. Raw data were not made available to people outside the research study. The researchers protected the identity and the privacy of the participants through the use of quotations to ensure that no connection was made between the data and specific participants (Gerish & Lacey, 2006; Brink, 2006; Nkatini, 2005).

### **Data collection**

Semi-structured interviews were used to collect data with the aim of determining the utilization of the partograph by the midwives. Open-ended questions that enabled the participants to speak freely were used during the interviews that lasted 30 to 45 minutes. The interviews were conducted in a private room and tape recorded. The researchers also took field notes in order to retain the process of the interviews that were conducted until data saturation was reached (de Vos, Strydom, Fouche & Delpont, 2007, Babbie & Mouton, 2009).

### **Data analysis**

Tesch's method of open coding was used wherein the researchers read through the transcripts in order to gain a sense of the interviews. The researchers read all the transcripts and wrote down the ideas as they came to mind. Similar topics were then clustered together in order to identify major topics, unique topics and leftovers. Descriptive words were used for topics and these were combined into categories. Data belonging to each category were assembled separately and re-coded. Themes and categories were developed until data were saturated (de Vos et al., 2007).

### **Trustworthiness**

Trustworthiness was ensured by credibility, transferability and dependability as outlined in (Babbie & Mouton, 2009). Credibility was ensured by prolonged engagement with the participants and making use of a variety of sources of data, and building trust and rapport with the participants. Transferability was ensured by providing a thick description of the methodology and by using purposive sampling. Dependability was ensured by giving a dense description of the research method used in this study. Confirmability was ensured by giving the raw data, tape recorder and the field notes to the independent coder to compare

and verify the findings. Supervisors of the study were given the tape recorder for audit trail (Babbie & Mouton, 2009).

## Results and Discussion

Table 1 indicates the themes and categories that emerged on the utilization of the partograph by midwives in level 1 hospitals in Limpopo Province.

**Table1:** Themes and categories

Themes		Categories	
1.	Monitoring and plotting of fetal status during the intrapartum phase	1.1	Failure to plot fetal status during the latent phase of labour
		1.2	Incorrect frequency of monitoring and plotting of fetal status during the active phase of labour
2.	Monitoring and documenting the progress of labour during the intrapartum phase	2.1	Failure to monitor and to document the progress of labour during the latent phase
		2.2	Lack of knowledge regarding monitoring and documenting the active phase of progress of labour
		2.3	Failure to analyze and to interpret the partograph during the progress of labour
3.	Monitoring and plotting maternal status during the intrapartum phase	3.1	Incorrect plotting of maternal status during the latent phase of labour
		3.2	Incorrect plotting of maternal status during the active phase of labour
4.	Lack of human resources to monitor pregnant women in labour	4.1	Shortage of staff in the labour wards

Failure of the participants to monitor and plot the foetal heart rate at two- hour intervals in the latent phase of labour exposes the fetus to intrapartum asphyxia and possibility of the woman delivering a stillborn. Most of the participants indicated that they failed to monitor and plot the foetal status correctly during the latent phase of labour. They also elaborated that they would monitor and plot foetal heart rate 4 hourly during the latent phase of labour and hourly during the active phase of labour. These notions are implied in the following expression: *“I will monitor the foetal heart rate four hourly in the latent phase of labour.”* Such midwifery actions were against the Department of Health’s (2007) guidelines that the foetal heart rate should be monitored two- hourly during the latent phase of labour and half hourly during the active phase of labour. Failure of the participants to monitor and plot the foetal heart rate two hourly in the latent phase of labour exposes the fetus to intrapartum asphyxia and to the possibility of the woman delivering a stillborn. Mzolo (2002) outlines that a number of midwives that appear before the professional conduct committee of SANC for misconducts and the charges against these midwives are that they neglect monitoring the foetal heart rate, fail to assess, diagnose, and refer case to the medical practitioner when the condition of the pregnant women in labour becomes severe.

This study found that participants monitored and plotted the foetal status incorrectly during the active phase of labour. One participant said: *“I will monitor and plot the foetal heart rate hourly during the active phase of labour.”* Such incorrect plotting would certainly fail to spot problems such as foetal distress and could lead to the delivery of a baby born with low Apgar scores or fresh stillbirth. The Department of Health (2007) requires that the foetal heart rate should be monitored half hourly in the active phase of labour. Armstrong (2008) also emphasizes the importance of monitoring the foetal heart rate frequently during the active phase of labour.

It was observed that midwives had received training on the utilization of the partograph, but were not monitoring and documenting findings because they complained that it had too many details to complete.

This study revealed that the majority of participants did not monitor or document the latent phase of labour accurately thus, missing problems that might have occurred during the latent phase of labour such as a prolonged latent phase. This sentiment was expressed as follows: *“I will start to document the findings of progress of labour on the partograph when the cervix is three (3) centimeters dilated because I will be sure then that the pregnant woman is in true labour and also that she will not cross the action line quickly.”* The failure to document the progress of labour during the latent phase would make it difficult for the participants to decide on appropriate midwifery interventions at the appropriate time. There were also similarities between the finding of this study and those of Mohammad and Chongsuvivatwong (2005) that midwives received training on the utilization of the partograph, but were not documenting findings because they complained that it had too many details to complete.

