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Case Study

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# Trends in Parturition Practices- From Spontaneous Delivery to Caesarean Sections- Who Decides & How is it decided? India Case Study

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## Abstract

Parturition commonly known as delivery of the foetus at the end of an average 9 months of gestation period, is a process following vigorous uterine contractions, induced by a complex neuroendocrine mechanism. Most deliveries are destined to be spontaneous vaginal, a few with assisted vaginal, and a few through cut on the abdomen & uterus, called caesarean section (CS).

Currently global trends in parturition are characterized by a significant rise in medicalization- assisted deliveries and caesarean section (C section/CS) epidemic. As of 2025–2026, the global delivery landscape is marked by a rising, rate of CS (21-29%) and a declining rate of assisted vaginal deliveries (forceps/vacuum- 10-15%, and Spontaneous Vaginal Deliveries (SVD 60%–70%) of global births.

In India too, with overall institutional deliveries increased to 94% (as of 2025), the trends in parturition landscape indicate that Caesarean section (CS) rates have risen significantly, with a stark disparity between sectors like rural, urban and southern and northern states from late 1960's, figures of Spontaneous Deliveries over 90%, followed by Assisted Deliveries (Forceps/Vacuum 3%), Caesarean Sections (CS) in big cities only ( 2-3%) and Induced deliveries were rare (<1%), using Pitocin. This shift is driven by a mix of clinical factors, i) advanced maternal age and obesity, ii) strong non-clinical factors, like commercial interests, defensive medicine, and convenience.

**Materials & Methods:** This article is an outcome of observing 5 pregnant women 3 primi-gravida and two second gravidas with only one going for Normal vaginal delivery, in last 3 months, compared to first 3 months of authors career in late 1968, pointing to the Public Health Challenge country is facing and the need for Government to issue strict guidelines for C Sections and monitor the same.

**Outcome:** The first five deliveries (2 primi, & 3 multi gravida) between July and December 1968 the author conducted in a rural health centre in Kalaburagi (Gulbarga) one of the remote districts in Karnataka were all spontaneous deliveries one primi needing episiotomy. AS compared to that now in Jan-March 2026, 5 pregnant women (3 primi & two second gravidas) 4 delivered through C Section and only one going for Normal vaginal delivery.

**Keywords:** Gravida; para; primi; multi

**Abbreviations:** SDV: Spontaneous vaginal delivery; ILD: Induced Labour delivery; AD: Assisted Deliveries; CS: Caesarean section (CS)

## Introduction

At the end of an average 9 months of gestation period vigorous uterine contractions lead to the delivery of the foetus and this process is called parturition. It is induced by a complex neuroendocrine mechanism and includes three stages Stage 1: Dilation of cervix, Stage 2: Delivery of newborn, Stage 3: Shedding of placenta. There

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are different types of vaginal deliveries: spontaneous, induced and assisted. In spontaneous vaginal delivery a vaginal delivery happens on its own through the 3 stages and without labour-inducing drugs [1]. In Induced vaginal delivery, some drugs or other techniques initiate labour & prepare woman's cervix, a process known as labour induction. Assisted delivery too is a vaginal birth, facilitated with the help of forceps or a vacuum device to get baby out in both spontaneous & induced vaginal deliveries. A Caesarean section (C-section /CS) is a common surgical procedure used to deliver a baby through incisions in the abdomen and uterus, performed when vaginal delivery poses risks to the mother or baby due to factors like labour dystocia, breech position, or foetal distress [2].

Global trends in parturition are characterized by a significant rise in medicalization- assisted deliveries for occasional Breech presentation, rare hand prolapse etc. Assisted delivery involves using instruments like forceps or vacuum extractor to expedite birth during the second stage when hastening the vaginal delivery was deemed necessary, often due to foetal distress, maternal exhaustion, or prolonged labour. Public Health concern is of a "caesarean section epidemic", as global rates increased from 7% in 1990 to 21% today, far exceeding the World Health Organization's (WHO) recommended 10-15% range. These trends are projected to continue, with global CS rates estimated to reach 30% by 2030. This shift is driven by a mix of clinical factors, i) advanced maternal age and obesity, ii) strong non-clinical factors, like commercial interests, defensive medicine, and convenience [3].

In late 1960's, when this author entered the profession Spontaneous Deliveries were over 90% of all births followed by Assisted Deliveries (Forceps/Vacuum extractions) in obstructed labour cases, to the tune of 3%, Induced Deliveries were rare (<1%), using Pitocin and Caesarean Sections (CS) very low in big cities only to the tune of 2-3%) prevalence. The trends in the Indian parturition landscape indicate that Caesarean section (CS) rates in have risen significantly, with a stark disparity between sectors. While overall institutional deliveries have increased (94% as of 2025), studies indicate that 1 in 5 pregnant women in India has a C-section without medical necessity. Private facilities show a much higher CS rate (47.4%) compared to public facilities (14.3%) [4]. There is a notable rise in non-medically indicated C-sections driven by provider convenience, and family's preference of seeking auspicious birth days [4]. This article is an outcome of observing 5 pregnant women 3 primi-gravida and two second gravidas with only one going for Normal vaginal delivery, in last 3 months, pointing to the Public Health Challenge country is facing and the need for Government to issue strict guidelines for C Sections.

