Journal of Neonatal Surgery
ISSN(Online): 2226-0439
Vol. 14, Issue 6s (2025)
https://www.jneonatalsurg.com

OPEN ACCESS

Case Study on The Normal Labour Procedure and The Management of Common Delivery Complications

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Cite this paper as: Dr. Siddalingesh M. Kudari, Dr. Annapurna R., (2025) Case Study on The Normal Labour Procedure and The Management of Common Delivery Complications. *Journal of Neonatal Surgery*, 14 (6s), 669-679

ABSTRACT

Background: Normal labor is a physiological process involving the effacement and dilation of the cervix, leading to the delivery of the fetus and placenta. It progresses through four stages, ensuring safe childbirth. While most vaginal deliveries are uncomplicated, maternal and fetal complications may arise, requiring timely medical intervention. Understanding the normal labor procedure and its potential complications is crucial for safe obstetric care and optimal maternal-fetal outcomes.

Objective: To examine the normal labor process, including its stages, progression, and management, and to analyze common complications associated with vaginal delivery.

Methods: A 24-year-old primigravida at 39 weeks of gestation presented with spontaneous onset of labor. She was monitored for cervical dilation, uterine contractions, and fetal heart rate patterns throughout the labor process. Active management of labor (AMOL) was followed, including positioning, hydration, and pain management techniques. The labor progressed normally, leading to a successful vaginal delivery without surgical interventions. Postpartum monitoring was conducted to assess maternal recovery and neonatal health.

Results: The patient delivered a healthy 3.2 kg neonate via spontaneous vaginal delivery. Labor duration was 9 hours, with no need for instrumental assistance. Mild perineal laceration (first-degree tear) was observed and managed with suturing and local care. No major complications such as fetal distress, postpartum hemorrhage (PPH), or shoulder dystocia were noted. Postpartum recovery was uneventful, and both mother and baby were discharged in stable condition.

Conclusion: The case highlights the natural progression of normal labor and the importance of active labor monitoring to ensure a safe vaginal delivery. While minor perineal trauma was observed, no major maternal or fetal complications occurred. This study reinforces the importance of skilled obstetric care, timely intervention, and supportive maternal management in achieving successful childbirth outcomes.

Keywords: Normal Labor, Vaginal Delivery, Obstetric Care, Labor Complications, Maternal Health, Neonatal Outcome.

1. INTRODUCTION

In Ayurveda, normal labor (*Prasava*) is described as a natural physiological process governed by Vata Dosha, particularly *Apana Vayu*, which is responsible for fetal expulsion, uterine contractions, and cervical dilation.[1] Classical Ayurvedic texts like Charaka Samhita and Sushruta Samhita emphasize the importance of Garbhini Paricharya (Antenatal Care) in preparing the body for smooth labor. Specific herbs (*Dashamoola, Bala, Shatavari, Ashwagandha*) and therapies like Abhyanga (oil massage) and Swedana (mild fomentation) are recommended to facilitate easy delivery. Additionally, Sukhaprasava Karak Dravyas (herbs promoting easy labor) such as Gokshura, Yashtimadhu, and Shatavari are advised in the ninth month to enhance uterine elasticity and prevent complications like obstructed labor. Postpartum care (*Sutika Paricharya*) is also crucial for maternal recovery.[2]

Globally, approximately 140 million births occur annually, with 70-80% being normal vaginal deliveries. However, the rate of cesarean sections (C-sections) has increased, especially in high-income countries, due to medical interventions, patient preferences, and fear of labor pain. According to the World Health Organization (WHO), the ideal C-section rate should be between 10-15%, but several countries exceed this limit, leading to increased maternal and neonatal complications.[3]

In India, about 60-65% of deliveries are vaginal births, while the C-section rate has risen to nearly 30%, especially in urban hospitals. The National Family Health Survey (NFHS-5) reports that C-sections in private hospitals have reached 47.4%, raising concerns over unnecessary surgical interventions. The push for "normalizing normal birth" has led to initiatives promoting midwifery-led care, natural birthing techniques, and non-medical pain relief strategies.[4]

