



REBIRTH OF A MOTHER DURING CHILDBIRTH

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Submitted By

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ABSTRACT

- India's healthcare system serves a vast population of **1.4 billion**, undergoing significant transformations despite challenges.
- Initiatives like the **National Health Mission** enhance **medical equipment availability**, reflected in an improved doctor-population ratio.
- Research focuses on **Cesarean sections (C-sections) in Indian pregnancy**, highlighting their **beneficial outcomes** as critical healthcare services.
- C-sections are viewed beyond medical procedures, carrying **positive externalities for patients and healthcare providers**.
- Elements of pregnancy are categorized as **high or low risk**, with research aiming to identify **differences in processes** and outcomes in **public and private** hospitals.
- Primary research involves **interactions with medical professionals**, particularly in Kerala.
- Proposed solutions include leveraging resources to bridge identified gaps, potentially **redistributing resources from surplus to deficit hospitals**.
- Emphasis is placed on **rational and benevolent** behavior from **partners and families**, aligning with '**Dharmaarthashashtra**' principles to **enhance doctor-patient trust and improve maternal and neonatal healthcare services**.

PROBLEM

- **Childbirth** is a significant transition for women, showcasing their **power to bring new life** into the world.
- While beautiful, childbirth also presents **numerous challenges and complications**, including **intense labor pain** and the need for surgeries such as Cesarean sections (C-sections).
- Our research **aims to deepen understanding of pregnancy**, particularly **focusing on C-sections**, by analyzing all elements involved, including **medications, tests, procedures, and treatments**.
- We investigate the **decision-making process of both doctors and patients in choosing C-sections over natural birth**, considering the increasing prevalence of high-risk pregnancies in today's scenario.
- Highlighting **the importance of support systems for pregnant women**, our study emphasizes the crucial roles of family members and husbands in providing support throughout the pregnancy journey.
- Additionally, we address the **challenges faced by doctors** and explore how government policies and measures can assist them in providing better maternal and neonatal healthcare services.
- Rooted in 'Dharmaarthashashtra', our study also **examines cultural and ethical values** aimed at improving maternal and neonatal healthcare outcomes.

MOTIVATION

- The **healthcare sector** plays a vital role in **improving people's health**, with maternal healthcare, pregnancy, and C-section outcomes being crucial components.
- Our motivation stems from the belief that **extracting positive externalities** from the current healthcare system requires a comprehensive understanding of every aspect of pregnancy.
- Understanding why there is an **increase in high-risk pregnancies** and identifying ways to reduce their risk are key objectives of our research.
- We aim to highlight the **benevolence of doctors** who strive to achieve the best possible outcomes for their patients within the **constraints** of available resources.
- Additionally, we recognize the **incredible strength** exhibited by mothers during the intense physical and emotional experience of childbirth, **symbolizing a new rebirth for them**.
- Instead of adopting a fault-finding perspective, our approach focuses on **generating useful information** that can lead to significant improvements in maternal healthcare and pregnancy outcomes.

OBJECTIVES

- Explore **pregnancy and Cesarean sections** from both **medical and moral perspectives**.
- **Examine factors influencing low and high-risk pregnancies**, understanding their causes and exploring **potential mitigation strategies**.
- Investigate the circumstances under which Cesarean sections are recommended and their long-term effects on both mother and baby.
- Compare the **processes** involved in C-sections between **public and private hospitals** in India to identify any differences.
- Analyze the role of doctors, technology, and the **importance of government intervention** in addressing healthcare challenges related to pregnancy and childbirth.
- Explore the **impact of family support, partners, and ethical values on pregnancy outcomes**, recognizing their significance in the overall healthcare context.