This study also found that only few participants were monitoring the latent phase of labour correctly and were able to diagnose problems that could occur during this phase of labour. They were thus able to take appropriate midwifery actions. These notions were expressed as follows: *“I will start to plot on the partograph when the woman in labour has true signs of labour. These signs are show, uterine contractions, cervical effacement, and cervical dilatation and the latent phase of labour should not exceed eight (8) hours”.* These findings are in agreement with reports by Management Sciences for Health, (2007) that the partograph should be started when the woman shows true signs of labour.

The study found that the majority of the participants had knowledge of the progress of labour and were able to examine the pregnant woman in labour, observing the powers, the passage and the passenger. However, participants lacked knowledge in terms of cervical dilatation. These sentiments were expressed as follows: *“I expect the cervix of a primigravida to dilate at a rate of one centimeter*

*two (2) hourly while the cervix of a multipara is to dilate at a rate of two (2) centimeterstwo (2) hourly.”*

*“I expect the cervix to dilate at a rate of one (1) centimeter per hour regardless of whether it is of a primigravida or of a multipara.”*

Based on these responses, the participants would provide sub-standard midwifery care and thus put the pregnant woman in labour at risk of prolonged labour without the participants noticing that labour was prolonged. Such sub- standard midwifery care would also expose the women in labour to postpartum hemorrhage and puerperal sepsis. The World Health Organization (WHO) (2008) corroborates that in poor progress of labour, the cervical dilatation is to the right of the alert line on the partograph and that the patient will cross the action line of the partograph.

The study showed that participants were incompetent with regards to the monitoring and plotting the progress of labour on the partograph. Participants said:

*“The partograph becomes a problem when you were not the one who had started it because we plot differently other midwives plot at three (3) centimeters others at four (4) centimeters, when the woman crosses the action line, and I call the doctor who prescribes further monitoring I feel I cannot continue with that partographas I take it that it is spoiled. I therefore write notes until the woman in labour has delivered. I will progress the woman in labour even when she has crossed action line without referring her.”*

These findings were similar to those of Pettersson, Svensson and Christenson (2000) who found that midwives failed to transfer pregnant woman in labour to the next level of midwifery care because they had inadequate knowledge of how to interpret the partograph. Mulondo (2007), in a study of 30 maternity case records also found that midwives were incompetent with regard to the interpretation of the partograph.

The findings of this study indicate that participants were unable to plot the maternal status during labour accurately because they were unable to diagnose problems related to the recording of vital signs and urinary output. These notions were expressed in the following excerpt: *“I will monitor the vital signs once during the latent phase of labour.”* Mulondo (2007) cautions that lack of skills in taking and recording blood pressure correctly by midwives during labour will result in an unnoticed hypertension.

This study found that the participants were unable to monitor and to plot the maternal status accurately during the latent and active phases of labour. Participants indicated that they would monitor and plot the maternal status 4 and 6

hourly during the latent phase. They were also unable to diagnose maternal exhaustion using the partograph. These notions were expressed in the following excerpts: *“I will monitor the vital signs 2 hourly in active phase of labour”*. *“I will monitor the vital signs 6 hourly in the active phase of labour unless the blood pressure was high then I would monitor it half hourly*. The Department of Health (2000) indicates that blood pressure should be monitored and plotted hourly and the pulse rate checked and plotted half hourly in the active phase of labour.

Participants indicated that they were short-staffed in labour wards making it difficult for them to provide quality midwifery care through the utilization of the partograph. They further indicated that they were overworked, exhausted and experience insomnia due to unresolved midwifery challenges. There were similarities between the findings of this study and that of Thopola (2002) who earlier reported that midwives expressed exhaustion, general body pains and insomnia due to shortage of staff. Maputle (2005) also affirmed that due to a shortage of midwives it is not easy to spend quality time with mothers and to verify their preferences.

### **Limitation of the study**

The sample size of the study included 15 midwives who were working at Lebowakgomo and Zebediela level hospitals. Therefore, the findings of this study cannot be generalized to the entire Limpopo province.

### **Conclusion**

The study found that participants had huge challenges in monitoring the pregnant women in labour during the latent and active phases. They lacked knowledge on how often they were expected to monitor the foetal heart during labour as recommended by the Department of Health (2007). However, shortage of staff was indicated as one of the challenges of the midwives to monitor pregnant women in labour using the partograph. The use of a partograph is mandatory for practicing midwives in South Africa (Department of Health, 2007). It is therefore, important that the knowledge and skills of midwives regarding the use of the partograph should be upgraded through in-service education programmes among other practical guidelines which may be followed.

### **Recommendations**

Accurate assessment and appropriate monitoring and plotting of the foetal and maternal statuses two hourly in the latent phase of labour and half hourly in the active phase of labour should be followed. Midwives should be empowered through in-service-education programmes that will enable them to develop plotting, analysis and interpretation skills on the partograph. There should be strengthening of maternal morbidity and mortality rates meetings both at

institutional and provincial levels to identify misconducts and learn from them. There should be peer evaluation on the effective utilization of the partograph. Correct utilization of the partograph should form part of the performance areas of all managers and midwives. Supervision in the labour wards should be done by experienced and advanced midwives to support newly qualified midwives on the utilization of the partograph. A referral system with criteria for pregnant women based on the analysis of the partograph should be established.

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