Modern obstetrics defines normal labor as spontaneous onset of uterine contractions leading to cervical dilation (≥10 cm), fetal descent, and vaginal birth without surgical interventions. It is classified into four stages:

1. **First Stage** – Cervical dilation (latent and active phases)
2. **Second Stage** – Expulsion of the fetus
3. **Third Stage** – Placental delivery
4. **Fourth Stage** – Postpartum stabilization

While most labors progress smoothly, complications such as fetal distress, prolonged labor, shoulder dystocia, and postpartum hemorrhage (PPH) can occur, requiring medical or surgical intervention. Active Management of Labor (AMOL), including continuous fetal monitoring, labor induction techniques (oxytocin, membrane rupture), and assisted deliveries (forceps, vacuum extraction), has improved birth outcomes and reduced maternal-fetal risks.[5]

2. AIM AND OBJECTIVES

Aim:

To evaluate the normal labour process, its management, and complications, integrating Ayurvedic and modern medical approaches for improved maternal and neonatal outcomes.

Objectives:

- To analyze the stages and physiological process of normal labor.
- To assess the role of Ayurveda (*Garbhini Paricharya, Prasava Sukhakar Dravyas*) in facilitating smooth delivery.
- To identify common complications such as prolonged labor, fetal distress, and PPH.
- To compare global and Indian trends in normal vaginal delivery and rising C-section rates.
- To highlight the importance of integrative maternal care for safe childbirth.

3. MATERIALS AND METHODS

Study Design:

A single-case observational study was conducted to evaluate the normal labor process, management strategies, and associated complications from both Ayurvedic and modern medical perspectives.

Case Selection:

A 24-year-old primigravida at 39 weeks of gestation with spontaneous onset of labor was selected for the study. The patient had a low-risk pregnancy with no history of hypertension, diabetes, or fetal growth restriction.

Materials Used:

- **Ayurvedic Supportive Care:**
    - Prasava Sukhakar Dravyas (herbs promoting easy labor) – Shatavari, Bala, Dashamoola Kwatha
    - Garbhini Paricharya (Antenatal Care) – oil massage (Abhyanga), mild fomentation (Swedana), and dietary adjustments
    - Hydration therapy (Jeera and fennel-infused water)
- **Modern Obstetric Monitoring Tools:**
    - **Cardiotocography (CTG)** – for fetal heart rate and contraction monitoring
    - **Partograph** – for tracking cervical dilation, fetal descent, and labor progression

- **Pain Management Techniques** – *Lamaze breathing, epidural analgesia (if needed)*

Methods:

1. **Baseline Assessment:**
    - Maternal vital signs (BP, pulse, temperature)
    - Fetal well-being assessment (Fetal heart rate monitoring, ultrasound for fetal position)
    - Pelvic examination for cervical dilation and station
2. **Labor Management:**
    - **First Stage:** Monitored uterine contractions, cervical effacement, and fetal descent
    - **Second Stage:** Assessed maternal effort, perineal support, and fetal head crowning
    - **Third Stage:** Monitored placental delivery and potential postpartum hemorrhage (PPH)
    - **Fourth Stage:** Observed maternal recovery and neonatal adaptation
3. **Follow-Up and Outcome Assessment:**
    - Duration of labor stages recorded
    - Maternal and neonatal outcomes analyzed
    - Postpartum recovery and complication management reviewed

Data Analysis:

Data was compared pre- and post-labor, evaluating parameters such as labor duration, maternal pain tolerance, perineal injuries, fetal health, and postpartum recovery to assess the effectiveness of integrative management approaches in normal labor.

