

Review of Documentation Status of Modified WHO Partograph in 47 Emergency Obstetric and Newborn Centers (EmONC) of Bhutan in 2018

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Abstract

A. Background: The country-wide Emergency Obstetric and Newborn Care (EmONC) assessment was conducted in 47 health facilities in Bhutan. This study aimed to assess the documentation status of the modified WHO Partograph.

B. Methods: A total of 116 partograph were reviewed last six months prior to the study period.

C. Results: The overall completeness of the partograph was only 6.0%, where the commonly plotted section was uterine contraction and descent of the fetal head with 89.7% and 87.1%, respectively. More than 50% of records of maternal well-being were missing from the partograph.

D. Conclusion: The National Midwifery Standard 2018 mandates to use of partograph as one of the important components of intrapartum care to monitor the progress of labor and fetal and maternal well-being. However, the completeness of the partograph was extremely low, which is a concern of the quality of obstetric care in the country. There is a need for enhancement of knowledge and skills of health care providers in recording the progress of labor and maternal and fetal wellbeing in the partograph. Further, the recommendation is to identify the theory and practice gap and to strengthen monitoring and evaluation.

Keywords: Bhutan, newborn, maternal health, modified WHO partograph

I. INTRODUCTION

Over one-third of maternal deaths, a substantial proportion of pregnancy-related life-threatening conditions, half of all stillbirths, and a quarter of neonatal deaths are the result of complications during labor and childbirth (1). Early identification of risk of complications and appropriate action can prevent maternal and neonatal complications resulting from obstructed labor by appropriate use of partograph(2).

The partograph is a graphic record of the progress

of labor and mother and fetal well-being. These graphic records are used to detect prolonged or obstructed labor, where early referral can plan to prevent complications or death (2). The progress of labor and maternal and fetal well-being on the partograph has to be recorded in the specified time recommended by the WHO. The recording should include fetal heart rate, the status of amniotic fluid, uterine contraction, cervical dilatation, fetal descent, maternal temperature, blood pressure, and urinary output (1). However, several barriers like professional skills and practice, clinical leadership, and quality assurance hinder the implementation of partograph, especially in low and middle-income countries(3). Studies have shown incompleteness, inappropriate use of partograph, and utilization of partograph below the World Health Organization (WHO) recommendations(4-9).

In Bhutan, although the first implementation of partograph was not documented, the concept of emergency obstetric care services was adopted in 1999. Safe motherhood projected to strengthen quality Emergency Obstetric and newborn care (EmONC) in district and referral hospitals was implemented from 1999-2004 (10). In 2018, there were six Comprehensive EmONC and 41 basic EmONC centers in the country. Partograph was implemented as one of the core components of intrapartum care to monitor labor, maternal and fetal well-being. To evaluate the implantation, a nationwide assessment of EmONC was conducted in 2018 to find out the quality of partograph completion in the 47 EmONC centers.

II. METHODS

A. Design

A cross-sectional study was carried out to review the filled partograph to assess the quality of recording of the findings of labor. The review members are representatives from the Ministry of Health, Faculty of Nursing and Public Health, and UNFPA.



B. Study Setting

The review of the partograph was conducted in 47 EmONCcenters between March and April 2018. Three partograph completed in the last six months prior to the time of assessment from each center by different healthcare providers were reviewed and documented all the review processes.

C. Study Population

A total of 130 partographs filled by different healthcare providers were reviewed from 47 EmONCcenters. However, 14 partograph could not meet eligibility criteria to review; that is, the dilatation of the first vaginal examination was not plotted on the alert line, so only 116 partograph were reviewed further for their quality.

Providers’ knowledge of maternal and newborn care was assessed by using face-to-face and self-administered questionnaires. A total of 47 nurses who had either conducted the highest deliveries in the past one month or in the past six months were interviewed.

D. Inclusion/exclusion criteria

a) Inclusion: The study included partograph of women who are at term gestation with vertex presentation, cervical dilation of less than 8 cm at first per vaginal examination, women without obstetric complication at first examination, presence of fetal heart sound (FHS) at first examination, and normal delivery at the health facility.

b) Exclusion: The partograph, in which the cervical dilatation was initially not plotted on alert line or filled partograph more than six months old were excluded from the review.

E. Data Collection

The Averting Maternal Death and Disability (AMDD) module, EmONC assessment module of Columbia University, and UN partners were adapted for collecting data for this study (13). A field test of the tool was conducted at one district hospital and two basic health units. Subsequently, the data collection tools were amended and contextualized.

F. Data Analysis

The data were double entered and validated using Epidata software (version 2.2.2.182), EpiData Association, Odense, Denmark. Descriptive analysis and the summary of the characteristics were analyzed with Epidata Analysis.

G. Ethical consideration

Ethical clearance was sought from the Research Ethics Board of Health (REBH) under the Ministry of Health with reference no Ref. No. REBH/Approval/2017/085 dated 26th December 2017.

III. RESULT

One hundred and sixteen partograph were reviewed to assess the quality documentation of the partograph. Fetal heart sound (FHS) was recorded at admission in more than 97.4 % of the partographs, and 81.0% had been monitored every half-hourly.

The uterine contraction was monitored every four hourly in 89.7%, and the descent of the fetal head was monitored half-hourly in 87.1%. The vaginal examination was done four-hourly only in 65.5 % of cases. Similarly, the state of membranes and the color of liquor were noted in 62.1 % of the partograph. The temperature of the women was recorded in 34.5% of the partograph, followed by 37.1 % for pulse rate and 45.7% for blood pressure.

