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## Analysis of The Use of Partograph in Normal Delivery Care by Midwives As a Detection of Labor Complications

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### ABSTRACT

Globally, the Maternal Mortality Ratio (MMR) is unacceptably high. The high number of maternal deaths during pregnancy and childbirth is caused by preventable complications during these periods such as hemorrhage, infections, eclampsia, hypertensive disorder during pregnancy, and obstructed labor. To prevent these obstetric problems, the World Health Organization (WHO) suggests using partograph for birth attendants, especially in low-resource settings. The aim of this study is to analyze the use of partographs in labor care by midwives as detections of difficulties in the labor process. This study used a qualitative approach with in-depth interview techniques, focus group discussions and observations with midwives, head of PHC, and DHO officer as respondents. The results showed that the behavior of midwives in the use of partographs was still low. Lack of documentation regarding referral records. Motivation in using partographs is also low. Furthermore, there is a lack of supervision carried out by DHO Officers, professional organizations and leaders from each institution in health services. There is no direct monitoring of the evaluation of filling out the partograph sheet from the leaders. For reporting documentation, partograph sheets are made for archiving and claims for service payments. It is important that the DHO Officer improves monitoring and evaluation gradually and continuously to health care services. The Indonesian Midwives Association should supervise and provide guidance to each of its members.

Keywords: Utilization; partograph; midwives; labor complication

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## INTRODUCTION

Globally, the Maternal Mortality Ratio (MMR) has decreased about 38% in 2020-2017. However, the numbers of this death is unacceptably high. In 2017, approximately 295.000 women died during pregnancy and childbirth and 810 women died from preventable causes during this period. Up to 94% of all maternal deaths occurred in Low to Middle Income Countries (LMICs) including Sub-Saharan Africa and Southern Asia and most could have been prevented <sup>1</sup>. In Indonesia, the maternal mortality ratio in 2017 was about 177 per 100.000 live birth <sup>2</sup> and an estimated increase during Covid-19 pandemic.

Several studies show that some factors associated with maternal mortality are hemorrhage, infections, eclampsia, hypertensive disorder during pregnancy, and obstructed labor <sup>3,4</sup>. A thorough examination of the obstetrics and gynecological history revealed that issues frequently begin in the second to third trimester of pregnancy (due to antepartum hemorrhage), although the majority of deaths occur in the hours or days following birth. All caregivers should be reminded of the need for active labor management and the immediate postpartum period. Whether there are issues or not, the notion of necessary obstetrics care should be considered the gold standard. To prevent additional maternal fatalities, health care personnel in all primary health care institutions and traditional birth attendants should be reminded of the need for quick referrals <sup>5</sup>.

To prevent these obstetric problems, the World Health Organization (WHO) suggests using partograph for birth attendants, especially in low-resource settings. Partograph is a tool that acts as a first-warning system, assisting in early transfer decision-making and continuing monitoring of the impact of midwifery treatments. It's a low-cost visual and graphical description of maternal and fetal observations taken during the active stage of labor. The use of a partograph is advised for routine labor monitoring since it assists the health care practitioner in detecting sluggish progress in labor and implementing prompt and suitable treatments to avoid protracted labor and obstructed labor <sup>6</sup>.

Despite the fact that partograph is a basic and widely accessible instrument, the utilization of this tool is very low especially in African nations, including Ethiopia <sup>7</sup>. A study in Dumai City, Riau Province shows that village midwives who have non-standard competence causes non-compliance in the use of partographs <sup>8</sup>. The availability of a partograph sheet, knowledge and attitude of midwives, insufficient staff numbers, and inadequate training were all noted as factors in poor use of the partograph sheet by care providers. Thus, the aim of this study is to analyze the use of partographs in labor care by midwives as detections of difficulties in labor process.

## METHODS

This study used a qualitative approach with in-depth interview techniques, focus group discussions and observations that specifically can obtain in-depth information about knowledge, attitudes, motivation, facilities, infrastructure, peers, monitoring, Standard Operating Procedures (SOPs) and policies. The study was conducted in August-September 2017 in 3 Public Health Centers (PHC), Hospital, and 3 Independent Practice Midwives (IPMs) in Bandar Lampung.