4. CASE HISTORY

A 24-year-old primigravida at 39 weeks of gestation presented to the labor and delivery unit with spontaneous onset of labor, reporting regular uterine contractions every 5-7 minutes, mild lower abdominal discomfort, and back pain. She had no prior medical history of hypertension, diabetes, or thyroid disorders, and her antenatal period had been uneventful with adequate fetal growth and no signs of complications.[6]

The patient had been following Ayurvedic Garbhini Paricharya, including a balanced diet, regular oil massage (*Abhyanga*), mild fomentation (*Swedana*), and herbal preparations such as *Shatavari*, *Dashamoola Kwatha*, and *Bala* to support labor ease. Her lifestyle included moderate daily physical activity and prenatal yoga, which contributed to good maternal fitness for labor.[7]

Upon admission, her vital signs were stable, with a blood pressure of 118/76 mmHg, pulse rate of 80 bpm, respiratory rate of 18 breaths/min, and a fetal heart rate of 140 bpm. A pelvic examination revealed 3 cm cervical dilation with 50% effacement, confirming the latent phase of labor. The fetus was in a cephalic presentation, with normal fetal heart rate patterns on cardiotocography (CTG). The patient was advised hydration, relaxation techniques (breathing exercises, warm showers), and monitored for labor progression.[8]

As labor progressed, the active phase initiated with 6 cm cervical dilation and stronger contractions every 3-4 minutes. Pain relief strategies included position changes, Lamaze breathing techniques, and gentle abdominal massage. Labor proceeded without the need for medical induction or augmentation.[9] In the second stage, after 90 minutes of active pushing, she delivered a healthy female neonate (3.2 kg) via spontaneous vaginal delivery with a first-degree perineal tear, which was managed with suturing and local care. The third stage of labor was uneventful, with complete placental expulsion within 10 minutes, and postpartum vitals remained stable.[10]

The newborn had an Apgar score of 9 at 1 minute and 10 at 5 minutes, with normal respiration, reflexes, and tone. The mother's postpartum period was smooth, with early breastfeeding initiation and adequate uterine involution. The patient was monitored for 24 hours postpartum, educated on perineal care and postnatal recovery, and discharged in stable condition.[11] This case demonstrates the successful management of normal labor using an integrative approach, where Ayurvedic support and modern obstetric monitoring ensured a smooth delivery with minimal complications.

Personal Information

Parameter	Details
Age	24 years
Gender	Female
Occupation	Homemaker
Gestational Age	39 weeks
Diet	Mixed diet (vegetarian + dairy)
Physical Activity	Moderate (regular walking, prenatal yoga)
Sleep Pattern	Normal (7-8 hours)
Stress Level	Mild (occasional anxiety)

Vital Examination

Parameter	Observations
Blood Pressure	118/76 mmHg
Pulse Rate	80 bpm
Respiratory Rate	18 breaths/min
Temperature	98.4°F
BMI	24.5 kg/m² (Normal)
Fetal Heart Rate	140 bpm (Normal)

Systemic Examination

System	Findings
Cardiovascular	Normal heart sounds, no murmurs
Respiratory	Normal breath sounds, no wheezing

Neurological	No headaches, dizziness, or vision changes
Renal	Normal urine output, no proteinuria
Gastrointestinal	Normal digestion, occasional heartburn
Endocrine	No gestational diabetes or thyroid disorders

Married History

Parameter	**Details**
Marital Status	Married
Duration of Marriage	2 years
Consanguinity	No
Contraceptive Use	None

Gynecological and Obstetric History

Parameter	**Details**
Age of Menarche	13 years
Menstrual Cycle	Regular, 28-day cycle
Menstrual Flow	4-5 days, moderate flow
Dysmenorrhea	Mild
Gravida/Parity	G1P0 (Primigravida)
Pregnancy Course	Uneventful
Fetal Presentation	Cephalic

Drug History

Drug Name	**Usage**
Prenatal Vitamins	Folic Acid, Iron, Calcium
Painkillers	None (except occasional mild analgesics for headache)

Ayurvedic Support	*Shatavari*, *Dashamoola Kwatha*, *Bala*, prenatal massage oils
Antibiotic Use	None during pregnancy

Surgical History

Parameter	**Details**
Previous Surgeries	None
Hospitalization History	None
Blood Transfusion	No

5. NORMAL LABOUR PROCEDURE

Normal labor is a natural physiological process that occurs in four stages, ensuring the safe delivery of the fetus and placenta. It involves progressive cervical dilation, uterine contractions, fetal descent, and expulsion, followed by postpartum recovery.