## Case Reports

### Case 1: Troubling Twins ending in Caesarean section delivery

A 29-year-old graduate woman become pregnant for the second time when her first born girl was about 7 years old. This pregnancy was a result of both husband and wife's investigation for secondary sterility and hormonal therapy for ovarian reserve and quality of sperms boosting for her husband in May 2025. In mid-June 2025 she felt first signs of pregnancy (sagging breast & increased hunger). On 19 June an HCG test suspected pregnancy after first round of treatment. On 25 July 2027 a first Obstetric scan confirmed Dichromatic Diamniotic twin pregnancies of 7 weeks & 2days (+/_ 1week). From the day she learnt that she had twins in her womb, she got tensed to know the gender (she desired for one baby boy at least) and started worrying about taking care of the twins & elder daughter. She was devised to take about 600 extra calories daily - 300 for each baby & increase daily protein consumption to 100 grams each day. After the first trimester, iron requirements jumped from 30mg to 60mg.

Due to rapid uterine growth and rapid expansion her baby bump grew faster than her first singleton pregnancy, two placentas and increased amniotic fluid. Her belly was generally larger, leading to higher fundal height measurements, the bump appeared wider earlier. She started gaining weight higher compared to her first singleton pregnancy. She experienced stronger pregnancy symptoms, such as severe nausea or extreme fatigue, faster weight gain, increased back pain. At about completion of 16 weeks, she even thought of getting the pregnancy terminated due to physical and mental pressure. After a lot of motivation, she continued the pregnancy and by 1 January 2026, came to know the gender of babies (a boy & a girl each) through Sonologist, and was relieved of tension of having all 3 daughters. However, this relief was short lived as she came to know the boy was premature and not catching up weight. On 16 January 2026 the final scan showed early onset of IUGR in the boy, and anaemia in the mother. She was given IV transfusion of Iron on 25th January 2026 to boost weight gain. By10 February she started feeling severe fatigue and pelvic bones pain and severe constipation. A doppler scan on 13 February estimated the girl's weight as =2 kg and boy 1.7 kg. She was given a cortisone injection. Another scan on 25th February estimated gestation age of 35 weeks and late IUGR for the boy and 35 weeks 5 days for the girl. On 28 February 2026 the babies were delivered vis caesarean section, the girl fist and the boy later. Both are doing well by the end of 31 March 2026

### Case 2: Natural Vaginal Delivery of A pregnant woman who thinks & becomes as strong as she herself to be

A mother of a 2.6-year-old kid who had a normal/vaginal delivery, conceived for the second time when she was 34 years old, and delivered normally at 35 years. She is just 5 ft in height and weighed 51 kgs before pregnancy. My son was born 2.65 kgs in weight. During her primi-gravida pregnancy, she changed two doctors because they were a bit unwilling to try normal delivery, and pushing for a CS, probably due to her age and she wanted a normal delivery, not a C Section. Third one a gynae asked her "Why did you come to me after 2 doctors? "And What do you expect me to do?" She had replied, "All I want is for you to try and perform a normal delivery, but of course the final call would be yours and if you feel there's no way out, you can always proceed for a C Section! The other doctors I visited weren't willing to try it even, I heard you are one of the few ones who encourage normal delivery and I have

come to you". He assured that he will try it before proceeding for a C Section. "She lived in Tumkuru and travelled to Bengaluru (80 kms) every month, by road via public bus for a check-up. At 35, she had no problems of obesity, thyroid, blood pressure or other lifestyle diseases, she attended her office full time till my 9th month, and did everything that I used to before pregnancy, right from shopping to cooking and exercising. Her gynae permitted her to continue with exercises suitable during pregnancy and told her that if she felt comfortable travelling, she can do it. Since she stayed on the 3rd floor, without any lift, climbing the stairs up and down was additional exercise for her. She walked two kms every day during my last month of pregnancy till the previous day of my delivery. She never had any dizziness, vomiting, weakness, or felt any repulsion for any food, neither did she have any cravings nor hunger pangs, except for my growing belly, there was no way for her to understand that she had a baby growing inside her tummy.

During my 9th month check-up, her doc told her that she should now stop travelling and take leave from office. Accordingly, she packed her things and took maternity leave and came to her husband's one November 2025 morning. It was then that her hands and legs started itching, so much so that she was unable to sleep at night. It was my 38th week, when some blood test's biomarkers indicated an increase in liver enzymes which is normal during a pregnancy, her doctor advised her to get admitted the next day. He alerted that though it was normal, the baby's heartbeat might stop any moment because of this, and he didn't want to take a risk when everything has proceeded so smoothly.

