

**ORIGINAL RESEARCH**

# The Impact of Implementing the World Health Organization Labor Care Guide on Obstetric Outcomes in a Tertiary Care Centre

<sup>1</sup>Dr. Disha Ajila, <sup>2</sup>Dr. Kavya SV, <sup>3</sup>Dr. Adithiya Krishnakumar

<sup>1</sup>Assistant Professor, <sup>2</sup>Postgraduate, Department of Obstetrics and Gynaecology, AJ Institute of Medical Sciences and Research Centre, NH66 Kuntikana, Mangalore, Karnataka, India

<sup>3</sup>Undergraduate, AJ Institute of Medical Sciences and Research Centre, NH66 Kuntikana, Mangalore, Karnataka, India

**Corresponding author**

Dr. Kavya SV

Postgraduate, Department of Obstetrics and Gynaecology, AJ Institute of Medical Sciences and Research Centre, NH66 Kuntikana, Mangalore, Karnataka, India

Email: [svkavya96@gmail.com](mailto:svkavya96@gmail.com)

Received: 11 March, 2024

Accepted: 04 April, 2024

**ABSTRACT**

**Objective** – To document the progression of the labor and monitor the well-being of the mother and foetus using world health organisation labour care guide and the old modified world health organisation partograph and to decide which of the two partographs helps to provide better improvement in the quality of the labour. The objective is to rapidly detect and resolve any emergent labor difficulties and take appropriate measures if any abnormal observations are detected. The present study used an observational research design. A comparative analysis of the World Health Organization's Labour Care Guide and its previous modified version. The application of partograph is implemented on patients who have been brought to the labor room at the division of Obstetrics & Gynaecology AJIMS, Mangalore over a duration of three months, with the purpose of analysing the outcomes of the deliveries. **Result**- The rate of primary caesarean delivery has been limited at our hospital by 1.5% using world health organisation labour care guide. The p values of the study stands 0.87 consequently the difference between the two groups is not statistically noteworthy. **Conclusion**– The world health organisation labour care guide is an effective labour surveillance instrument that will provide a complete description of the maternal and the foetal status and has been beneficial in minimizing the incidence of initial caesarean delivery by gradually permitting the labour to continue.

**Keywords:** Labour care, World Health Organization, Obstetric outcomes, Tertiary care centre, Maternal health, Caesarean sections, Active labor phase, Apgar score, Maternal complications, Randomized controlled trial

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution- Non Commercial-Share Alike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

**INTRODUCTION**

The partograph, a labor monitoring equipment, has been widely utilized by proficient medical practitioners for over four decades to deliver care during the process of birthing. The World Health Organisation (WHO) has just commenced the creation of a "next generation partograph" referred to as the WHO Labour Care Guide (LCG).(1)

The primary objective of the WHO labor care guide 2020 is to ensure the provision of excellent quality, based on research, compassionate care throughout the process of labor and childbirth, regardless of the healthcare environment or degree. More than 33% of maternal deaths, 50% of stillbirths, and complications

during childbirth contribute to 25% of infant mortality. (2)

Tracking of labor and delivery, early detection of the need for treatment, and complications are essential to avoiding a poor pregnancy outcome.

Raising the standard of the care has been found to have the greatest influence during the time of birth. Approach to lower the number of stillbirths and fatalities of mothers and newborns in comparison with the methods used in prenatal or postnatal care. (2)

The Labor Care Guide was developed with the purpose of enabling healthcare practitioners to monitor the well-being of both mothers and infants during the process of labor. This is achieved through

regular assessments aimed at identifying any deviations from the established standard.

The objective is to promote collective decision-making, facilitating the provision of care and making choices that is based around women and healthcare professionals. (2)

The purpose of the Labor Care Guide is to function as a resource that ensures the provision of excellent care, with an emphasis on well-being, minimizing unnecessary measures and delivering suitable medical support. (2)

## MATERIALS AND METHODS

166 pregnant women who were admitted to the labor room at the A.J Institute of Medical Sciences and Research Centre in Mangaluru, Karnataka's Obstetrics and Gynaecology department participated in this observational study.

The study obtained approval from the Institutional Ethics Committee of A.J Institute of Medical Sciences & Research Centre, under the registration number EC/NEW/INST/2020/741. Enrolment was conducted upon admission in accordance with predetermined eligibility and exclusion standards, following the provision of informed permission.