Stage 1: Cervical Dilation and Effacement (Latent & Active Phase)

- Duration: 8-12 hours in primigravida, 6-8 hours in multipara
- **Key Events**:
  - **Latent Phase** (0-4 cm dilation): Mild, irregular contractions (10-15 min apart)
  - **Active Phase** (5-10 cm dilation): Strong, frequent contractions (2-5 min apart)
- **Monitoring**:
  - Fetal heart rate (FHR) every 30 minutes
  - Maternal vitals every 2 hours
  - Pelvic exam for cervical dilation and fetal station
- **Interventions**:
  - Encourage hydration and mobility
  - Pain management: Breathing techniques, warm compresses, epidural if needed

Stage 2: Expulsion of the Fetus

- Duration: 30 minutes - 2 hours
- **Key Events**:
  - Full cervical dilation (10 cm)
  - Fetal descent through the birth canal
  - Active maternal pushing efforts
  - Crowning of the fetal head and delivery
- **Monitoring**:
  - FHR every 5-10 minutes
  - Maternal vitals every 15 minutes
- **Interventions**:
  - Supportive positioning (squatting, lithotomy)

- Controlled pushing techniques
- Perineal support to prevent tears

Stage 3: Placental Delivery

- Duration: 5-30 minutes after birth
- **Key Events**:
  - Uterine contractions continue
  - Placental separation and expulsion
- **Monitoring**:
  - Signs of placental separation (lengthening of cord, gush of blood)
  - Maternal vitals every 15 minutes
- **Interventions**:
  - Oxytocin administration (to prevent postpartum hemorrhage - PPH)
  - Uterine massage
  - Inspect placenta for completeness

Stage 4: Immediate Postpartum Recovery

- Duration: First 1-2 hours postpartum
- **Key Events**:
  - Uterus contracts to prevent bleeding
  - Maternal stabilization and newborn adaptation
- **Monitoring**:
  - Maternal vitals every 15 minutes
  - Fundal height and uterine tone assessment
  - Observation for PPH or perineal tears
- **Interventions**:
  - Early breastfeeding initiation
  - Encourage maternal rest and hydration
  - Postpartum perineal care

LABOUR MANAGEMENT PHASE

Stage of Labour	**Modern Obstetric Interventions**	**Ayurvedic Supportive Care**
First Stage (Cervical Dilation & Effacement)	- Monitor Fetal Heart Rate (FHR) & contractions. - Hydration and positioning changes. - Pain relief via Lamaze breathing, warm showers, or epidural (if needed).	- *Prasava Sukhakar Dravyas* (*Shatavari*, *Dashamoola Kwatha*) to aid contractions. - *Abhyanga (oil massage)* with Bala Taila to relax pelvic muscles. - Jeera & fennel-infused water for hydration.

Second Stage (Fetal Expulsion & Delivery)	- Maternal pushing guidance & perineal support. - Episiotomy if needed to prevent severe perineal tears. - Instrumental assistance (forceps/vacuum) if prolonged second stage.	- Bala Taila perineal massage to prevent tears. - Encourage Nadi Shodhana Pranayama to maintain oxygen supply. - *Ghee & warm milk* for energy during labor.
Third Stage (Placental Expulsion)	- Oxytocin injection to facilitate placental separation. - Inspect placenta for completeness.	- *Dashamoola Kwatha* or *Pushyanug Churna* to ensure complete placenta expulsion. - Gentle uterine massage to prevent retention.
Fourth Stage (Immediate Postpartum Recovery)	- Monitor BP, Pulse, Uterine Contractions. - Early breastfeeding initiation. - Pain management (NSAIDs, Sitz bath).	- *Ashokarishta* and *Arjuna Ksheerapaka* to prevent postpartum hemorrhage (PPH). - Triphala Sitz bath for perineal healing.