I got admitted and two of my close friends and my husband got me admitted to a private hospital where the next day after my doc visit, my doc practiced. I was admitted in the evening, and I almost had my entire dinner. Around 11 p.m. nurses asked her to try and get some sleep. Around 4 a.m., a mild pain started, surging after every 15 minutes. After some time, it became more pronounced, and she called the nurses. The pain continued increasing and every time it surged and fell, I was drained. The nurses tried soothing her. At around 7 a.m. the pain got extremely severe, and there was no sign of the doctor, the nurses told her to call her husband. After one such contraction, when she dropped down to her pillow and was catching her breath, her doc sauntered in and catching her close her eyes said smiling "can a labour patient afford to sleep?" Her water finally broke, and when the doctor came to look for the membrane, she screamed out, the nurses came and probed and told the doctor that the baby's head was still sideways, but she was ready to be taken into the labour room by 8 a.m.

In the labour room, her doc told her to hold her breath every time the contractions came, and push like I was having constipation and needed to finish my morning job. Finally, the baby's head turned downwards, they checked her pressure and the baby's heartbeat and said everything was fine, and sharp at 9:29 a.m. my boy came out. It was 5 and a half hours of labour. Her first question to the doc was "when can I have my breakfast? I am famished; he made her do a lot of work. First, she was advised to have a cup of tea after an hour and then she will have normal breakfast and lunch and dinner. She was released after two days.

### Cases 3-5: Three Primi-deliveries totally brain-washed by their Gynaecologists in 2026

During January- March 2026 three young pregnant women in their late 20's all primi-gravidas within 2-5 years of marriage were subjected to C-section, one of them after failure of Pudendal block. First in Hubballi, second in Ilkal, a small town in Bagalkot, just 16 m away from Hanamsagar, Koppal district the maternal home of the lady, and third in Bengaluru, representing three levels of Urban India, pointing to the spread of C-section pandemic. While it was prestige issue for maternal home, for the women it was fear of labour pain and Gynaecologists counselling more for commercial conflict of interest.

## Discussion

### Process of Parturition

Parturition is a process following vigorous uterine contractions, induced by a complex neuroendocrine mechanism. Most deliveries are destined to be spontaneous vaginal, a few with assisted vaginal, and a few through cut on the abdomen & uterus, called caesarean section. A developing foetus secretes some hormones from its adrenal glands, which diffuse into the maternal blood and collect to stimulate the release of oxytocin which is a birth hormone from the mother's posterior pituitary. Oxytocin causes the forceful contraction of smooth muscles of the myometrium called labour pains. There are different types of vaginal deliveries: spontaneous, induced and assisted (Figure 1).

### Spontaneous Parturition includes three stages

Stage 1: Dilation of cervix, the reflex between the uterine contraction and oxytocin secretion causes stimulation and results in stronger contractions which pushes the baby out through the dilated cervix and vagina with the head, first generally, this stage lasts about 20 minutes to one hour.

Stage 2: Delivery of newborn -the foetal membranes burst and amniotic fluid is expelled; The normal duration of the second stage of spontaneous labour (pushing to birth) is generally within 2 to 3 hours for first-time mothers (nulliparous) and 1 to 2 hours for multiparous women. Epidural anaesthesia use can extend this stage by about an hour.

Stage 3: Placental stage of Shedding of placenta. 10-45 minutes during which the umbilical cord, placenta and foetal membranes are expelled as decidua or after birth. After parturition the uterus reduces in size causing detachment of placenta. The umbilical cord is tied & then cut which is shrinks up into a scar called umbilicus or navel. The mammary glands of females differentiate during pregnancy and start producing milk, is known as lactation which helps the mother in feeding the newborn. Colostrum is the milk produced at the initial few days of lactation [1].

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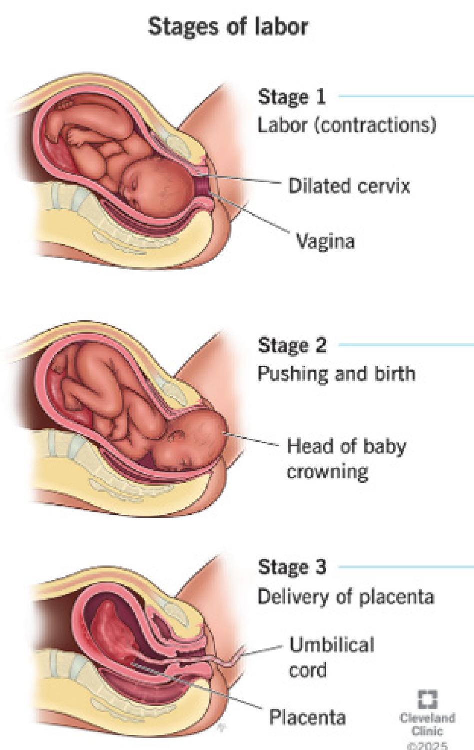


Figure 1

## Trends of Vaginal Deliveries

Ideally many low-risk pregnancies, normal delivery is considered safe and is recommended. Recovery is usually quicker. Hospital stay is shorter. Mothers can often move around sooner and begin breastfeeding comfortably. However, normal delivery is not always the safest option for few high-risk pregnancies. It is safest for the foetus and the mother when the newborn is full-term at the gestational age of 37 to 42 weeks. Medically analyzing, approximately 80% of all singletons must be vaginal deliveries at full-term via spontaneous labour, whereas 11% are preterm, and 9% are post-term [1]. With the advent of Assisted and surgical delivery modalities, the number of patients who reach spontaneous labour has decreased over time to 60-70%, and the induction of labour (5%), assisted labour (5%) and Caesarean Sections have increased to 20-30% [1,3].

