REVIEW ARTICLE

Partograph as a tool for team work management of spontaneous labor

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Abstract

It is presently being debated whether the partograph is a useful tool for labor supervision and, if useful, where should the action line be located between 2, 3 or 4 h to improve the fetomaternal outcome. This review adduces facts to show that this debate is because there is a poor understanding of the essence and purpose of the partograph. The partograph is a form on which labor observations are recorded to provide an overview of labor, aiming to alert midwives and obstetricians to deviations in labor progress as well as maternal and fetal wellbeing. When deviations in labor progress are recognized early and corrected, complications are prevented and normal labor and delivery can occur. The earliest deviation in labor progress is slow labor progress, for which the partograph alert line is a prompt for early recognition by the midwives and other non-obstetric staff. The intervention to correct the deviation is at the action line by the staff with the requisite skill. In the circumstance in which the partogram was produced, the action to correct the deviation in labor progress was after 4 h, represented by the 4-h action line, but other workers have attempted with 2- and 3-h action lines and have had equally good results. However, in all these, the action at the action line was instituted by the staff with the appropriate skill, irrespective of whether the action line was 2, 3 or 4 h. As long as the action at the action line is by the staff with the requisite training, the deviation in labor progress will be corrected by either medical or surgical means irrespective of the action line location at 2, 3 or 4 h. In conclusion, the essence and purpose of the partograph is to ensure that labor progress is monitored to identify slow labor by the alert line but appropriate treatment must begin at the action line by the staff with the cognate skill, whether at 2, 3 or 4 h. The appropriateness of the intervention at the action line is the determinant of the outcome and not the delay.

Key words: Partograph, spontaneous labour, management

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Introduction

The partogram is a printed chart on which observations in labor are recorded in a graphic format to provide an overview of labor, aiming to alert midwives and obstetricians to deviation in labor progress as well as maternal or fetal wellbeing.[1] The observations consist of fetal vital signs, maternal vital signs, features of labor and therapeutics undertaken in the course of the labor. The chart often contains an alert line (a signal of alert to deviations in labor progress) and an action line, which is the mandatory time to commence actions to correct the deviations in labor progress.

An alert line is a visual representation of a cervical os dilatation rate of 1 cm per hour labor progress sustained throughout the active phase, and is the slowest rate of active phase labor progress for normal labor outcome. This is so because normal labor progress in active phase is defined as a minimum cervical os dilatation rate of 1 cm per hour

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and therefore a labor progress less than 1 cm per hour is diagnosed as slow labor progress. In clinical practice, when labor observations are elicited as baseline at admission in active phase, and at subsequent assessment for progress, and then plotted on the partogram, any cervical os dilatation rate of less than 1 cm per hour will cross the alert line, which will visually show this as slow labor progress.[2] Thus, essentially, the alert line is a visual prompt to aid recognition of slow labor progress by the midwives and obstetricians and others who provide care for women in labor.

Slow labor progress was first identified by O'Driscoll *et al.*[3] as the earliest anomaly of first-stage active phase labor that should be treated promptly to avoid its further progression to other first-stage active phase labor complications like prolonged labor and cephalopelvic disproportion (CPD), etc. in a labor management regimen that was called "active management of labor" (AML). Before O'Driscoll enunciated the active management of labor, it was not known that prolonged labor was preventable by identifying slow labor progress and instituting treatment to correct it. The principle in AML is for immediate treatment of the slow labor progress with oxytocin augmentation to avoid complications; hence, the hourly vaginal examination (VE) to allow very early pick up of the slow progress, almost as soon as it is occurring. Delaying treatment of slow labor progress for any time was not acceptable in the practice of AML, because it was viewed that such delay will not any longer prevent prolonged labor and also result in irreversible fetomaternal damage.[4]

An action line is placed a number of hours separating it from the alert line. It is located to the right and parallel to the alert line to act as a visual prompt as to when to commence effective treatment of the slow labor progress after some delay. The number of hours separating the alert and action line (which may be 2 or 4 h) is the consensus as to how many hours the slow progress is allowed before initiating treatment. Thus, the action line is the visual representation of a cervical os dilatation rate of less than 1 cm per hour in active phase labor (slow labor progress) sustained for a certain number of hours, which may range from 1 to 4 h before definitive action is taken to halt the continued slow labor progress.[5]