The informants in the in-depth interview are 6 midwives who work and provide services at the PHC. While the key informants in this study consisted of 1 person from the District Health Officer (DHO), 1 person from a professional organization in midwifery profession namely IBI (Indonesian Midwives Association), 2 heads of PHCs, 3 coordinator midwives at PHCs, 2 midwives at Independent Practice Midwives. Also, there are 2 patients in Independent Practice Midwives from a total of 11 key informants. The informants in the focus group are 6 midwives who work and provide services in IPMs. Documentation of referral assessed in hospital.

## RESULT

The age of the main informants ranged from 21-24 years with Diploma III midwifery education background and the working period of 1-4 years. while the age of the key informants ranged from 21-53 years old with an educational background of SMP-S2 and a working period of 1-30 years. The research results show that:

### Partograph Utilization

Most of the 12 midwives as the main informants had the same statement about the target of using partographs, namely mothers who gave birth. Based on the results of field observations, it was found that 2 key informants were not using the partograph during the delivery process. On document observation, it was found that most of the midwives did not attach partograph sheets when making referrals. The informant's statement is as follows:

*"The partograph is used in labor mothers"*

*"On labor"*

*"Mother giving birth"*

*No partograph was made (Direct observation)*

Based on document observation at the midwifery room hospital to see the suitability of record and documentation referral cases from IPMs and PHCs. It is known that there are 19 referral cases from PHCs (consisting of first PHC as many as 7 referral cases, second PHC as many as 6 referral cases, and third PHC as many as 6 referral cases) and 81 referral cases from IPMs (consisting of first IPM there

are 43 referrals, second IPM there are 28 referrals and third IPM there are 10 referral cases) with documentation results. The difference in referral data for maternity cases between PHCs & IPMs data and hospital documents are first PHC as many as 2 cases, second PHC as many as 2 cases, third PHC as many as 2 cases, first PHC as many as 23 cases, second PHC as many as 20 cases and third PHC as many as 5 cases. The results of document observation can be seen as follows:

*"The number of cases at the PHCs is 19 cases with details 5 cases of postpartum hemorrhagic, 4 cases of preeclampsia, 2 cases of premature rupture of membrane and 8 cases of prolonged first stage"*

*"In IPMs there are 81 referrals with details 13 cases of postpartum hemorrhagic, 10 cases of premature rupture of membrane, 12 cases of retained placenta, 9 cases of preeclampsia, 7 cases of fibrosis, 18 cases of prolonged first stage and 12 cases of second stage of obstructed labor"*

*"There are no cases of death in maternity and there are no documents attached to the partograph sheet notes"*

### **Knowledge**

The main informant stated the definition of partograph as a tool in detecting labor complications. Meanwhile, 10 informants stated the definition of partograph as monitoring the progress of labor and detecting complications. As stated by the following informants:

*"As a tool to detect the course of labor"*

*"Monitoring the progress of labor and detection of complications"*

Most of the main informants had the same statement of the purpose of using partographs, namely 6 people stated the purpose of using partographs so as not to be late in referring if there were complications in childbirth, 4 people stated that if there were problems and complications in labor they could be handled immediately and act immediately and 2 people stated to reduce maternal and fetal mortality. As stated by the following informant:

*"So that it is not too late to refer if there are labor complications"*

*"To reduce maternal and fetal mortality"*

*"One way to detect the occurrence of complications in the labor process"*

### **Attitude**

Most of all informants have the same attitude statement that they must use partographs in childbirth but informants have different statements about the use of partographs, namely important, more important and very important, useful for detecting complications early, seeing progress and monitoring

problems and the course of labor early so that they know the progress of labor. The following informant statement:

*"To know the progress of labor and all midwives must use it"*  
*"Midwives should use a partograph because it helps monitor problems and complications during delivery"*  
*"Midwives are required to use a partograph because it is very important to detect complications in labor"*

### **Motivation**

Most of the main informants had the same statement about the motivation in using partographs, 6 people stated to help detect complications and risk factors in childbirth, 2 people stated that they monitored the course of labor, 3 people said they helped during delivery and were not late in referring and 1 person stated for the safety of the mother and fetus. The following is a statement from the informant:

*"To help at the time of delivery and not too late to refer if there are complications"*  
*"So that the mother can be handled immediately if there is a risk in childbirth"*  
*"In order to monitor the progress of labor"*