## Vaginal Deliveries

Spontaneous vaginal delivery: In spontaneous vaginal delivery a vaginal delivery happens on its own through the 3 stages described above without labour-inducing drugs.

Induced vaginal delivery: In Induced vaginal delivery, some drugs or other techniques are used to initiate labour & prepare woman's cervix known as labour induction.

Operative Vaginal deliveries: Assisted delivery is also a vaginal birthing facilitated with either forceps or a vacuum device to get baby out, when mother is exhausted and can't push any more in both spontaneous & induced vaginal deliveries [1].

Painless delivery: Painless delivery, has emerged as a transformative option for pregnant mothers seeking a more comfortable and less distressing birthing experience. This method employs epidural anaesthesia to alleviate the pain associated with labour, allowing women to experience the birthing process with less discomfort. On a psychological level, painless delivery often leads to enhanced maternal satisfaction, reduced anxiety, a more positive outlook on the overall birthing experience. Partners and family members benefit from a less stressful environment, fostering a supportive atmosphere [5,6].

Urban, educated, and affluent women are increasingly opting for pain relief during vaginal delivery to enhance maternal satisfaction and reduce anxiety. There is a misconception of "Zero Pain" as many women confuse "painless" with total numbness, whereas it means a significant reduction in pain (approx. 80–90%). While many women in India are unaware of the technicalities of epidurals, when informed, a high percentage of urban women show interest in it. Most obstetrician in Urban India start promoting this concept very early during antenatal care visits. Information is often sought through digital platforms and experiences of friends, leading to a demand for advanced care options. A major concern is whether the epidural medication will affect the foetus's heart rate, movement, or long-term health, despite doctors repeatedly confirming that it is generally safe for the baby. A persistent myth is that an

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epidural injection in the spine causes permanent or severe long-term backache. There is also a fear that pain relief may hinder the ability to push, thereby increasing the likelihood of instrumental delivery (forceps/vacuum) or a necessary C-section. Some women are worried about being confined to the bed and losing the ability to move freely during labour. Painless delivery involves a higher cost due to an anaesthesiologist's oversight, which can be a barrier, particularly in secondary care and smaller setting are hospitals.

While most rural and some urban pregnant women want "Natural Experience "of birthing, some feel pressured by traditional beliefs that pain is an essential part of the bonding process, leading to guilt about choosing comfort. Fear of the needle, injection site pain, and potential side effects like dizziness or inability to urinate are common. Another myth is it is "inhuman" to take pain relief. However, Painless delivery aims to reduce unnecessary suffering, not avoid the process of birth. Some mis-construe it as totally painless, but the reality is she still feels pressure & can move her legs; only the intense pain is blocked [5,6].

## Water Birthing

Water birthing in India is an emerging, safe, and natural childbirth option for low-risk pregnancies, offering pain relief and relaxation through warm water immersion (typically 35–37°C). Primarily available in metro cities like Delhi, Mumbai, Bengaluru, and Pune, this method reduces stress hormones and helps shorten labour. While the idea of a serene, water-based delivery is appealing, it isn't suitable for everyone. It is suitable to the pregnancies i) of low-risk and full-term (>37 weeks) ii) The baby must be in a head-down (vertex) position iii) No signs of infection, excessive bleeding, or medical complications like preeclampsia or gestational diabetes. Iv) The birthing pool must be sanitized and temperature-controlled (36–37°C). Most importantly in facilities where continuous foetal monitoring is available [7].

## Instrument-assisted vaginal delivery (Operative Vaginal Deliveries)

The primary reason for Operative vaginal delivery is a prolonged second stage of labour (60%), followed by maternal exhaustion and non-reassuring foetal heart rate. Instrumental deliveries are most frequently performed in primigravida aged 21-30 years. Operative vaginal delivery uses specialized instruments—forceps or a vacuum device—to aid in delivering the baby during the final pushing stage of labour (Figure 2).

Figure 2

Instruments like Forceps (metal spoons) or a vacuum (suction cup) are used to gently guide the baby's head through the birth canal. Any of this equipment is used during the second stage of labour after full dilation and when there is a need to hasten delivery, often avoiding the need for a C-section. The amniotic sac is broken, the cervix fully dilated, and the baby must be far enough down in the birth canal. The magnitude of instrumental vaginal deliveries in India generally ranges between 2.5% and 5% of all vaginal deliveries [8]. In recent years, this practice has been on a downward trend, often replaced by a rising rate of Caesarean sections. Studies indicate that the incidence of operative vaginal deliveries (OVDs) varies but is generally low compared to the overall rate of births.