The issue of the action line arose from the consideration that a cervical os dilatation rate of less than 1 cm per hour in active phase for a couple of hours ranging up to 4 h was still compatible with normal labor outcome for the mother and baby.[6] Therefore, by this action line system, a delay of treatment for slow labor progress (cervical os dilatation rate of less than 1 cm per hour) for a couple of hours ranging 1–4 h is deemed to be compatible with normal labor outcome and is a way to avoid unnecessary treatment of slow labor progress for some women who may not progress at 1 cm per hour uniformly throughout the active phase but still end up with normal labor outcome.[5] This was against the belief in AML as enunciated by O'Driscoll, which did not accept any delayed treatment once slow labor progress was identified.[7,8]

Thus, the debate was started as to which had the better outcome for mother and baby when slow labor was treated immediately as by O'Driscoll[3] or following some delay like 4 h as by Phillpott who produced the partograph as a guide tool to treat slow labor progress.[5] The good outcome with the Phillpott studies, which involved the partograph, was attributed to the delay before the start of treatment at the action line 4 h after slow labor had occurred. Other studies attempted with delays of 2 and 3 h and found equally good results. The issue then got extended to which delay produces the much better fetomaternal outcome between 2, 3 or 4 h delay before instituting oxytocin augmentation. Several randomized studies were conducted to resolve this and as well to assess whether the partograph was useful for labor care. Some reports that reviewed the outcome of randomized studies of delays of 2 versus 3 h or 2 versus 4 h either found conflicting results or found no difference in outcome for mother and baby with 2 h compared with 3 h or 2 h compared with 4 h delay, especially in the developed countries.[1,7] Recently, a review that extensively reviewed the outcome of partograph use in the developed countries raised the issue of whether or not the partograph was useful for labor care in these parts of the world since most studies showed no difference between use and non-use of the partograph and, if useful, which action line placement, either 2, 3 or 4 h, to adopt for all health care settings both in the developed and in the developing countries.[1]

When viewed from the above debate, it is clear that the fact of the case had been missed completely. In the beginning, management of labor with a structured protocol (AML) was first established by O'Driscoll, but he emphasized involvement of senior obstetric staff from start of labor to identify and promptly treat slow labor progress. The fact here was diagnosis of slow labor through early involvement of senior obstetric staff to avoid errors. Phillpott produced the partograph to implement a structured labor protocol for AML in which senior obstetric staff were involved in the treatment of the slow labor progress 4 h after it had occurred because he lacked the staff with which to immediately treat slow progress when it was diagnosed like O'Driscoll. However, the fact again is that Phillpott could assist non-obstetric staff at the peripheral unit to confidently diagnose slow labor with the alert line on the partograph without the need for senior obstetric staff who were in a location that was 4 h away. It is the senior obstetric staff who conducted the treatment at the action line 4 h later. This inadvertent delay appears to have been focused as the reason for the good outcome of the Phillpott studies in several studies. The aspect of senior obstetric staff

treating the slow labor progress in both studies by O'Driscoll and Phillpott, which is an important factor accounting for the good outcome, has been completely de-emphasized or ignored completely. This review sought to identify the reason for the good outcome for mother and baby when the partograph is used for labor supervision by reference to the original work by O'Driscoll and Phillpott, relating this to the several studies on the partograph and, especially, randomized studies on different action line placement on the partograph. The aim of this review was to establish the purpose of the partograph for labor care and assess the place of the action line placement, whether at 2, 3 or 4 h, in the consideration of the efficacy of the partograph for good fetomaternal outcome. This will form the basis for a recommendation of how best to assess the efficacy and effectiveness of the partograph for labor management worldwide.