### **Facilitis**

Most of all key informants have the same statement regarding the availability of partograph sheets that partographs are always available. It can be seen from the following informants' statements:

*"Always available"*  
*"There is a person in charge to monitor when it runs out"*

Most of the key informants had the same statement regarding the procurement of facilities that the procurement of facilities (partograph sheets) was carried out by local agencies themselves. The following is the informant's statement:

*"Self-Purchase"*

### **Infrastructure**

Most of the key informants have the same statement that there is a separate room to fill out the partograph sheet. The following is a statement from the informant:

*"There is own room"*

Most of all the main informants have the same statement that the condition of the room is in good condition and well maintained, as evidenced by observations at the service area.

### Peers

Most of the main informants have the same statement regarding the relationship with colleagues that there is no problem with their relationship and keep reminding each other. The informant's statement is as follows:

*"There is no problem between colleagues and reminding each other at work"*

Most of the main informants had the same statement regarding the problem of division of tasks, namely 10 people stated that partographs were filled in after delivery because there were many activities and patients gave birth at the maternity room and 2 people stated that partographs were sometimes filled by colleagues/others after the delivery process. The informant's statement is as follows:

*"Many filling activities of partographs are carried out after the delivery process"*

*"Charging sometimes by peers"*

### Standard Operating Procedures

Most of the main informants had the same statement regarding the availability of SOPs in the use of partographs. 9 people stated that the SOPs were available in writing posted in the delivery room at the service center and 3 people stated in writing. In addition, the SOP by the team and leader and one informant stated that there was no SOP and according to the data obtained from the observations, it was found that only one showed the SOP in writing. The informant's statement is as follows:

*"There seems to be, made by the team at the puskesmas"*

*"In the delivery room"*

Most of all key informants have the same statement that SOPs are made by a separate/special team consisting of leaders and staff at the health services. The informant's statement is as follows:

*"There is a special team that makes the SOP"*

*"There is a team consisting of leaders and staff in making SOPs"*

### Supervision/monitoring

Most of the main informants stated the same statement regarding monitoring regarding the use of partographs. There was no specific evaluation and monitoring related to the results of using partographs, but monitoring was carried out in general from the DHO. The informant's statement is as follows:

*“Monitoring and evaluation in general, there is no monitoring and evaluation specifically in the implementation of partographs”*

*“There is no special monitoring on the use of partographs”*

*“Monitoring is carried out in general, for the use of partographs is no”*

Most of the main informants have the same statement that no one does monitoring, only from DHO. 2 people said it was done two months ago, 4 people said it was done every three months. And as the following informant statement:

*“Two months ago”*

*“Once every three months”*

*“If there is no supervision”*

Most of all key informants have the same statement regarding recording and reporting in the use of partographs, namely reports made as institutional archives, administration and documentation in attachments to claims for services and when making referrals. Based on field observations, it was found that there were documents as archive reports in the form of partograph sheets. However, there is no reference documentation for recording partograph sheets. In document observation at the hospital, there were no references attached to partograph notes. The informant's statement is as follows:

*“There is reporting for archives and service claims”*

*“Reports are made for archives and service claims as well as attachments when making referrals”*

*“There is reporting for archives and service claims”*

## **Policy**

All the main informants had the same statement about the policy in the use of partographs that every maternity patient who came must use or have a partograph made using one partograph sheet for one patient. The informant's statement is as follows:

*“Available Policy, with each one specific partograph for one patient”*

*“The policy is that patients who come in labor must use a partograph”*

Most of the main informants have the same statement that the person in charge of policy is the leader. As stated by the following informant:

*“Leader”*

Most of the main informants had the same statement regarding the application of the policy on the use of partographs, namely the application of the policy by filling out the partograph sheet in patients who came to give birth. As stated by the following informant

*"It has been implemented by filling out partograph sheets for every maternity mother who comes"*

## DISCUSSION

Based on the decision of the Minister of Health No. 369/MENKES/SK/III/2007 that one of the basic skills of midwives in the 4th competency is monitoring the progress of labor by using a partograph to monitor the progress of labor. If the midwife does not fill out the partograph completely, then there is no written record showing that the midwife has monitored the progress of labor and the condition of the mother and fetus that can be used for further information when making clinical decisions.<sup>9</sup>