### Vacuum Extraction (Ventouse)

Vacuum Extractor is a small plastic suction cup attached to a pump is placed on the baby's head. It causes less maternal injury but may cause temporary bruising/swelling on the baby's scalp (cephalohematoma). Vacuum extraction is increasingly favoured over forceps due to better safety outcomes and lower maternal trauma, with vacuum use often being 4:1 compared to forceps in some institutions (Figure 3).

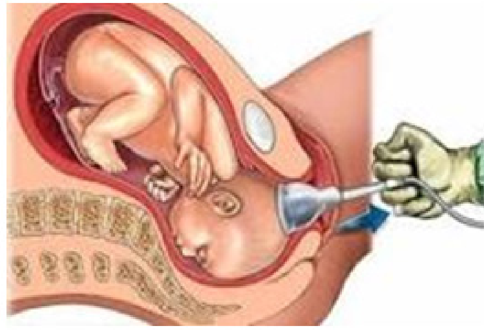

Figure 3

**Forceps Delivery**

Forceps is a metal tools that fit around the baby's head. These may be used when the baby is in a specific position. Potential Complications include i) Increased risk of severe lacerations (tears), pelvic floor injury, or bladder issues ii) Temporary facial or scalp bruising, cuts, or in rare cases - serious injury. Postpartum care may include pain management for the perineum, such as using a warm water spray bottle and taking care of the area.

While generally safe, OVDs can lead to complications such as perineal tears, extension of episiotomy, vaginal/cervical lacerations, & postpartum haemorrhage (PPH). Most newborns have a good APGAR score (>6 at 1 minute), though some may require NICU admission for birth asphyxia or, in the case of vacuum use, temporary scalp bruising/abrasions.

In a recent study of 2,299 OVDs, A meta-analysis revealed that forceps significantly increased the incidence of perineal tears (Risk difference = 0.08, 95% CI 0.02-0.13) and vaginal injuries (Risk Difference = 0.12, 95% CI 0.05-0.19). Vacuum extractors were associated with an increased risk of infant cephalohematoma (Risk Difference = −0.06, 95% CI −0.08, −0.04). There was no significant difference in maternal anaesthesia required or failure to accomplish vaginal delivery with the intended instrument [8] (Figure 4).

Figure 4

## Assisted Deliveries Caesarean Section (C section)

Assisted deliveries in India, particularly Caesarean Sections (C-sections), have witnessed a significant rise, marking a rapid shift from natural childbirth towards surgical intervention. It has become a common surgical procedure used to deliver a baby through incisions in the abdomen and uterus, performed when vaginal delivery poses risks to the mother or baby due to factors like labour dystocia, breech position, or foetal distress. The procedure includes giving a spinal aesthetic to numb the lower body. Surgeons make a horizontal ("bikini") or vertical incision in the abdomen and uterus to deliver the baby within roughly 5-10 minutes, followed by 30-45 minutes to close. C sections are of 2 types 1) Planned CS if there be a breech presentation, prior C-section, or placenta previa on scanning) 2) Emergency CS if labour fails to progress, & foetal distress is identified. Hospital stays are generally 3 to 5 days. Walking soon after surgery is encouraged to prevent blood clots. Full recovery takes 6-8 weeks. While safe, it is major surgery with potential risks of infection, bleeding, and longer recovery times [9].

The promotion of institutional deliveries in India was majorly accelerated with the launch of the Janani Suraksha Yojana (JSY) on April 12, 2005, as a core component of the National Rural Health Mission (NRHM) [9]. This scheme provided financial incentives

to women delivering in health facilities to reduce maternal and neonatal mortality. While over last two decades institutional births are encouraged, significant numbers of home deliveries still occur among disadvantaged populations, driven by factors like lack of transport, financial constraints, and lack of family permission. In public facilities, especially in states like Uttar Pradesh, Bihar, MP etc, overcrowding, lack of privacy, and mistreatment like a lack of choice for birthing positions and manual exploration of the uterus.

Institutional deliveries in India have reached approximately 89% as of 2019–2021 (NFHS-5), a significant increase from 79% in 2015-16 and an estimated 95% in 2025. This rise, driven by initiatives like Janani Suraksha Yojana (JSY) and ASHA worker efforts, has improved maternal health, although inter-state disparities exist. The national institutional delivery rate was at 89% during 2019-21, with 61.9% occurring in public facilities & 30.1% in private. While states like Kerala, Goa, Tamil Nadu, and Lakshadweep report 100% institutional deliveries, rates were lower in Nagaland (46%) and Meghalaya (58%).

Historical Trends (1960s–2020s) suggest that in 1960s–1970s C-section rates were very low, with data from specialized teaching hospitals showing rates rising from roughly 2.68% in 1960 to roughly 4% in 1970. Then the trend accelerated, with institutional rates crossing 10% in some areas by the mid-80s. National Family Health Survey (NFHS-1) data from 1992-93 showed a national rate of 2.9%, growing to 7.1% by 1998-99. The rise continued steadily, reaching 8.5% in NFHS-3 (2005-06). Increased institutionalization of births, especially in southern states, contributed to this growth. The trend became "alarming" with C-section prevalence rising from 17.2% (2015-16) to 21.5% (2019-21) [10].