In addition, 84.5 % of the labor progress was either on the alert line or the right side of the alert line. While 12.9 % was between the alert and action line, and 2.6 % was well beyond the action line. Spontaneous vaginal delivery was recorded in 99.1% of the partographs, followed by 92.2% and 86.2% of the time of delivery and APGAR score, respectively (Table).

TABLE
Recording of parameters of progress of labor, maternal and fetal well-being, and outcome of the labor of 47 EmONC centers of Bhutan.

Parameters of labor	Frequency (n=116)	%
Fetal well-being		
<i>Fetal heart rate recorded at admission</i>	113	97.4
<i>Fetal heart rate monitored every ½ hour</i>	94	81.0
<i>State of membranes and color of liquor noted</i>	72	62.1
<i>First cervical dilatation plotted on the alert line</i>	116	100
Progress of Labour		
<i>Assessment of uterine contraction</i>	104	89.7
<i>Assessment of descent</i>	101	87.1
<i>The vaginal examination carried out</i>	76	65.5
Labour progressed well		
<i>On alert line or on the right side of the alert line</i>	98	84.5
<i>Between alert and action line</i>	15	12.9
<i>On or beyond action line</i>	3	2.6
Maternal well-being		
<i>Temperature measured at least every 2 hours</i>	40	34.5
<i>Blood pressure measured at least every 4 hours</i>	53	45.7
<i>Pulse measured at least every ½ hour</i>	43	37.1
Outcome of delivery		
<i>Spontaneous vaginal delivery</i>	115	99.1
<i>Time of delivery recorded</i>	107	92.2

Live birth	115	99.1
APGAR recorded at 1 and 5 minute after birth	100	86.2

Overall, only 7(6.0%) partograph were filled completely. Among 109 (94.0%)incomplete partograph; 15.6% and 84.4% were from Comprehensive Emergency Obstetric and Newborn Care Center (CEmONC) and Basic EmergencyObstetric and Newborn Care Center (BEmONC) respectively.

The knowledge on maternal and newborn care of 47 nurses' was assessed through face-to-face interviews and a self-administered questionnaire. The mean age of the nurses was 28.9, and their professional services ranged from four months to 30 years. All 47 (100%) nurses responded that they have to check the blood pressure of the women in labor, and 46 (97.9%) responded that they have to check the fetal heartbeat. Forty-four (93.6%) and 41 (87.2%) would check cervical dilatation and uterine contraction during labor, respectively. The least importance was given to the following parameters of labor; the color of the amniotic fluid, degree of molding, the descent of fetal head, maternal temperature, and pulse. More than one-fourth of nurses have never received workshops/training on mother and newborn care after being employed.

IV. DISCUSSION

Like many other studies, the completion of the partograph is very poor in Bhutan, with only 6.0% where 7 out of 116 partograph were completely plotted. A poor recording of the partograph would affect the quality of maternal and fetal outcomes during labor. The completeness is also low at CEmONC(15.6%), although the number of deliveries was higher.

The commonly plotted section of the partograph was fetal heart rate, uterine contraction, and the descent of the fetal head with 81.0 %, 89.7 %, and 87.1 %, respectively. Similar findings were shown in studies in Ethiopia and Bangladesh, where uterine contraction was 100% and 73.2%, respectively, and descent was 97.3% and 87.1%, respectively (5,9).

However, the color of the liquor was recorded less frequently (62.1%) than the progress of labor because the vaginal examinations were recorded only in 65.5% of reviewed partograph. The color of the liquor is one of the findings of the vaginal examination, which determines the well-being of the fetus during labor.

Among those that were poorly recorded were maternal well-being; the temperature was recorded in 34.5% of reviewed partograph, followed by a pulse in 37.1% and blood pressure in 45.7%, respectively. A study carried out in Uganda and Bangladesh also found the poor recording of these parameters; the temperature was recorded in 11.8% and 38.0% respectively for Uganda and Bangladesh (4,9). Monitoring of these parameters is important to assess the difficulty mother facing during labor, where the fetal well-

being has to be monitored closely.

Normally, the women without obstetric complication will give birth when labor progress either on or at the right side of the alert line. In this study, 84.5% of delivery occurred on or at the right side of the alert line of the partograph. The outcome of delivery was not recorded in a few partograph. Poor documentation of some of the variables may have affected the intervention, although interventions for each parameter were not reviewed in this study.

As per the result of the assessment of knowledge of healthcare providers, more than one-fourth of the responders have never received on-the-job training on mother and newborn care. The study of Central Ethiopia showed that getting on-the-job training had a significant association with knowledge about partograph utilization. Moreover, WHO recommended that obstetric care providers should receive training in midwifery every 3-5 years (11,12).

A. Limitation

The partograph reviewed was from 47 EmONC centers across the country, and only 3 partograph from the last three deliveries within the last six months prior to data collection were reviewed. Therefore, the findings cannot be generalized to the whole country. The knowledge, factors affecting the documentation, and intervention is undertaken for each parameter were not reviewed and can be explored in future studies.

V. RECOMMENDATIONS AND CONCLUSION

The completeness of partograph in the health facilities of the country is low. Although factors affecting the use of partograph were not reviewed in this study, interventions like regular monitoring and clinical auditing can be undertaken to ensure its completeness. Awareness of the importance of the partograph and regular training to healthcare providers on the partograph should be considered to improve documentation. Training institutes must emphasize the importance of recording partograph during labor.

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