### Inclusion Criteria

- Patients admitted to labour room in labour.

### Exclusion Criteria

- Patients with previous 2 caesarean section in labour.
- Patients with breech presentation in labour.
- Patients with bad obstetric history.
- Patients with multiple gestation in labour.

### The patients were divided into 2 groups:

In study group A, the labor progress was monitored using the WHO labor care guide. The research group's active phase of labor began at a cervical dilatation of 5 cm. Maternofoetal surveillance was carried out in accordance with the guidelines provided in the labor care guide.

The WHO modified partograph was applied to the control group B.

Active labor began in the control group at a cervical dilation of 4 cm. Under the study group A cervical dilation within at least 5 cm was regarded to suggest a protracted or arrest of labor. Ruptured membranes despite significant contractions, but there was little to no cervical change, or  $\geq 6$  hours of oxytocin therapy at the highest dose inadequate contractions, respectively.

In the control group, despite receiving oxytocin at the maximum allowable dosage, labor exhibited features of prolonged or arrested progression. These features included inadequate or absent advancement in cervical dilation and insufficient descent of the foetal head during the active phase of labor, defined as dilation of  $\geq 4$  centimetres. Notably, labor was considered prolonged or arrested if such conditions

persisted for at least four hours with appropriate uterine contractions or six hours with inadequate contractions, despite the administration of oxytocin.

### Statistical analysis

Data was entered in MS Excel 2019 MSO (version 2308 Build 16.0.16731.20182) 64-bit and evaluated using descriptive statistics.

### Outcome

It was observed that out of the total number of 166 patients in the study, 10 were excluded from the study, hence the total number of participants were 156 pregnant women.

It was observed that 50.53% (n=47) pregnant women had a spontaneous normal vaginal delivery (NVD) and 49.2% (n=31) pregnant women had to undergo a lower segment caesarean section (LSCS) amongst the 78 patients in the study cohort.

However, in the conventional group, 48.3% (n=45) pregnant women had a spontaneous normal vaginal delivery (NVD) and 50.79% (n=32) pregnant women had to undergo a lower segment caesarean section (LSCS).

Hence there were 93 normal vaginal delivery and 71 emergency caesarean deliveries. 2 patients underwent caesarean delivery due to maternal request in the study.

Indications for emergency cesarean section included halt of active phase of labour and second stage of labour, thick meconium stained liquor, foetal distress etc.

By successfully applying the WHO labour care guidance on pregnant patients, the rate of primary caesarean delivery may be limited by 1.5% at our hospital.

## DISCUSSION

At a tertiary care teaching hospital located in New Delhi, India, a research study was conducted in 2021 to evaluate the effect of implementing the WHO labor care guide on decreasing the incidence of caesarean sections. This study utilized an open-label randomized controlled trial design. The findings revealed that the caesarean delivery rate was notably lower, at 1.5%, among participants in the study group compared to 17.8% in the control group (p=0.001).

WHO labour care guide was applied on the study group whereas the old WHO modified partograph was applied on the comparison cohort.

Contrasting with the control group, the study group's active labor phase lasted noticeably less time (p<0.001).

In terms of maternal morbidities, duration of hospitalization, and Apgar score, the two groups demonstrated comparable outcomes.

In 2021 a survey was conducted for qualified health personnel from 23 countries on the drafting of the WHO labor care guide.

The majority participants overwhelmingly agreed with the labor care guide's general organization, design, and usefulness of reference thresholds for initiating additional assessments and activities.

They also concur that the labor care guide may influence professional judgment and courteous maternity care in a favourable way.

In this study, the contrast between the compared cohorts did not reach statistical significance (p value = 0.87).

When comparing the labor care with the previous WHO-modified partograph, the guide no longer uses the alert line idea and permits significantly longer durations, in addition to the records of the labour's second stage monitoring.

For women going through childbirth, comprehensive care—which includes company, analgesia, the ability of choosing their own position during the process, joint choice-making, and the application of health care interventions only when necessary—has contributed to a positive outcome.

Hence the WHO labour care guide is a sophisticated appearing but an easily achievable paper based labour surveillance instrument which has lowered the frequency of primary cesarean deliveries and is required to have a beneficial impact on optimal labour care.

The adoption along with wide spread implementation of the LCG involves competent monitoring and additional education of the health care personnel.

