Bayero Journal of Nursing and Health Care
bjnhc.nur@buk.edu.ng
Volume 3 Issue 1, June, 2021
Pages 801-806 ISSN: 2756-6501

Midwives' Satisfaction with the Paperless Partograph as a Tool for Monitoring Labour in a Secondary Care Facility Katsina State

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Background: Midwives remain the major human resource for improving maternal health in communities especially by providing essential intrapartum care that is paramount in reducing maternal mortality. A paperless approach to the use of the partograph can ensure the use of the partograph by midwives in low resource settings thereby decreasing prolonged labours with its attendant morbidities. **Aim:** This study aimed to assess midwives' satisfaction with the use of the paperless partograph in the monitoring of labours in Katsina, Nigeria. **Methodology:** A descriptive cross-sectional research design was used. A total of 16 midwives employed in the delivery ward of the secondary care facility were purposefully recruited for the study. Using a researcher questionnaire, the opinions of the midwives working in the delivery ward were obtained. **Results:** The midwives reported satisfaction with the tool with an aggregate mean of 5.78 (constant mean = 4). Conclusion: the paperless partograph is a satisfactory tool that can be adopted for the monitoring of labours.

Keywords: *Midwives, Satisfaction, Paperless Partograph, Labour.*

Introduction

Midwives are the primary service providers to birthing woman. They provide health care services from the prenatal period through birth up to the postnatal period. Services provided range from giving simple advice to complicated procedures such as vacuum deliveries. Therefore midwifery has become an important partner in the world approaches and strategies which aim at improving the lives of the most vulnerable members of the family. Over the last few decades, there is a remarkable increase in the visibility and recognition of the midwife as a key provider of maternal and newborn healthcare services, this leaves the professionals with great opportunities and challenges (Chilvers, 2014; Federal Ministry of Health FMOH, 2007; WHO, 2018).

In Nigeria, the midwifery workforce is engraved with resource-deprivation as a result of inadequate girl-child education, gender-based discrimination, conflicts and climate disruption problems leaving service provision difficult (Shittu, Ejembi, Adaji, Abdul, Idris, Abdulkarim... and Potts, 2010; Nigeria Demographic and Health Survey (NDHS), 2018). To make service provision easier, tools are being employed such as the partograph used to monitor the first stage of labour (Fraser & Cooper, 2009). The partograph has been heralded as one of the strongest and cost-effective tools to prevent unnecessary delay

and serves as a basic tool for obstetric caregivers This is because the continuous monitoring of labour and provision of rapid care to deal with problems are most crucial for preventing adverse obstetric outcomes related to childbirth and thereby reducing the unacceptably high maternal mortality (Fatouh and Ramadan 2015).

The World Health Organization (WHO) approved the use of the partograph to reduce prolonged labours and their attendant complications (FMOH 2006). Though effective, factors were found to contribute to the low rate of partograph use among which are; lack of awareness and lack of proper training, lack of guidelines on partograph use, lack of availability of partograph, negative perceptions of the partograph, high patient load, low staffing at the facilities, lack of supervision, and negative attitudes among some of the health workers (Adesola, Omolola, Adekemi, and Audu, 2014; Bazirete, 2015; Tandu-Umba and Muamba, 2015). Additionally, some argue that the use of the partograph is complex and too time-consuming for effective use in low-resource countries that have inadequate health care staffing (Agarwal, Agarwal, Agarwal, Agarwal and Sharma, 2014).

To address the shortfalls associated with the partograph, Debdas proposed a paperless approach which is a new, low-skill method for the detection of abnormal labour, especially in a low resource setting (Debda, 2008). This approach ensures the use of the partograph without the technicalities of charting thereby reducing the difficulty in using it. As a new approach, the paperless partograph continues to be tested in various health care settings (Agarwal, *et al*, 2014; Lavender, Cuthbert, & Smyth, 2018). Midwives who are currently working in the delivery ward of the hospital were trained and exposed to the use of the paperless partograph on women in labour. After monitoring 200 cases, the midwives are then assessed to determine their level of satisfaction with the use of the paperless partograph. The satisfaction of the midwives is believed to influence their use of the paperless partograph that is important while monitoring labour. It has been argued that the level of satisfaction a user of product experiences when the expectations are compared with the standard outcome (Ekinci & Sirakaya, 2004). Using the Disconfirmation theory to provide a theoretical framework this study affirms that Disconfirmation arises as a result of a comparison between the expectations of the midwives as the users of the paperless partograph and the perceived performance after monitoring of labour. When the midwives perceive the paperless partograph as effective, available, easy to use and feasible for adoption in delivery wards, they become highly satisfied with it as a tool for labour monitoring (mean satisfaction will be above 4) with a positive disconfirmation. And when they perceive otherwise (mean below 4) they become dissatisfied and a negative disconfirmation occurs.

This study, therefore, aims at exploring the level of midwives' satisfaction with the use of the paperless partograph as a tool in monitoring labour in general hospital Katsina Nigeria. The study will bring to light the possibility of adopting a simpler tool that is technologically acceptable in the developing world that is faced with the technicality of the WHO modified partograph.

Methodology

A descriptive cross-sectional research design was used in the study where sixteen (16) midwives who were currently employed in the delivery ward of the secondary facility were purposefully recruited in the study. This is part of a study that involved training and exposure of the midwives to the use of the paperless partograph on women in labour. After monitoring 200 cases, the midwives were then assessed to determine their level of satisfaction with the use of the paperless partograph. The data for the study was collected using a questionnaire. The questionnaire was divided into two sections. The first section gathers the socio-demographic information of the midwives

while section two gathers information from a seven-point semantic differential scale on the satisfaction of the midwives with the paperless partograph.