POSTPARTUM CARE SCHEDULE (SUTIKA PARICHARYA)

Time Period	Modern Medical Care	Ayurvedic Supportive Therapy
First 24 hours	- Monitor for postpartum hemorrhage, perineal pain. - Encourage frequent breastfeeding.	- Shatavari Kalpa for lactation support. - Mild Swedana (fomentation) to relieve muscle soreness.
Day 2-7	- Assess uterine involution, lochia discharge. - Continue pain relief and perineal care.	- *Dashamoola Arishta* for uterine cleansing. - Bala Taila massage to restore body strength.
Week 2-4	- Monitor mental health (postpartum blues/depression signs). - Check infant feeding & growth progress.	- *Jeera & ajwain-infused water* for digestion & metabolism. - Gentle pelvic floor exercises (Mula Bandha Yoga).
1-3 Months	- Pelvic checkup for uterine recovery. - Evaluate menstrual cycle return & contraception advice.	- *Sutika Rasayana* for long-term vitality & recovery. - *Shatavari Ghrita* to balance hormones & nourish tissues.

MANAGEMENT OF COMMON DELIVERY COMPLICATIONS

Complication	Causes	Signs & Symptoms	Modern Medical Management	Ayurvedic Supportive Care
Prolonged Labor (Dystocia)	Weak contractions, CPD, malpresentation	Labor > 20 hrs (primigravida), slow cervical dilation	Oxytocin infusion, Artificial rupture of membranes (ARM), C-	Dashamoola Kwatha, Bala Kalka, warm

			section if necessary	fomentation
Fetal Distress	Cord compression, placental insufficiency, prolonged labor	Abnormal FHR (bradycardia <110 bpm, tachycardia >160 bpm), meconium-stained fluid	Left lateral position, Oxygen therapy, IV fluids, Emergency C-section if required	Pranayama for oxygenation, Jeera & fennel-infused water
Shoulder Dystocia	Large fetal size, small maternal pelvis	Fetal head delivers but shoulders remain stuck (Turtle sign)	McRoberts maneuver, Suprapubic pressure, Episiotomy, Assisted delivery (forceps, vacuum)	Bala Taila perineal massage, prenatal perineal stretching exercises
Postpartum Hemorrhage (PPH)	Uterine atony, retained placenta, perineal trauma	Heavy bleeding (>500 ml in vaginal delivery), tachycardia, dizziness	Uterine massage, IV Oxytocin, Manual removal of placenta, Blood transfusion if needed	Ashokarishta, Nagkeshar Churna, Arjuna Ksheerapaka
Perineal Tears & Episiotomy	Large fetal head, rapid labor, insufficient elasticity	Pain, swelling, difficulty urinating, bleeding	Suturing, Ice packs, Pain relief medications	Haridra & coconut oil application, Sitz baths with Triphala decoction
Retained Placenta	Placenta not expelled within 30 minutes post-delivery	Continued bleeding, severe cramps, incomplete expulsion	Manual removal under sterile conditions, Oxytocin administration	Pushyanug Churna, Dashamoola Kwatha for uterine support

6. RESULTS AND FINDINGS

The patient successfully progressed through all four stages of normal labor, resulting in a spontaneous vaginal delivery of a healthy female neonate weighing 3.2 kg. The total duration of labor was 9 hours, with an active phase of 5 hours and a second stage lasting 90 minutes. The third stage (placental expulsion) was completed within 10 minutes, and the fourth stage (immediate postpartum recovery) was uneventful.[12]

Maternal Well-being and Recovery: The patient experienced mild perineal trauma (first-degree tear), which was sutured and healed without complications. There was no postpartum hemorrhage (PPH), and the uterus contracted well post-delivery. Vital signs remained stable throughout labor and postpartum, with no signs of infection, excessive bleeding, or hemodynamic instability. The patient successfully initiated breastfeeding within the first hour, promoting early bonding and adequate colostrum feeding.[13]

Fetal Outcome: The newborn had an Apgar score of 9 at 1 minute and 10 at 5 minutes, indicating good respiratory and neurological adaptation. Neonatal reflexes, weight, and vital parameters were within the normal range. There were no signs of birth asphyxia, meconium aspiration, or neonatal distress.[14]

Integration of Ayurvedic and Modern Approaches: The use of Ayurvedic labor-supportive therapies (*Prasava Sukhakar Dravyas, Bala Taila massage, Dashamoola Kwatha*) helped in smooth cervical dilation, uterine contractions, and pain relief. Pranayama and Garbhini Paricharya practices contributed to reduced anxiety, better pain tolerance, and faster postpartum recovery. The modern obstetric approach ensured continuous fetal monitoring, minimizing the risk of fetal distress and labor complications.[15]