A study in Ethiopia shows that obstetric care providers who were supervised were 3.21 times more likely than their peers to use partograph. The availability of well-designed and coordinated programs, as well as the level of mentoring and supportive supervision of obstetric care professionals, might all play a role in the usage of partograph. As a result, effective use of obstetric care providers' knowledge development through refresher training, including practical demonstration, supportive supervision, and on-site partograph audits by qualified supervisors, should be emphasized.<sup>10</sup>

The informants have good knowledge about the definition of objectives and the benefits of the partograph by giving the same statement and understanding as one of the indicators and tools for detecting complications in labor and to detect complications and see progress during problem delivery. So that it is not too late to refer and take immediate action and the benefits of partographs is to assist birth attendants in monitoring, evaluating and making clinical decisions. This is in accordance with the definition of the partograph, namely as a tool to monitor the progress of the stage of labor and information to make decisions by officers who assist childbirth. Routine use of partographs will ensure that mothers and fetuses receive safe and timely delivery care and can prevent complications that can threaten their life safety. Furthermore, obstetric care providers with a strong understanding of partograph were 2.5 times more likely to utilize it.<sup>10</sup>

In the 2012 APN, birth attendants must be able to monitor, evaluate and make clinical decisions, whether delivery with or without complications or without disease can be done with a partograph. As for the use of partographs, if the midwife does not use partographs in the delivery process, there are other ways to perform early detection of labor complications, namely by recommending simple laboratory examinations at available health services, using and filling out partographs, taking patient history, seeing the history of previous deliveries and MCH books and perform the initial screening.

Another study shows that having a positive attitude toward the use of partograph may result from having understanding of partograph and how it affects the use of partograph. <sup>11</sup>

The motivational factor is a person's attitude towards work situations in his or her organizational environment. Those who have a positive attitude towards their work situation will show high work motivation and vice versa if they have a negative attitude towards their work situation will show low work motivation. The work situation in question includes work relations, work facilities, work climate, policies and leadership. The existence of support from the leaders can make the work motivation of subordinates even better. Changes for the better will come when there is stimulation from outside factors, namely the social environment. In order superior support to be more effective, it is necessary to provide rewards and punishments which are expected to be a motivation for midwives in using partographs and supported by policies to implement partograph use behavior in all deliveries assisted by midwives.

The availability of adequate advice and supporting infrastructure is very important in increasing the scope of delivery assistance, facilities for delivery assistance activities including the availability of vehicles for referral, necessary medicines and completeness of delivery equipment (including partograph sheets). One of the causes of a person having a certain behavior is the availability of facilities and conditions that can make individuals able to provide health services properly influenced by resources both from the provider and recipient of services as well as facilities and infrastructure.

As the theory of Green (1991), which states that peer support is a factor that strengthens a person's behavior. Health behavior is a function of social support from the surrounding community, in this case supervisors and colleagues.

The main purpose of its use is to record observations and progress of labor by assessing cervical dilatation by internal examination. In addition, to detect whether the labor process is running normally so that it can detect early any possibility of prolonged labor. The partograph is also used to monitor the progress of labor and assist health workers.

The use of pathographs by midwives in health care settings should always be monitored by the coordinating midwife or authorized leader. The purpose of using a partograph is to determine the delivery process, to detect complications in labor and to reduce MMR. The main objective of supervising the results of partograph recording is to ensure that the various activities and items recorded on the partograph sheet are properly and accurately carried out, in accordance with existing service operational standards so that the goals of safe delivery and appropriate action can be achieved.

To promote the routine use of this partograph it is not enough to ensure its implementation; there are other potentials for compliance using partographs such as training, supervision, and user compliance need to be considered. Using the partograph can lead to an increase in the quality of care, if the problem

of overwork, staff shortages, targeted training and supervision, so that staff find a conducive work environment to use the partograph.<sup>12</sup>

### CONCLUSION

The health officer should supervise and monitor SOPs and policies, in the application of the use of partographs in health care services (PHC and IPM). So that it can improve the quality of health services, especially for maternity related to reducing maternal mortality, reducing the number of risk cases and complications. The application of the SOP policy regarding the use of partographs in health services should be made and posted in each delivery room. There is good documentation regarding the use of partograph sheets.

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