LITERATURE REVIEW

- The literature on Cesarean sections in the Indian healthcare system reflects a complex interplay of factors, including **healthcare infrastructure, policy initiatives, medical practices, and patient outcomes**.
- Government initiatives such as the **National Health Mission** have had a significant impact on improving healthcare accessibility and infrastructure in India.
- **Kumar (2021)** utilized a logical evaluation framework to assess the **effectiveness** of the National Health Mission, observing significant improvements in fund allocation and healthcare personnel.
- **Institutional deliveries** surged from **38.7% in 2005–2006 to 78.9% in 2015–2016**, accompanied by reductions in infant and maternal mortality rates.
- Despite improvements, **out-of-pocket health expenditure** remains **high**, constituting 69.3% of the total health expenditure.
- Research indicates a **rising prevalence of C-section deliveries in India** over the past few decades.
- Factors contributing to this trend include **changing maternal demographics, increased medicalization of childbirth, and evolving clinical guidelines**.
- **Sengupta (2021)** notes a significant increase in the percentage of C-section deliveries in public health facilities in South India during 2005–06 and 2015–16 by 46.8%, highlighting regional variations in C-section trends.

DATA COLLECTION

- Primary data collected from discussions with four gynecologists one from Maharashtra and three from Kerala.
- Key points focused:
 - Elements
 - Why high risk pregnancies?
 - C-section - Recommendations and Implications
 - Public vs Private Hospitals
 - Role of Family
 - Importance of Values: '**Dharmaarthashashtra**'



COMPREHENSIVE REVIEW OF ELEMENTS IN PREGNANCY



Trimesters	Weeks	Factors	Tests/Treatment	Whether it leads to C-section/ normal delivery	Long term Health Issues for Mother	Impact on Baby	Role of Partners/Family	Issues faced by doctor	Allied Services
Preconception (Before Pregnancy)	Before Conception	Diet, Health advice, hypertension, infertility, medical disorders	Preconception Counselling, medications				a) Emotional Support		
		foetus neural tube defects	Folic Acid Medicines				b) Healthy lifestyle encouragement		
First Trimester (Wk,1- Wk,12)	First Visit	neonatal tetanus	Tetanus Toxoid Injection				a) Emotional Support b) Accompany to appointments c) Healthy lifestyle encouragement d) Help with household chores e) Take care of children	a) Low doct, patient ratio b) Extreme workload c) Staff shortages d) Resource scarcity - blood bank availability, lab facilities e) Delayed pediatricians and anesthetists availability • in peripheral hospitals e) Violent behaviour of families if mortality	a) Pharmacy b) Hospital Hygiene c) Pathological Tests d) Telemedicines e) Physiotherapy f) Transportation assistance
		supplements	Iron Calcium Tablets						
		Pregnancy location, foetal development	Viability Scan (sonography)						
		ectopic pregnancy							
		Diabetes	Test • Blood test Treatment - Insulin Therapy, medications						
		anaemia	Test• Blood tests Treatment- medications						
	STDs, hyperthyroidism urinary tract infection	Test• Urine test Treatment- medications							
Upto 28 wks (Mthly Visits)	blood pressure, weight, abdominal examination, discomfort	Routine checkups							
11 - 13 wks	fetal Down Syndrome	NT Scan NIPT diagnostic test							
Second Trimester (Wk, 13-Wk, 26)	18 - 20 wks	fetal heart & lung anomalies, fetal growth	Anomaly Scan				Same as above		
	24 wks	Diabetes, hyperthyroidism	Test - Blood test Treatment • medications						
Third Trimester (Wk, 27-Wk, 39)	28 Wks = 36 Wks (Visits evry 2 wks)	blood pressure, weight, abdominal examination, discomfort	Routine checkups	Malrepresentation- Elective C-section	Adhesions Risk, Hernia Formation, Scar Endometriosis, High risk future pregnancies	No signif. impact	Same as above		
	36 Wks = Delivery (Wkly Visits)	palpation, Big Baby, IUGR	Routine checkups	Malrepresentation- Elective C-section					
	36 Wks = Delivery	haemodilution, gestational thrombocytopenia	Test- blood test						
		cardiac evaluation, preeclampsia, gestational hypertension	Test• ECG	Elective C-section	Same as above	Same as above			
Delivery	37 Wks = 41 Wks	Uncomplicated Case		normal delivery	Natural route - Best for uncomplicated cases	babies more agile in long term, mother care not delayed	Mental Support before and during delivery		
		Labor Complications Obstructed Labor		Emergency C-section	Same as for C-section	Same as above for C-section			
Postpartum	Post Delivery	Postpartum Recovery	Hospitalisation (normal delivery • 1 day) (C-section ~3 days)		Same as for C-section	Same as above for C-section	Accompany in hospital & appointments		
		Postnatal Chekup	blood test, urine test, physical examination		Ensures physical recovery, control complications	Monitor health and growth			