Search Strategy for This Review

We searched the Medline, Pubmed, journal articles, WHO publications and reputable textbooks using publications from 1969 to 2010. We searched the Cochrane pregnancy and childbirth group's trial register March 2008 and central Cochrane library issue 3, 2007 and issue 1, 2009. Essentially, the selection included all publications that explained the origin and need for the partograph and randomized controlled studies assessing the partograph with different action lines at either 2, 3 or 4 h. The purpose was to study the original studies by O'Driscoll on the active management of labor (AML), the original studies by Phillpott on the establishment of the partograph and its use to achievement of AML and the WHO recommendation of the partograph based on Phillpott's principles in a bide to identify the purpose of the partograph. Studies that laid emphasis on the action line placement in assessing the efficacy of the partograph were reviewed against the purpose of the partograph to decide on what should be the basis for assessing the efficacy of the partograph.

Result of the Research

Our search produced the following results:

(a) Manual search of journal articles, WHO publications and books: We identified 18 studies that were reviewed. These included four of the original studies by O'Driscoll,[3,4,8,9] which showed the principles and practice of AML that emphasized instant treatment of slow progress without any delay, three original studies by Phillpott and Castle,[2,5,10] which showed the evolution and purpose of the partograph with the alert and action lines and how it was used for active management of labor. One study[7] confirmed the good outcome from immediate treatment of slow progress with oxytocin augmentation in a trial study. There were five studies[11-15] that emphasized the partograph as an effective team work tool for labor management to prevent prolonged labor and its sequelae but using action line either at 4 h;[11,12,15] or at 2 h[13] and Orhue[14] from the alert line. Two other studies[16,17] compared labor supervision with the partograph and without the partograph, and concluded that the partograph use made no difference to the labor outcome. Obviously, in these studies, the partograph was only a mere record because there was no protocol to guide usage. Another two studies by[18] Lavender *et al.*[19] showed randomized studies with various action line placement to assess efficacy of the partograph action line placement either at 2 h versus 3 h[18] or 2 h versus 4 h,[19] but there were conflicting results. The WHO publication of 1994[6] confirmed that treatment of slow labor with the action line at 4 h still had good outcome following the partograph protocol, which emphasized appropriately trained staff to manage slow progress.

(b) The search from Cochraine Library Pubmed and Medline identified a further 10 studies. Five studies showed the WHO partograph with the alert and action lines 4 h apart as being used mainly at the tertiary centers, with very low utilization at the primary and secondary centers[20-24] and, even at the tertiary center, there were incomplete and poor recording of findings on the partograph and there was the lack of a preset management protocol.[23] Three studies evaluated the WHO partograph with action line at 4 h from the alert line as a good tool for labor management and emphasized the need for a management protocol and training on the proper use.[25-27] One randomized study[28] compared labor management with and without partograph with a conclusion that there was no difference in outcome on this study, but there was no protocol to guide action on the use of the partograph. This study also confirms that in the developed economy with adequate skilled provider who are all guided by professional regulation, partograph use may not make a difference in the labor outcome. Finally, one study[19] is a review of several randomized trials of action line placement at 2, 3 and 4 h in which the efficacy of the partograph was assessed with various action line placement aiming to emerge with the best, but the results were all inconclusive and recommended further trial evidence to establish the efficacy of the partograph.

On the whole, 29 studies were reviewed for this work and only one study[27] emphasized the fact that the success of the partograph for labor care is the team work and in-built regulation for referral of labor anomalies to be managed by the appropriately trained staff. The discussions of the information or findings from these studies are serialized under subheadings for ease of understanding and end up with a conclusion and some recommendation.

Discussion

Origin of the action line on the partogram

Historically, the partogram alert and action lines originated from the studies of Phillpott and Castle.[2] They designed the partogram as a tool to implement the AML as a strategy to prevent prolonged labor, the details of which were a sharp contrast to AML as enunciated by O'Driscoll.[3] At the time in the late `60s and early `70s, the biggest challenge in obstetric practice was prolonged labor then presumed generally to be caused by caphalopelvic disproportion (CPD), especially in the primigravida. In the wake of this general belief, AML was enunciated by O'Driscoll as a strategy to prevent prolonged labor in which it was believed that prolonged labor was more commonly caused by poor uterine contraction and not CPD, and also that poor uterine contraction was the most common cause of slow labor progress, the neglect of which caused the prolonged labor. Therefore, ideal care in AML involved, in principle, the anticipation of progress at the cervical os dilatation rate of 1 cm per hour in active phase as the normal standard progress. In order to achieve this anticipation of 1 cm per hour progress, AML practice entails frequent vagina examinations (VE) at hourly intervals to assess and identify in early active phase labor, dilatation rate of less than 1 cm per hour for immediate treatment with oxytocin augmentation to restore the dilatation rate back to 1 cm per hour. This strategy of labor care (AML) substantially reduced prolonged labor and its sequelae from the series of publications and obstetric practice worldwide was geared for AML as enunciated by O'Driscoll *et al.* as the routine to prevent prolonged labor.[9]

