"EVALUATION OF EFFICACY AND SAFETY OF DILAPAN-S VS DINOPROSTONE GEL FOR RIPENING OF CERVIX PRIOR TO INDUCTION OF LABOUR – A RANDOMISED CONTROL TRIAL."

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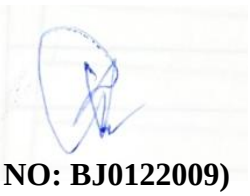

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With reference to the above, we wish to inform you that your proposed research project titled **"EVALUATION OF EFFICACY AND SAFETY OF DILAPAN-S VS DINOPROSTONE GEL FOR RIPENING OF CERVIX PRIOR TO INDUCTION OF LABOUR- A RANDOMISED CONTROL TRIAL",** is ethical and justifiable. The proposed research project has been cleared by the JNMC Institutional Ethics Committee.

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LIST OF ABBREVIATIONS

RCT	–	Randomized Controlled Trial
BMI	–	Body Mass Index
GA	–	Gestational Age
PPH	–	Postpartum Haemorrhage
NICU	–	Neonatal Intensive Care Unit
APGAR	–	Appearance, Pulse, Grimace, Activity, Respiration
TTN	–	Transient Tachypnea of the Newborn
RDS	–	Respiratory distress syndrome
DILAPAN-S	–	Synthetic Osmotic Cervical Dilator
FHR	–	Fetal Heart Rate
SVD	–	Spontaneous Vaginal Delivery
LSCS	–	Lower Segment Cesarean Section
IOL	–	Induction of Labor
ROM	–	Rupture of Membranes
PROM	–	Premature Rupture of Membranes
NRFHR	–	Non-Reassuring Fetal Heart Rate
GDM	–	Gestational Diabetes Mellitus
PIH	–	Pregnancy-Induced Hypertension
IUFD	–	Intrauterine Fetal Demise
CS	–	Cesarean Section
POC	–	Products of Conception
CBC	–	Complete Blood Count
Hb	–	Haemoglobin
TAB	–	Tablet

PG	–	Prostaglandins
IUGR	–	Intrauterine fetal growth restriction
CDMR	–	Caesarean delivery on maternal request
MSL	–	Meconium stained liquor
PGE1	–	Prostaglandin E1 (Misoprostol)
PGE2	–	Prostaglandin E2 (Dinoprostone)

ABSTRACT

EVALUATION OF EFFICACY AND SAFETY OF DILAPAN-S vs DINOPROSTONE GEL FOR RIPENING OF CERVIX PRIOR TO INDUCTION OF LABOUR-A RANDOMISED CONTROL TRIAL

Objective:

To determine the efficacy of synthetic osmotic cervical dilator (DILAPAN-S) vs Dinoprostone vaginal gel for cervical ripening in induction of labour.

Background:

IOL(Induction of labour) is a common obstetric intervention aimed at initiating labor when continuation of pregnancy poses maternal or fetal risks. This randomized controlled trial was conducted to evaluate the efficacy and safety of synthetic osmotic cervical dilator (DILAPAN-S) compared to dinoprostone vaginal gel for cervical ripening in term pregnancies.

Methods:

The present hospital based Randomized control study conducted on a total of 202 term pregnant women were equally randomized into two groups: Group A received DILAPAN-S and Group B received dinoprostone gel. Maternal demographic variables were comparable between groups. The study assessed cervical ripening, induction-to-delivery interval, mode of delivery, and complications. Neonatal outcomes including APGAR scores, birth weight, NICU admission, and neonatal morbidity were also evaluated.

Results:

Both methods proved effective in cervical ripening, with clinically acceptable induction-to-delivery intervals.In group A 51.5% women went into active labour as compared to 48.5% from group B ($p>0.05$).51.4% of the pregnant women from group A delivered with normal vaginal delivery as compared to 48.6% from group B.48.4% of the pregnant women from group A underwent LSCS as mode of delivery as compared to 51.6% from group B ($p>0.05$) . Neonatal outcomes were favourable in both groups, with mean APGAR scores of 7.62 at 1 minute and 8.76 at 5 minutes. Birth weights were within normal range and no cases of severe neonatal morbidity or stillbirth occurred.

Conclusion:

Both DILAPAN-S and dinoprostone gel are safe and effective for cervical ripening in term pregnancies, with comparable maternal and neonatal outcomes. These findings support the use of both methods in clinical practice.