COMPREHENSIVE REVIEW OF ELEMENTS IN PREGNANCY

Some definitions and notes:

- High risk pregnancy: Increased health risk either for pregnant person or fetus or both
- Low-risk pregnancy: patient is under 30, no health risks
- Ectopic pregnancy: health condition in which egg implants outside the uterus
- Down Syndrome: a person has extra chromosome
- Eclampsia: Seizures during pregnancy
- gestational thrombocytopenia: lowering of platelet count during pregnancy
- Big Baby: baby growth larger than normal for gestational age
- IUGR (Intrauterine growth restriction): foetal growth retardation

WHY MANY HIGH-RISK PREGNANCIES OCCUR TODAY?

The main reasons for a large number of high-risk pregnancies today are:

- 1) Lifestyle and Nutritional Changes: sedentary lifestyle, junk food, obesity
- 2) Advancing Maternal Age: Due to education and career options, today marriage and child-bearing are delayed leading to age-related issues
- 3) Pre-existing medical conditions: Diabetes, hypertension, PCOS (Polycystic Ovary Syndrome)
- 4) Previous Deliveries: If previous pregnancies had complications, this pregnancy has significant chances of being a high-risk pregnancy.

PRIMARY REASONS FOR RECOMMENDING C-SECTION

- Elective Cesarean: Decision of delivery through C-section is made before onset of labor
- Emergency Cesarean: It is performed when complications arise during the labor itself and that makes normal delivery infeasible.

PRIMARY REASONS FOR RECOMMENDING C-SECTION

Reasons for recommending Elective Cesarean:

- Previous Cesarean Section
- Malpresentation or Breech Presentation
- Placenta Previa - placenta covers the cervix
- Infertility Patients, who had infertility issues before, but now successfully conceived

Reasons for recommending Emergency Cesarean:

- Labor Complications
- Obstructed labor
- Maternal health deterioration, such as, eclampsia

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LONG TERM IMPLICATION OF C-SECTION ON MOTHER AND BABY

Implications on mother:

- Formation of adhesions is a common issue, potentially complicating future procedures like hysterectomy.
- Rare complications include hernias at the scar site and scar endometriosis, necessitating medical attention.

Implications on Baby:

- Generally, no long-term implications exist between C-section and vaginal delivery.
- For low-risk cases, vaginal delivery is preferred from the baby's perspective, as it may confer additional resilience.
- Short-term impact: C-sections may delay immediate care to the baby due to longer maternal recovery time compared to vaginal delivery.

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COMPARING PREGNANCY CARE IN PUBLIC VS. PRIVATE HOSPITALS

PRIVATE

- Serve, well of individuals who can easily access prescribed medications
- High-quality facilities, AC rooms and well-maintained wards
- Higher cesarean section rates (50-70% in some cases) due to patient preferences

PUBLIC

- Cater to diverse economic background people, who want affordable treatment
- Rely on dietary adjustments instead of medications due to cost considerations
- May lack the modern amenities of private hospitals but still maintain essential healthcare services
- CS rates exceed government recommendations (25% vs. 15% target) but are generally lower than in private hospitals.