Phillpott and Castle could not fully implement AML by the O'Driscoll protocol, which required staff with obstetric skills and a tertiary level labor ward set up to perform the hourly VE for early pick up of the slow progress and then institute the oxytocin augmentation. All he had in Harare (then Rhodesia) were few obstetric staff at the central unit in Harare and several midwives and medical officers without obstetric knowledge who manned the peripheral units, where the bulk of the deliveries occurred and from where most of the prolonged labor cases originated. The prolonged labor cases often originated from these peripheral units largely because the staff could not easily recognize the slow labor progress, which always occurred first, before the prolonged labor. Faced with these constraints, Phillpott had to design a care for labor to prevent prolonged labor and other labor complications, which involved the midwives and other medical officers who conducted deliveries at the peripheral units, such that they easily recognized slow labor progress for early transfer to the central unit in Harare for effective management. Phillpott then produced the partogram with the composite features of all intrapartum details so the midwives would document all labor observations efficiently and follow the same format.[10] Phillpott further incorporated the alert line, which is a cervical os dilatation rate of 1 cm per hour in active phase to visually display the normal labor progress that will result in normal labor outcome so that the midwives and non-obstetric medical staff will easily recognize the cervical os dilatation rate of 1 cm per hour. When charting progress on the partogram, a woman with slower than 1 cm per hour labor progress would cross the alert line as the prompt for the midwives to recognize the slow labor progress and arrange transfer at this early stage. For the women with progress not crossing the alert line, these were cases of normal progress and therefore delivery was at the peripheral unit without transfer. Hence, the alert line assisted the midwives and other non-obstetric staff to recognize and transfer slow labor progress early enough for appropriate obstetric care.[2]

Phillpott also constructed the action line that was drawn arbitrarily 4 h after the alert line, marking the duration it takes to arrive at the central unit from the peripheral units. Treatment of the slow labor progress with procedures like oxytocin augmentation was begun after these 4 h.[5] The results of this labor management by Phillpott were comparable to those of O'Driscoll with respect to the reduction of prolonged labor, etc., although not to the extent of prolonged labor rate reduction by O'Driscoll, who advocated immediate augmentation. This revealed, for the first time, that normal labor outcome could still be achieved in some women whose slow labor progress was delayed for 4 h before the oxytocin augmentation treatment. The location of the action line was arbitrary and not derived from any study, and was only devised as a prompt to mark the 4 h of sustained slow progress; therefore, the obstetrician will take medical or surgical action based on the assessed cause. This action line system was however the first time; slow labor was being treated after such a long delay like 4 h, which delay, as by the O'Driscoll protocol for AML, would have been conceived as going to cause irreversible fetal and maternal damage.

Partogram as a tool for team work approach for spontaneous labor care

This recap of the evolutionary history of the partogram is to emphasize that the alert and action lines were designed to assist the various cadres of staff involved in labor management and recognize abnormal labor course for appropriate corrective measures by the appropriately trained staff for the observed anomaly. The midwives manage all labor at the periphery or central unit as their primary role when the labor progress remain normal, but refer women whose labor progress cross the alert line for obstetric management of the slow labor progress. The action line is a prompt for intervention by the obstetric team to solve the problem of the delayed slow progress, which intervention may involve in some cases, the more senior obstetric staff

where earlier intervention by the junior obstetric staff has not corrected the slow progress. Hence, the alert line and action line is a design to allow labor to be managed by the appropriate staff at the right time to ensure efficient correction of the anomalies so that prolonged labor is completely prevented and then normal delivery outcome will occur. The reason why neglected labor complications occur is because of lack of the knowledge of when the staff supervising the labor should call for assistance or refer such cases, particularly in the early part of the labor course.[11]