From a procedure of last resort that caused the death of most mothers and babies, the caesarean delivery has become a lifesaving delivery method and the most common major surgical procedure performed worldwide. The first modern caesarean deliveries, based on accurate anatomic knowledge, were performed 250 years ago. The development of new surgical and anaesthesia techniques, antibiotics, uterotonics, blood transfusion, & neonatal care over the last 100 years has transformed the perinatal outcomes of caesarean delivery. The epidemiology of caesarean delivery has changed over the last 30 years with most high & middle-income countries having rates more than 30% and in some that exceeds 50% of all births due to certain maternal health conditions such as severe hypertension.

The transition from normal vaginal delivery to Caesarean section (C-section) in India since the late-1960s when this author entered the profession has been characterized by a rapid, steady, and profound rise, shifting from a procedure of last resort to a frequently used method of delivery. As of early 2026, India's C-section rates show a significant disparity, with private facilities experiencing a continued rise (exceeding 50% in many regions) while public facility rates remain significantly lower, around 15%. Private sector births are roughly twice as likely to be surgical compared to public hospitals, driven by profit motives, convenience, and urban-rural disparities medical facts are -Vaginal birth promotes faster recovery and fewer surgical risks, while CS poses significant long-term reproductive risks. Individualized care decisions are essential for optimizing maternal health. Short term risks like recovery time, infection rates, and postpartum pain, were lower in vaginal birthing while long-term outcomes like pelvic floor disorders were more in vaginal deliveries and complications in subsequent pregnancies, and chronic pain are more in C sections.

Figure 5

The use of caesarean delivery continues to rise amid inequalities in access to the procedure when medically necessary. Short-term caesarean delivery complications, such as postpartum sepsis and hemorrhage, and long-term postoperative complications, such as permanent defect of the lower uterine segment with a high risk for placentation anomalies in subsequent pregnancies, have a disproportionate impact in low-resource environments. In countries with high numbers of multiple caesarean deliveries, there has been an increase in the incidence of complex caesarean deliveries, including placenta previa accreta, that have a direct impact on maternal morbidity and mortality rates and an indirect impact on local healthcare provision and costs. Obstetrical care

bundles, which reduce the indiscriminate use of primary caesarean delivery for nonmedical reasons and improve access to emergency live-saving caesarean delivery in low-resources communities, are essential (Figure 5).

The World Health Organization recommends a CS rate of 10–15%, yet rates in many public tertiary care centers and private secondary & tertiary centers remain considerably higher. Among primigravida women undergoing CS, the 20–24 age group has the highest (50%), representation followed by 25–29 years (28%). Age of the mother does not influence the type of CS in this cohort. Distribution of Elective and Emergency Caesarean Section (CS) Cases by Gestational Age at Birth, finds that there is a statistically significant difference as emergency CS based on gestational age at birth ($\chi^2 = 8.2$, $p = 0.005$). Preterm births (<37 weeks) had a higher proportion of emergency CS, while term births (>37 weeks) had a higher proportion of elective CS. Primigravida women who go into spontaneous labour had significantly higher rates of emergency CS (60.1%), whereas elective CS was exclusively observed in those not in labour, highlighting a strong association between labour onset and CS type. One observes that Emergency CS was more prevalent among women with no or fewer ANC visits, while elective CS was more common among those with ≥2 visits ($p < 0.001$), suggesting that regular antenatal care contributes to early identification of complications, or the service provider influences the decision of elective C section [10,11].

## Robson's Ten Group Classification System (TGCS)

The Robson classification, or ten groups classification system TGCS), is a global standard for assessing, monitoring, and comparing CS rates [3,10] and is recommended by World Health Organization (WHO) and the European Board and College of Obstetrics and Gynaecology (EBCOG). All women were classified as follows:

a) Nulliparous women with a single cephalic pregnancy, > 37 weeks gestation in spontaneous labour.

b) Nulliparous women with a single cephalic pregnancy, > 37 weeks gestation who either had labour induced or were delivered by caesarean section before labour.

c) Multiparous women without a previous uterine scar, with a single cephalic pregnancy, > 37 weeks gestation in spontaneous labour.

d) Multiparous women without a previous uterine scar, with a single cephalic pregnancy, > 37 weeks gestation who either had labour induced or were delivered by caesarean section before labour.

e) All multiparous women with at least one previous uterine scar, with a single cephalic pregnancy, > 37 weeks gestation.

f) All nulliparous women with a single breech pregnancy.

g) All multiparous women with a single breech pregnancy, including women with previous uterine scars.

h) All women with multiple pregnancies, including women with previous uterine scars.

i) All women with a single pregnancy with a transverse or oblique lie, including women with previous uterine scars.

j) All women with a single cephalic pregnancy, < 37 weeks gestation including women with previous uterine scars.