As far as the hospital and OT protocols are concerned, almost similar protocols are followed in both public and private hospitals

STATISTICS OF DECEMBER 2023

Total number of deliveries = 2498				
	Government		Private	
	Normal	CS	Normal	CS
	712	409	582	695
Total	1221		1277	
Primary CS rate	28.66%		37.15%	

STATISTICS OF FEBRUARY 2024

Total number of deliveries = 2196				
	Government		Private	
	Normal	CS	Normal	CS
	611	481	541	563
Total	1092		1104	
Primary CS rate	19.32%		25.27%	

**First and second
MDNMSR(Maternal Death
Near Miss Surveillance)
Trivandrum meetings of
2024**

OT PROTOCOLS

- Written consent from patient and inform relatives about potential surgery complications
- Check the blood group of the patient and blood availability in the blood bank.
- Pre-Surgery Preparation and OT Checklist verification
- OT properly sterilized before and after surgery, doctors verify the count of surgical instruments and mops
- In the operating theater, limited member includes a doctor, nursing assistant, anesthetist, pediatrician (after 30 minutes), cleaning staff, and one bystander
- Post-Surgery Care and Patient Safety, antibiotics and analgesics are given to prevent infection and reduce pain effectively
- To prevent babies getting exchanged, identical identification marks put on both mother and baby

Before patient leaves operating room

TIME OUT

SIGN OUT

- ☐ CONFIRM ALL TEAM MEMBERS HAVE INTRODUCED THEMSELVES BY NAME AND ROLE
- ☐ SURGEON ANAESTHESIA PROFESSIONAL AND NURSE VERBALLY CONFIRM
 - PATIENT
 - SITE
 - PROCEDURE
- ANTICIPATED CRITICAL EVENTS
- ☐ SURGEON REVIEWS: WHAT ARE THE CRITICAL OR UNEXPECTED STEPS OPERATIVE DURATION ANTICIPATED BLOOD LOSS?
- ☐ ANAESTHESIA TEAM REVIEWS: ARE THERE ANY PATIENT SPECIFIC CONCERNS?
- ☐ NURSING TEAM REVIEWS: HAS STERILITY (INCLUDING INDICATOR RESULTS) BEEN CONFIRMED? ARE THERE EQUIPMENT ISSUES OR ANY CONCERNS?
- HAS ANTIBIOTIC PROPHYLAXIS BEEN GIVEN WITHIN THE LAST 60 MINUTES?
- ☐ YES
- ☐ NOT APPLICABLE
- IS ESSENTIAL IMAGING DISPLAYED?
- ☐ YES
- ☐ NOT APPLICABLE

- NURSE VERBALLY CONFIRMS WITH THE TEAM :**
- ☐ **THE NAME OF THE PROCEDURE RECORDED**
 - ☐ **THAT INSTRUMENT SPONGE AND NEEDLE COUNTS ARE CORRECT (OR NOT APPLICABLE)**
 - ☐ **HOW THE SPECIMEN IS LABELLED (INCLUDING PATIENT NAME)**
 - ☐ **WHETHER THERE ARE ANY EQUIPMENT PROBLEMS TO BE ADDRESSED**
 - ☐ **SURGEON, ANAESTHESIA PROFESSIONAL AND NURSE REVIEW THE KEY CONCERNS FOR RECOVERY AND MANAGEMENT OF THIS PATIENT**

OT Checklist

THIS CHECK LIST IS NOT INTENDED TO BE COMPREHENSIVE ADDITIONS AND MODIFICATIONS TO FIT LOCAL PRACTICE ARE ENCOURAGED.

VITAL ROLE OF FAMILY SUPPORT DURING PREGNANCY

Pregnancy and childbirth are physically, mentally, and emotionally challenging. Support should extend from pregnancy care through labor and into the postpartum period.

- Constant care and understanding are crucial due to the emotional and health changes a woman experiences.
- Family, especially the husband, should provide a supportive and patient environment.
- Pregnant women should be accompanied by a partner or family member during hospital visits to address potential complications.
- Family support is essential to manage other children and allow the pregnant woman to focus on her health.
- Emotional support is vital, especially for first-time mothers in the labor room.
- Government policies now allow a companion in the labor room to improve the childbirth experience.
- Post-birth, responsibilities should not fall solely on the mother.
- The father's involvement in the newborn's daily care is crucial for the mother's recovery and benefits both the baby's and mother's health.