This is why the partograph alert and action lines are more appropriately a tool for manpower deployment for labor care so each staff cadre (midwife and obstetrician) will take responsibility for management of what each staff has the appropriate skill to handle and not hold on to the case until complications occur. By the inbuilt referral mechanism in partography, the action at the action line will be instituted by the staff with the requisite skill and training who may be different from the staff who may have noted the slow labor progress as a result of the prompt of the alert line. As long as the action at the action line is by the staff with the right skill, the slow progress will be corrected. It is the skill and knowledge to sustain the intervention when it is commenced at the action line that will ensure appropriate correction of the anomaly and not the extent of the delay before the intervention such as the location of the action line either at 2, 3 or 4 h. It is because the alert and action lines ensure that the right staff cadre handles the anomalies in labor course such as at the action line that the results of the studies on the use of the partogram alert and action lines produce more outstanding results in the developing countries where, otherwise (that is without the aid of the alert and action lines on the partograph), the staff in the peripheral units who lack the appropriate skill will hold on to the case without referring until complications occur.[12]

The issue is that in the developed countries, a maternal health care system exists, where midwives and obstetricians know and play their appropriate role in the profession. Without the aid or prompt of the alert or action lines, on the partogram in the developed countries, labor would be well managed such that the midwives know when to seek obstetric help and the obstetric team in the various hierarchies between junior, senior resident and consultant know when the skill to correct an anomaly is outside their competence and hence also seek help.[29] This will not routinely be the case in the developing countries with a weak maternal health system and lack of appropriate professional guideline. Hence, midwives and others without the obstetric skill may not recognize such labor anomalies like slow labor progress unless visually marked by the alert line. Also, the junior and senior obstetric resident may not easily recognize anomalies of delayed progress for which the skill to manage such anomaly is beyond them for the appropriate professional cadre. It is for such that the action line is an aid to recognize such anomalies so that more knowledgeable help can be sought from more senior people even at the level of the obstetric team. The usefulness of the partogram is in assisting each staff cadre to recognize labor course anomalies such that midwives manage normal labor course to delivery for cases not crossing the alert line, but refer others who cross the alert line to the obstetric staff either in the same labor ward or a different center. The obstetric staff has the action line to prompt when the delayed progress has been significant to deserve treatment either by the junior obstetric staff for minor labor anomalies or more senior obstetric team member when the anomaly is more serious, such as for parturients staying long in active phase labor.

Assessing the Efficacy of the Partograph for Labor Management

Studies of the partogram alert and action lines have not usually evaluated it as a tool for appropriate division of care among the midwives and obstetricians who provide labor care to assess whether the staff manage labor anomalies highlighted by these lines according to their appropriate professional skill so as to fully correct the anomaly to ensure safe motherhood. Rather, studies have evaluated the partogram alert and action lines on the basis of intervention for the treatment of the slow progress at various hours of delay, like 2, 3 or 4 h, with conflicting reports even from randomized controlled trials. Some studies suggest 2[13,14] or 3[18] or 4 h[15,19] as contributing to the better outcome for mother and baby but relying on caesarean section rate and perinatal outcome. Other studies found no differences in spite of the delay of 2 or 4 h with respect to the caesarean section rate and perinatal outcome as outcome measures especially from the developed countries.[16,17] In practical reality, only the alert line was derived from studies by Phillpott and Castle.[2] The action line, whether at 2, 3 or 4 h, was never derived from any prior studies but rather they were all arbitrarily chosen as a number of specific hours from the alert line. The purpose of these lines is to ensure that the right staff is deployed to take charge when labor progress is normal (midwife) when progress has not crossed the alert line or when labor anomalies occur (obstetric staff) shown by progress crossing the action line. The outcome of the labor supervised with the aid of the partogram is thus the result of this teamwork involving the midwives and obstetric team according to their requisite skill to manage normal or abnormal labor course irrespective of the partogram action line placement.