#### Source of funding

None

#### Conflict of interest

The authors affirm that there are no competing interests to declare.

#### Author's Contribution

DA contributed to the conceptualization and design of the study. KSV contributed in implementation and data collection. DA contributed in assembling and finding therelevant literature article. KSV contributed in analysis and interpretation of data. AK made significant contributions to the manuscript drafting process. The final manuscript was reviewed and approved by all authors.

#### REFERENCES

1. Pingray V, Bonet M, Berrueta M, et al. The development of the WHO Labour Care Guide: an international survey of maternity care providers. *Reproductive Health*. 2021;18(1). doi:https://doi.org/10.1186/s12978-021-01074-2
2. WHO Labour Care Guide. World Health Organization; 2020
3. Pandey D, Bharti R, Dabral A, et al. Impact of WHO labor care guide on reducing ceserean sections at a tertiary centre: an open-label randomized controlled trial. *Am J Obstet Gynecol Glob Rep* 2022;2:100075.
4. Vogel JP, Pingray V, Althabe F, et al. Implementing the WHO Labour Care Guide to reduce the use of Caesarean section in four hospitals in India: protocol and statistical analysis plan for a pragmatic, stepped-wedge, cluster-randomized pilot trial. *Reproductive Health*. 2023;20(1).doi:https://doi.org/10.1186/s12978-022-01525-4
5. Vogel JP, Comrie-Thomson L, Pingray V, et al. Usability, acceptability, and Feasibility of the World Health Organization Labour Care Guide: A mixed-methods, multicountry evaluation. *Birth*. 2020;48(1):66-75. doi:https://doi.org/10.1111/birt.12511
6. Hofmeyr G, Bernitz S, Bonet M, et al. WHO next-generation partograph: Revolutionary steps towards individualised labour care. *BJOG: An International Journal of Obstetrics & Gynaecology*. Published online April 9, 2021. doi:https://doi.org/10.1111/1471-0528.16694
7. WHO Key points for considering adoption of the WHO labour guide: policy brief ISBN: 978 92 4 005576 6
8. *STANDARDS for IMPROVING QUALITY of MATERNAL and NEWBORN CARE in HEALTH FACILITIES.*; 2016. Accessed January 10, 2023. <http://apps.who.int/iris/bitstream/10665/249155/1/9789241511216-eng.pdf>.
9. Oladapo O, Diaz V, Bonet M, et al. Cervical dilatation patterns of “low-risk” women with spontaneous labour and normal perinatal outcomes: a systematic review. *BJOG: An International Journal of Obstetrics & Gynaecology*. 2017;125(8):944-954. doi:https://doi.org/10.1111/1471-0528.14930.
10. Haddad S, Souza R, Cecatti J. Management of maternal pulse and blood pressure abnormalities during labour and childbirth: evidence-based algorithms for intrapartum care decision support. *BJOG: An International Journal of Obstetrics & Gynaecology*. Published online April 11, 2022. doi:https://doi.org/10.1111/1471-0528.16776
11. Gregory K, Jackson S, Korst L, Fridman M. Cesarean versus Vaginal Delivery: Whose Risks? Whose Benefits? *American Journal of Perinatology*. 2011;29(01):07-18. doi:https://doi.org/10.1055/s-0031-1285829
12. Mittal P, Pandey D, Suri J, Bharti R. Trend Prediction for Cesarean Deliveries Based on Robson Classification System at a Tertiary Referral Unit of North India. *The Journal of Obstetrics and Gynecology of India*. 2019;70(2):111-118. doi:https://doi.org/10.1007/s13224-019-01275-7
13. World Health Organization. *Who Recommendations on Intrapartum Care for a Positive Childbirth Experience*. World Health Organization; 2018.
14. Bedwell C, Levin K, Pett C, Lavender DT. A realist review of the partograph: when and how does it work for labour monitoring? *BMC Pregnancy and Childbirth*. 2017;17(1). doi:https://doi.org/10.1186/s12884-016-1213-4
15. Yisma E, Dessalegn B, Astatkie A, Fesseha N. Completion of the modified World Health Organization (WHO) partograph during labour in public health institutions of Addis Ababa, Ethiopia. *Reproductive Health*. 2013;10(1). doi:https://doi.org/10.1186/1742-4755-10-23