Following definitions are used for core variables:

a) Nullipara: a woman who had not delivered an infant weighing > 1kg or at gestational age > 28 weeks, alive or dead, with or without congenital malformations, by any route.

b) Multipara: a woman who had at least once delivered an infant weighing > 1kg or at gestational age > 28 weeks, alive or dead, with or without congenital malformations, by any route.

c) Spontaneous labour: prior to delivery women was in spontaneous labour. Induced labour: upon admission to the labour ward, the woman was not in labour and was then induced.

d) Pre-labour CS: Woman not in labour when admitted for delivery and a decision was taken to deliver by CS. Term: delivery at gestational age > 37 weeks.

e) Preterm: delivery at gestational age < 37 weeks [3].

In 2025 the overall caesarean section rate was around 60%, with a primigravida CS rate of 61%. Emergency CS accounted for 87.7% of cases. Among all Robson Group 5 i.e., All nulliparous women with a single breech pregnancy (88%) and RG 6 All nulliparous women with a single breech pregnancy (81%), was the largest contributors followed by Group 1 i.e. Nulliparous women with a single cephalic pregnancy, > 37 weeks gestation in spontaneous labour was the largest contributor (70.37%), and Group 2, i.e., Nulliparous women with a single cephalic pregnancy, > 37 weeks gestation who either had labour induced or were delivered by caesarean section before labour (22.4%). Foetal compromise, cephalopelvic disproportion, and oligohydramnios were the most common indications. Significant associations were observed between gestational age, onset of labour, antenatal care visits, and the type of CS.

## Reasons for High C-section Rates in India

The high rate of C-sections in all categories of private hospitals in India is a significant public health concern! As many studies show that the probability of a C-section is four to seven times higher in private facilities compared to public ones. As of 2025, nearly 60% of deliveries in the private sector in India are performed via C-section, far exceeding the World Health Organization's (WHO) recommended rate of 10–15%. This trend is driven by a complex interplay of financial incentives, administrative convenience, & defensive medicine, often a conflict of interest where patient's wellbeing is secondary to institutional gains [2,10].

a) Financial and Institutional Factors: Unnecessary C-sections create a "conveyor belt" of profit, as a first C-section often leads to a second one ("once a C-section, always a C-section"), ensuring higher, guaranteed revenue for the hospital. Private

hospitals aim for high turnover. A C-section takes less than an hour, allowing doctors to free up operating rooms and beds faster than a normal labour, which can last for many hours. Private hospitals most often run on business models where maximizing revenue is a priority. C-sections cost (INR 100,000-300,000) significantly more than normal vaginal deliveries (INR 50000- 100,000)—often 4 to 5 times higher in private corporate settings leading to higher margins. Many Hospitals offer "maternity packages" that promote C-sections. The package cost is like a normal delivery, but such hospitals charge separately for surgeon, anaesthesia, surgical consumables, and neonatal intensive care unit (NICU) care, etc.

b) Physician Convenience and Practice Style: Scheduling a C-section allows doctors to plan their day and avoid unpredictable, midnight labour calls, contributing to the "convenience" aspect of corporate medicine. As some private setups lack experienced nurses or midwives specialized in managing natural labour, leading to a reliance on surgical methods, which are perceived as easier for the doctor.

c) Medico-Legal and Risk Aversion: In the Western world Doctors, fearing violence from family members or litigation if a normal delivery results in an adverse outcome, choose a C-section as a "safer" option, even if it is not medically necessary [13]. In Indian Urban corporate hospitals, we see this practice creeping in. Defensive medicine is classified into two main types i) Positive (Assurance Behaviour) like ordering extra diagnostic tests, imaging, or laboratory studies to prove all bases were covered if a lawsuit arises ii) Negative (Avoidance Behaviour): Steering clear of high-risk procedures or declining to treat patients with complex, dangerous conditions to avoid potential liability for Example: i) Performing unnecessary Caesarean sections instead of vaginal deliveries ii) Ordering frequent CT scan or MRI for monitoring babies' growth, iii) Over-prescribing antibiotics or Cortisones for premature babies based on CT scans iv) Referring patients to specialists for minor issues [13].

Causes and Effects: In the western world and fear of lawsuits, previous lawsuits, and pressure from patients or administrators. This leads to increased healthcare costs, patient exposure to radiation or invasive risks, and decreased access to care for high-risk patients.

d) Patient and Cultural Factors: In Indian Urban and literate and affluent families i) many women fear of Labor Pain, influenced by myths or desire for comfort, request a C-section, a trend sometimes referred to as "Too Posh to Push" in urban ii) In some communities, families request that the delivery occur on a specific, astrologically auspicious date and time iii) Patients are often not given full information about the risks of C-sections, such as longer recovery, potential infection, or complications in future pregnancies.

## Vaginal delivery or Caesarean Section and Bonding, Breast Feeding & Emotional Attachment

Vaginal delivery and Caesarean section (C-section) can lead to different immediate postpartum experiences, with studies indicating potential, though often temporary, challenges in bonding, breastfeeding, & emotional attachment after a C-section. While vaginal birth is often associated with earlier bonding & higher breastfeeding initiation rates, these challenges are not insurmountable & can be mitigated with proper support [12].