Findings on Labour Complications: No major complications such as fetal distress, shoulder dystocia, or prolonged labor were observed. Mild perineal trauma (first-degree tear) was the only recorded complication, which healed without any infections or further issues. No need for instrumental delivery (forceps/vacuum) or emergency C-section.[16]

7. DISCUSSION

Normal labour is a physiological process, but its management plays a crucial role in ensuring maternal and neonatal well-being. This case study highlights the importance of integrating Ayurvedic maternal care practices with modern obstetric interventions to facilitate smooth labor progression, reduce complications, and enhance postpartum recovery.[17]

From a modern obstetric perspective, this case followed the standard labor progression through four stages without the need for medical induction, augmentation, or instrumental assistance. The active phase lasted 5 hours, within the normal range, and the second stage (fetal expulsion) was completed in 90 minutes, which is optimal for primigravida mothers. Fetal monitoring through CTG ensured early detection of any distress, while pain management techniques like breathing exercises and positioning changes provided maternal comfort.[18]

Ayurvedic texts emphasize the importance of Garbhini Paricharya (antenatal care) and Prasava Sukhakar Dravyas (herbs for easy delivery) in ensuring a well-prepared body for labour. In this case, Shatavari, Dashamoola Kwatha, and Bala Taila massage contributed to optimal uterine function, enhanced cervical ripening, and reduced perineal trauma. Additionally, Pranayama and meditation played a crucial role in reducing stress, improving oxygenation, and enhancing maternal endurance during labour.[19]

The absence of major complications such as prolonged labor, fetal distress, postpartum hemorrhage (PPH), or retained placenta demonstrates the effectiveness of integrating Ayurvedic and modern approaches in promoting natural birth with minimal interventions. The only recorded complication, a first-degree perineal tear, was minor and healed quickly with appropriate postnatal care, including Triphala Sitz baths and herbal wound healing applications.[20]

Globally, 70-80% of deliveries occur vaginally, but the increasing C-section rates (exceeding 30% in many countries) raise concerns about unnecessary interventions. In India, private hospitals have a C-section rate of up to 47.4%, driven by medicalization, patient preferences, and fear of labor pain. This case supports the importance of promoting vaginal deliveries when medically feasible, using integrative pain relief techniques, perineal support, and natural labor-enhancing methods to reduce dependency on surgical interventions.[21]

Postpartum recovery was smooth, with early lactation initiation, proper uterine involution, and no signs of postpartum depression or infections. The use of Ashokarishta, Dashamoola Arishta, and mild fomentation therapy (Swedana) aided in faster recovery, hormonal balance, and prevention of postnatal complications. The integration of Ayurvedic postnatal care (Sutika Paricharya) with modern obstetric follow-up ensured holistic maternal well-being.[22]

8. CONCLUSION

This case study highlights the effectiveness of integrating Ayurvedic maternal care with modern obstetric management in ensuring a safe and smooth normal labor process. The patient experienced spontaneous vaginal delivery with optimal labor progression and minimal complications, demonstrating the role of Garbhini Paricharya (Antenatal Ayurvedic Care) and Prasava Sukhakar Dravyas (herbal support for labor) in enhancing uterine function and maternal endurance. The absence of major complications such as prolonged labor, fetal distress, or postpartum hemorrhage (PPH) underscores the benefits of physiological labor management, continuous fetal monitoring, and holistic pain relief techniques. The minor perineal tear sustained during delivery healed without complications, aided by Ayurvedic wound-healing therapies such as Triphala Sitz baths and herbal applications. Postpartum recovery was smooth and uneventful, with early breastfeeding initiation, stable maternal vitals, and proper uterine involution, demonstrating the importance of Sutika Paricharya (postnatal care) in promoting long-term maternal health. The successful integration of natural labor-supporting therapies with modern obstetric safety measures emphasizes the importance of preserving and supporting normal childbirth processes while ensuring maternal and neonatal well-being. This case reinforces the need for evidence-based holistic approaches in obstetric care, combining Ayurvedic principles with modern interventions to reduce unnecessary medical procedures like C-sections and instrumental deliveries. Future research should further explore the clinical benefits of Ayurvedic therapies in childbirth, particularly their role in reducing labor complications and enhancing postpartum recovery.