The approach to assessing the efficacy of the partograph is, for studies to be designed, to assess how effectively the partogram alert and action lines assist with manpower deployment of staff for labor care in a tertiary level labor ward (with midwives and obstetric staff with varying skill

and knowledge working as a team) such that the midwife manages the normal cases with normal progress till delivery while the obstetric staff manage the case with abnormal progress generally but with the more senior obstetric staff being involved through an intraprofessional referral, with the more complicated labor cases for efficient labor care. In this consideration, the partogram as a tool for labor management should be assessed to see if slow labor progress and subsequent labor anomalies where handled by midwives or as expected from the principles of partography, referred to the obstetric team. In the same vein, the parturient staying longer in labor ward with more active phase complications should have their partograph assessed to see whether their care involved the more senior obstetric staff with the cognate skill to handle such cases or involved only the junior obstetric or, even worse, midwifery staff.

This is the best way to assess the efficacy of the partograph as a tool for teamwork approach to the management of spontaneous labor. It is the teamwork approach to spontaneous labor care in which action at the action line is only by the staff with the requisite training and skill that is responsible for the good outcome for mother and baby and not the partogram design reflecting the action line location at either 2, 3 or 4 h from the alert line. Such an exercise will assess the partogram as a tool for teamwork by the midwives, the junior and senior obstetric staff for the management of labor for good fetomaternal outcome. The good fetomaternal outcome when the partogram is used for labor care is not related to the delays before correcting the labor deviations but to appropriate actions to correct the deviations in labor progress by the appropriate staff with the requisite skills.

Summary

This review has provided a broad based explanatory definition of the partograph and the origin and purpose of the novel idea of the alert and action lines relying on the original studies firstly by O'Driscoll and secondly by Phillpott and Castle who provided an easier way to implement the O'Driscoll concept for labor management. While O'Driscoll's concept was difficult even to fully implement in several tertiary level care, labor wards, Phillpott's version with the partograph was easy to implement in all health care settings; hence, the WHO adopted the partograph and recommended the same for worldwide use for labor management.

The main issue is that O'Driscoll emphasized the need for senior obstetric staff (care providers with vast obstetric skill) to be involved with intense and aggressive management of labor using a structural protocol (AML) from the start of labor so that slow labor progress (failure to dilate at the rate of 1 cm per hour) is identified early and immediately treated to forestall prolonged labor and its sequelae. Phillpott and Castle with the partograph emphasized the need for senior obstetric staff to be involved with aggressive management (AML) after slow labor progress had occurred for over 4 h, but had equally good results like O'Driscoll for fetomaternal outcome. The studies by O'Driscoll and Phillpott relied on identification of slow labor progress, which, by O'Driscoll, was through hourly VE by senior obstetric staff but in the Phillpott studies, this was through less-frequent VE and, at times, by non-obstetric staff who are guarded by the alert line on the partograph. Similarly, both studies relied solely on senior obstetric staff (staff with appropriate training and skill) treating the slow labor progress to arrive at the good fetomaternal outcome. The fact that the 4-h delay (represented by the action line on the partograph) notwithstanding, Phillpott still had comparatively good fetomaternal outcome, which meant that the delay before instituting treatment for slow labor progress was irrelevant in the equation as long as the slow labor progress treatment was by the appropriately trained staff. Therefore, studies assessing the effectiveness of the partograph should emphasize that staff with the requisite skill institute the treatment for slow labor progress, particularly when the action line has been crossed, because this is the determinant of good outcome for mother and baby and not whatever was the delay before initiating the appropriate treatment for the slow labor progress. Several previous studies on the partograph had missed this point and vied on to the considerations of the relevance of delayed treatment at 2, 3 or 4 h as the determinant of good outcome for mother and baby.