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CURRENT ISSUES FACED BY THE DOCTORS AND GENERATION OF POSITIVE EXTERNALITIES

- Significant strain due to low doctor-patient ratios, leading to prolonged working hours without adequate rest
- Inadequate Laboratory Services in peripheral hospitals affecting diagnostic capabilities.
- Limited Availability of Specialists like pediatrician and anesthetist
- Lack of blood banks or storage facilities in hospitals, crucial during emergencies.
- Violence Against Healthcare Workers
- Kerala's implementation of designated delivery points in larger hospitals to pool resources and ensure 24/7 availability.
- Maternal Death and Near-Miss Surveillance and Response (MDNMSR) meetings to analyze and prevent future incidents.

The aim of this section is not to find faults in the system but to highlight how these doctors have been able to spread positive externalities with the current resources available in a really efficient manner.

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GOVERNMENT IMPROVEMENTS TO SUPPORT DOCTORS AND PATIENTS

Present Policies

- **LaQshya** policy is a **central government policy** that is partly implemented in Kerala. This program is aimed at enhancing maternal and newborn health outcomes, enhancing the quality of care provided during delivery and immediately in the postpartum period to provide a positive birth experience in public health facilities. There will be a listed standard for everything. A patient attending OPD who comes to the labor room will be allowed one bystander with them, and they will be taken care of in every need
- **Janani Shishu Suraksha Karyakaram (JSSK)** was implemented by the government of India in June 2011. It was **funded by the National Health Mission, NHM**, and the government gives the money. It aims to help pregnant ladies who come for delivery at government hospitals. With this program, **all the investigations, all the pre-scans, everything is free for the patient.**

GOVERNMENT IMPROVEMENTS TO SUPPORT DOCTORS AND PATIENTS

Suggestions from Doctors

- Increase the number of seats in medical institutions to have more trained doctors to provide 24-7 services and improve the low doctor-patient ratio. Increasing the number of seats for medical students will increase the number of residents, reducing the workload for them so that they can work in full mind and with the utmost capacity.
- Essential medications and treatment should be constantly available in both primary healthcare centers and community healthcare centers, particularly in rural areas.
- Adequate staff, such as nursing staff, should be increased in government hospitals, and the number of healthcare professionals should also be increased to distribute the workload.

IMPORTANCE OF VALUES: IN CONTEXT OF 'DHARMAARTHASHSHTRA

- Pregnancy and childbirth transcend medical and financial aspects, embodying the principles of **Dharmaarthashshtra**.
- The transformative experience for a mother parallels a '**rebirth**', showcasing her power, resilience, and sacrifices.
- Sensitizing families, partners, and the public to the silent struggles faced by mothers is crucial to alleviate physical and emotional burdens.
- **Child, born as a citizen of India.**
- Collective responsibility, rooted in compassion and empathy, ensures the dignity of life for every child, fostering a society where every mother and child is valued and supported.

INFERENCES

1. High-Risk Pregnancies:

- Promote healthier lifestyles from childhood.
- Parental role crucial in habit formation.

2. Delivery Methods:

- C-sections crucial for high-risk cases.
- Normal delivery preferred for low-risk cases.

3. Impact of Technology:

- Advanced tech improves anomaly detection.
- Positive outcomes in high-risk pregnancies.

4. Doctor's Contributions:

- Doctors strive for optimal outcomes.
- Families urged to exhibit understanding.

5. Role of Family and Partners:

- Family support enhances outcomes.
- Spousal support crucial throughout.

6. Values and Principles:

- Dharmaarthashashtra highlights compassion.
- Create an environment for baby's dignity.

CONCLUSION

Pregnancy demands attention for both maternal and fetal health, with lifestyle improvements and medical supervision critical for high-risk cases. Despite challenges, healthcare providers strive for quality care, aided by technological advancements and family support. Sensitizing individuals can enhance maternal and neonatal health outcomes, ensuring a safe and dignified pregnancy experience for every woman in India.