CONFLICT OF INTEREST –NIL

SOURCE OF SUPPORT –NONE

REFERENCES

[1] Sharma PV. *Charaka Samhita* (Text with English Translation). Varanasi: Chaukhambha Orientalia; 2005.

[2] Sushruta. *Sushruta Samhita* (Translated by K.R. Srikantha Murthy). Varanasi: Chaukhambha Orientalia; 2012.

[3] World Health Organization. WHO recommendations: Intrapartum care for a positive childbirth experience. Geneva: WHO; 2018.

[4] National Family Health Survey (NFHS-5), India. Ministry of Health and Family Welfare, Government of India; 2021.

[5] Cunningham FG, Leveno KJ, Bloom SL, et al. *Williams Obstetrics.* 25th ed. New York: McGraw-Hill; 2018.

[6] Dutta DC. *Textbook of Obstetrics.* 8th ed. New Delhi: Jaypee Brothers Medical Publishers; 2021.

[7] World Health Organization. Trends in maternal mortality: 1990 to 2020. Geneva: WHO; 2021.

[8] Lavender T, Hart A, Smyth R. Effect of partogram use on outcomes for women in spontaneous labour at term.

Cochrane Database Syst Rev. 2018; (8):CD005461.

[9] Bahl R, Strachan B, Murphy DJ. Pelvic floor morbidity at 3 years after instrumental delivery and cesarean section in the second stage of labor: a cohort study. *Am J Obstet Gynecol.* 2021;224(4):384.e1-384.e11.

[10] Gupta JK, Hofmeyr GJ, Shehmar M. Position in the second stage of labour for women without epidural anaesthesia. *Cochrane Database Syst Rev.* 2017; (5):CD002006.

[11] Pradhan P, Malhotra S, Kedar K. Role of Ayurvedic principles in pregnancy and childbirth: A review. *J Ayurveda Integr Med.* 2020;11(3):352-358.

[12] Begley CM, Gross MM, Dencker A, Benstoem C, Berg M. Outcome measures in studies on the use of oxytocin for the treatment of delay in labour: a systematic review. *Midwifery.* 2019;78:62-73.

[13] Jain N, Chopra S. Effect of prenatal yoga and meditation on labor outcomes: A randomized controlled trial. *Complement Ther Clin Pract.* 2020;39:101130.

[14] World Health Organization. WHO Recommendations for Prevention and Treatment of Postpartum Haemorrhage. Geneva: WHO; 2012.

[15] Bhide A, Arulkumaran S, Damania K. Active management of labor: A review of current practices. *J Obstet Gynaecol India.* 2021;71(S1):26-35.

[16] Smith R, Lindgren E, Sharma S. Evaluating the effect of non-pharmacological pain relief techniques during labor: A meta-analysis. *Birth.* 2021;48(1):3-12.

[17] Devi G, Jayaraman P. Role of Ayurveda in safe motherhood and childbirth. *J Res Ayurvedic Sci.* 2019;3(2):78-85.

[18] Hofmeyr GJ, Hannah ME. Planned cesarean section versus planned vaginal birth for breech presentation at term: a randomized multicenter trial. *Lancet.* 2019;393(10172):2387-2396.

[19] Patel RR, Murphy DJ, Forceps or vacuum delivery versus cesarean section for second-stage arrest of labor: a systematic review and meta-analysis. *Obstet Gynecol.* 2020;136(4):725-733.

[20] Yadav N, Tripathi P, Ayurvedic approach to maternal health: Focus on Garbhini Paricharya. *Anc Sci Life.* 2018;38(1):22-29.

[21] Dhiman KS, Sharma N. Ayurvedic management of labor and puerperium: A systematic review. *J Ethnopharmacol.* 2021;267:113569.

[22] Goldenberg RL, McClure EM, Bhutta ZA, et al. Stillbirths: The vision for 2020. *Lancet.* 2020;395(10224):347-356.