Conclusion

The partograph is a chart on which observations in labor are recorded to alert midwives and obstetricians to recognition of slow labor progress (as the earliest deviation of labor progress) as well as maternal and fetal wellbeing. Appropriate treatment of slow labor progress is the strategy to prevent prolonged labor and its sequelae and attainment of good outcome for mother and baby. The partograph is a tool that ensures that treatment of the slow labor progress must commence at the action line (which routinely is after 4 h of delay on the WHO partograph) and often by an appropriately skilled staff. Other staff (obstetric or non-obstetric) may have been involved in the labor management at the earliest period before the action line and guided to recognize the slow labor progress initially by the alert line. However, at the action line, the staff conducting the treatment must have the experience for managing such a level of delayed progress. This is how the partograph is a tool for teamwork. This approach of ensuring that an appropriately skilled staff conducts treatment at the action line is the same whether the action line is located at 2, 3 or 4 h from the alert line. Hence, the outcome is determined

by the appropriateness of the action, which is a reflection of the skill of the staff irrespective of whether or not there were delays of 2, 3 or 4 h before the start of the action. Therefore, assessing the efficacy of the partograph for good fetomaternal outcome should emphasize that staff with the requisite training and skill institute treatment at the action line at whatever separation in a teamwork with other staff. In conclusion, when the principles and modus operandi of the partograph is very well understood, it will be easily appreciated that the partograph is a tool for team work management of spontaneous labor and therefore is a useful and desirable tool for labor care worldwide.

Recommendation

The partograph is a structural programme for the management of active phase labor and must never be used without a protocol, which must entail at least the following: Regular assessment of fetomaternal vital signs, uterine contractions and descent of presenting part at least every hourly and recorded. A VE is performed at 4-hourly intervals or earlier as deemed appropriate and recorded, aiming to identify slow progress, which is diagnosed when plotting cervical os dilatation across the alert line. When plotting progress across the alert line in a primary health center where there is no staff with obstetric skill of how to conduct oxytocin augmentation or a caesarean delivery, the woman should be transferred or some assistance sought immediately. When slow progress occurs at a secondary or tertiary center, the obstetric staff should be alerted to take charge from then on to exclude the common causes of slow progress, like intact membranes or poor hydration. However, when in spite of whatever may have been done, the progress gets to the action line whether at 2, 3 or 4 h from the alert line, the more senior obstetric staff must now take over treatment of the slow labor at this stage so as to identify and appropriately treat causes of slow labor progress at the action line, like CPD, uterine merta or cervical dystocia and therefore ensure a good outcome.

In a secondary or tertiary center, the protocol must define who will take care of labor when the alert line and action line is crossed and what action is to be taken to correct the slow progress. Always, the more senior obstetric staff must be the staff to conduct the intervention when the action line is crossed because it is the knowledge of what to do at the action line that is the determinant of the outcome. Hence, assessment of the efficacy and effectiveness of the partograph must focus on whether the appropriate staff was involved and whether or not the appropriate action was taken when progress is at the alert line and, particularly, the action line either of 2, 3 or 4 h delay. For instance, the appropriate action at the action line when the slow labor progress is due to uterine inertia is oxytocin augmentation (only when a knowledgeable staff has excluded CPD and cervical dystocia) so as to ensure good outcome for mother and baby. Similarly, the appropriate action when slow progress is due to CPD or cervical dystocia is a caeseraen delivery for good fetomaternal outcome and a mistaken diagnosis and use of oxytocin augmentation in this instant will result in poor fetomaternal outcome. The outcome will essentially remain the same whether the action line were at 2, 3 or 4 h from the alert line as long as the action was by a knowledgeable and appropriately experienced skilled provider conducting the action.

The low use of the partograph for labor management in the developing countries may be related to the poor knowledge of how to use the partograph for active phase labor management.[20-24] There must be a preset protocol of which procedure and interventions when progress is normal or when marked by variations such as at the alert line and action line to guide decision making.[25,26] It is because of the same poor knowledge of how to use the partograph that even skilled providers feel that completing the partograph is an additional time-consuming task and a constraint to their autonomy in the supervision of labor.[27] This is untrue. Firstly, there are no observations recorded on the partograph that any skilled provider will not elicit when the partograph is not been used. The partograph makes the recording of labor observations much easier by providing the format but in a structural graphic spread for easy observations and decision making, particularly with seeking help for managing labor complications.

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