The data generated were analysed using the statistical package for social sciences (SPSS) version 23. The socio-demographic characteristics were analysed using frequency and percentages while the data from the differential scale on satisfaction was analysed using mean. A mean of 4 is considered as the lowest level of agreement with a variable.

Ethical Considerations

Ethical approval was obtained from the state ministry of health through the office of the honourable commissioner for health. Reference number MOH/ADM/SUB/1152/1/232. This was communicated to the medical director of the hospital and other hospital staff involved. Confidentiality and anonymity of participant were ensured and participation was made voluntary.

Results

Table 1: *Socio-demographic Characteristics of Midwives (n = 16)*

Variable	**F**	**%**
Age (years)		
21-30	9	56.3
31-40	6	37.5
41-50	1	6.3
Qualification		
RN	3	18.7
RM	4	25.0
RNM	9	56.3
Working experience (years)		
4 and Below	5	31.3
5-8	5	31.3
9 and above	6	37.4

Key:
RN – Registered Nurse
RM – Registered Midwife
RNM - Registered Nurse, Midwife

The socio-demographic information of the midwives involved in the study showed that the midwifery workforce was young because 56% of the midwives that work in the delivery room were aged below 30 years. On qualification of the midwives, 56% have the double qualification of registered nurse midwives and 37% have more than 8 years of experience.

Table 2: *Midwives' Satisfaction with the use of the Paperless Partograph (n = 16)*

Variable	**Mean (Ẋ)**	**SD**
Ease of use of the tool	5.75	0.577
Availability of tool	6.00	0.632
Simple to use	6.06	0.772
Overall feasibility of use	5.75	1.000
Perceived effectiveness of the tool	5.56	0.892
Satisfaction with tool	5.56	0.727
Aggregate mean	**5.78**	

Constant mean = 4

To assess the satisfaction of the midwives that used the paperless partograph, the opinion of midwives on ease of use, availability and the feasibility of using the tool in monitoring labour were assessed. The results showed mean scores above 5.5. Looking at satisfaction generally, the results showed that the midwives were satisfied with the use of the tool in labour with a score of 5.56 that was far greater than the constant mean of 4. The aggregate mean score was 5.78.

Null Hypothesis: Midwives were not satisfied with the use of the paperless partograph

Table 3. *Satisfaction of the Midwives with use of the Paperless Partograph (n = 16)*

Variable	Mean	SD	SE of mean	t- test	P value
Midwives' satisfaction	5.56	0.727	0.182	8.592	0.000

Test value = 4

A one-sample t- statistics on the satisfaction of midwives with the use of the paperless partograph was done. A computed t of 8.592 is greater than the critical value of 1.96 at 95% significance level and a p- the value of 0.000 is less than 0.05. It is concluded that there is a significant satisfaction among midwives with the use of the paperless partograph. The null hypothesis which states that there is no significant satisfaction among midwives with the use of the paperless partograph is therefore rejected.

Discussion of Findings

The socio-demographic information of the midwives showed that the majority of the midwives in the study were young midwives with age range below 30 years, with very few above 41 years of age, indicative of a midwifery workforce that is a promising one which will take time rendering care to the community especially in a region where maternal mortality reaches 1,791/100,000 live birth (Guerrier, Oluyide, Keramarou, & Grais, 2013,; Lavender, Cuthbert, & Smyth, 2018; World Health Organization (WHO), 2016) . This is in contrast to the finding from Thopola (2016) that reported an ageing workforce in Limpopo with a majority greater than 50 years of age (Thopola, 2016). A good number of the midwives were registered nurse-midwives. Even the remainder were also registered with the Nursing and Midwifery Council that oversees the profession in Nigeria. In addition to qualification, the midwives participating in this study were quite experienced, with one-third of them having more than 9 years of experience. The number of midwives in the ward was encouraging because it fulfilled the WHO 2005 recommendation of 10 midwives per Comprehensive Emergency Obstetric and Newborn (CEmON) facility (Chilvers, 2014).

The midwives' perceived effectiveness of the tool was very high and an overall satisfaction mean was also high. Using a mean agreement level of four, the reported mean showed agreement that the midwives were satisfied with using the paperless partograph in monitoring women in labour. The finding corresponds to a study in India where Sharma, Deka and Das (2015), reported 66% of labour attendants to prefer using the paperless partograph than the WHO modified partograph, and in Egypt, Fatouh and Ramadan (2015) also reported 77% of nurses' preference of using the paperless partograph because of their satisfaction with the tool. A one-sample t-test was done in testing the hypothesis which stated that 'there is no significant satisfaction in the midwives with the use of the paperless partograph'. The results showed a significant level of satisfaction in the midwives that utilized the paperless partograph. It is therefore concluded that midwives were satisfied with using the paperless partograph in monitoring labour progress and therefore the null hypothesis was rejected. The satisfaction of the midwives with the tool can be an important determinant in its utilisation on women in labour and overall quality of obstetric care (Faye,

Fournier, & Dumont, 2017; Ahmed, Jain, & Bharwani, 2017; Gaudineau & Laudamy, 2018) . Satisfaction of the midwives is therefore necessary and can ensure that labours are monitored appropriately for the prevention of adverse outcomes in both mother and baby.

Conclusion

Based on the findings of this study, it is concluded that midwives are satisfied with the paperless partograph. It can therefore be a tool that can provide a means of adequate monitoring of labour progress improving the outcome of deliveries and ensuring the satisfaction of the workforce with the resultant improvement of quality of obstetric care in the hospitals.

Recommendations

1. The paperless approach to using the partograph should be made available to midwives in resource-limited countries in order to ensure appropriate monitoring of labour in women.
2. Provider satisfaction surveys should be done in health facilities to identify hindrances with the use of tools and equipment.

Conflict of Interest: there is no conflict of interest amongst the authors in the study.

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