### Bonding and Emotional Attachment

Vaginal Delivery is often associated with earlier, uninterrupted skin-to-skin contact, which boosts oxytocin, a hormone critical for maternal bonding and feelings of love. On the other hand, emergency or unplanned C-sections are sometimes linked to higher risks of postpartum depression and post-traumatic stress disorder (PTSD), particularly if the experience is perceived as negative or traumatic. Some C-section mothers experience a delay in holding their babies due to surgical procedures, recovery, pain, or general anaesthesia. Some studies show that mothers who have a C-section may feel less confident or experience "doubts" about their ability to care for their baby compared to those who delivered vaginally. On the long-term impact research is mixed; while some studies show immediate bonding differences, others suggest that with proper "rooming-in" and early care, the mode of delivery does not permanently affect long-term mother-infant bonding.

### Breastfeeding

Breastfeeding initiation is often delayed after a C-section compared to vaginal delivery. Mothers may experience a delay in milk production by 24–48 hours. Pain from the surgical incision, limited mobility, and medication can make positioning the baby difficult and uncomfortable. Babies born by C-section may be sleepier, affecting their early feeding cues and latch quality. Early and frequent skin-to-skin contact, even if delayed, is crucial for stimulating milk production. Using positions like the "football hold" or side-lying can help reduce pain from the incision [12] (Table 1).

**Table 1:** Summary of Differences.

| Feature | Vaginal Delivery | Caesarean Section |
|---|---|---|
| Early Bonding | Immediate skin-to-skin, high oxytocin | Possible delays, potential for feeling detached |
| Breastfeeding Initiation | Typically, prompt, within 1st hour | Frequently delayed, lower early LATCH scores |
| Physical Factors | Faster recovery, lower pain levels | Surgical pain, limited mobility, fatigue |
| Emotional Response | Higher satisfaction/accomplishment | Higher risk of stress, anxiety, or PTSD |

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A study conducted on 100 patients (vaginal birth: n=60; CS: n=40) between January 2023 and December 2024, to evaluate and compare the short- and long-term maternal health outcomes of vaginal births versus caesarean sections among patients at Barasat Government Medical College, West Bengal, reported that Short-term outcomes like recovery within five days was achieved by 75% of vaginal birth patients compared to 30% of CS patients ($p<0.01$). Infection rates were 10% in vaginal births and 25% in CS cases, including 20% surgical site. Severe postpartum pain was reported in 15% of vaginal births versus 40% of CS patients. Perineal trauma occurred in 18% of vaginal births, while 5% of CS cases had abdominal wound dehiscence. Longterm, pelvic floor disorders were higher in vaginal births (12%) compared to CS (5%). Subsequent pregnancy complications occurred in 32% of CS patients, including uterine rupture (12%) and placenta accreta (15%), compared to 5% in vaginal births. Chronic pelvic pain was reported in 20% of CS patients versus 8% in vaginal births [4,5,11].

## Conclusion

The evolution of childbirth from solely natural vaginal delivery to modern options like painless delivery and C-sections represents a significant shift in obstetric care, balancing maternal comfort with safety. While natural vaginal birth is often preferred for faster recovery and immediate bonding, painless delivery allows for a more comfortable experience, and Caesarean section serves as a vital, often lifesaving intervention. Painless delivery is a vaginal delivery managed with regional anaesthesia, most commonly an epidural, which blocks pain signals below the waist while allowing the mother to remain awake. It Provides significant pain relief (up to 90%), promotes relaxation, reduces high blood pressure caused by pain, and allows the mother to be alert for the birth. It is safe for both mother and baby when managed properly. It may increase the duration of the second stage of labour and slightly increase the need for instrumental delivery (forceps/vacuum). Side effects can include a temporary drop in blood pressure, shivering, or a temporary inability to urinate.

A C-section is a surgical procedure to deliver the baby through the abdomen, necessary when vaginal birth poses risks to the mother or baby. It is essential in emergencies like foetal distress, breech presentation, or placenta previa. It avoids trauma to the pelvic floor, such as tearing. However, being a major surgery, it carries higher risks of complications than vaginal birth, including infection, excessive blood loss, and longer recovery times. Future Risks of a repeat C-section, first scar can cause uterine rupture or placenta accreta an abnormal placental attachment in future pregnancies. Babies born via C-section have a slightly higher risk of transient breathing issues immediately after birth because they do not pass through the birth canal, which helps clear fluid from the lung.

*"I will prescribe regimen for the good of my patients according to my ability and my judgment and never do harm to anyone"*- is the Hippocrates Oath, every physician takes and is bound to follow! But what happens in real practice is quite alarming. The so-called divine profession has lost its glory due to the intrusion of an evil namely "defensive medicine and commercial conflicts" and It's hangtime for the National and State Governments to issue strict guidelines for C Sections and monitor the same.

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