Keywords:

Cervical ripening, labor induction, DILAPAN-S, dinoprostone, maternal and neonatal outcomes

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INTRODUCTION

Induction of labor (IOL) is a common obstetric intervention that stimulates uterine contractions using artificial methods after a period of viability (i.e., after 28 weeks) to achieve a vaginal birth within next 24 to 48 hours and is termed successful if a vaginal delivery occurs within 24 to 48 hours of induction of labour. IOL is carried out by using various methods like (medical, surgical or combined) for the purpose of vaginal delivery.[1]

One of the methods conducted for labour induction is cervical ripening which is defined as the use of pharmacological or other means to soften, efface or dilate cervix to increase the likelihood of vaginal delivery.

Over recent decades, more and more pregnant women around the world have undergone IOL to deliver their babies.

In developed countries, the rates of induction have doubled in last 2 decades, up to 25% of all deliveries at term now involve IOL. In the USA, they were 31.4% in 2020 and 34% in 2022, whereas in the UK, they were 21.8% in 2020.In developing countries, the rates are generally lower, but in some settings, they can be as high as those observed in developed countries.[2,3]

In India, induction of labor is performed on 22% of pregnant women. The incidence of induction varies from setting to setting ranging from 5% to 22% of all labour room admissions and depends on the institutional protocol.

An estimated 50000 women in poor nations lose their lives to labor-related problems each year. The advent of inducing agents has eased the delivery process immensely by reducing the duration of labour.[4]

Although there is no consensus on the Definition for a Failed induction, according to The Federation of Obstetric and Gynecological Societies of India (FOGSI), failed induction is defined when there is a failure to achieve regular uterine contractions (every 3 minutes) after one cycle of completion of cervical ripening.[1]

Indications and contraindications for induction of labour [1,5]

Accepted absolute indications of IOL:

- Hypertensive disorders: Pre-eclampsia or eclampsia, Gestational Hypertension, HELLP Syndrome (hemolysis, elevated liver enzymes, low platelets), chronic hypertension
- Maternal medical conditions: Gestational Diabetes mellitus
- Fetal compromise: Foetal growth restriction, isoimmunization,
- Oligohydramnios
- Pre-labour rupture of membranes: before 37 completed weeks of gestation
- Fetal demise
- Chorioamnionitis
- Post Datism (>42weeks)
- Intrahepatic Chloestasis of pregnancy

Relative indications for IOL:

- Logistic factors: Risk of rapid labour, distance from hospital, psychosocial indications, advanced cervical dilatation.
- Polyhydramnios
- Previous still birth

Prerequisites for IOL:

- Informed and written consent.
- Maternal pelvis assessment.
- Fetal weight, presentation and gestation.
- Confirm lung maturity, if possible, to reduce the incidence of perinatal mortality.
- Cervical status must be assessed.

A cervical examination is essential before labour induction is initiated and the condition of the cervix influences the success of inducing labour.

Modified Bishop Score is now widely used to predict the success of labour induction. The higher the Modified Bishop score, the more “ripe” or “favourable” the cervix is for labour induction. A low Modified Bishop score, usually considered less than or equal to 6, is “unripen” or “unfavourable” and will benefit from cervical ripening.[1]

BISHOP SCORE.

BISHOP SCORE (to assess cervical favorability)

CERVIX	SCORE				BISHOP SCORE MODIFIERS
	0	1	2	3	
POSITION	Posterior	Mid-position	Anterior		**Add1 point for:** • Pre-eclampsia • Each previous vaginal delivery **Subtract 1 point for :** • Postdate pregnancy • Nulliparity (no previous vaginal delivers) • PPROM (premature preterm rupture of memberanes)
CONSISTENCY	Firm	Medium	Soft	>80%	
EFFACEMENT	0 - 30%	30 - 50%	60 - 70%	>5 cm	
DILATION	Closed	1 - 2 cm	3 - 4 cm	+1, +2	
STATION	-3	-2	-1		

MODIFIED BISHOP SCORE.

MODIFIED BISHOP'S SCORE (Ease of IOL=ripeness of the cervix)

	SCORE			
	0	1	2	3
Cervical Dilation (cm)	0	1-2	3-4	5-6
Cervical Length (cm)	>4	3-4	1-2	<1
Cervical Consistency	Firm	medium	soft	
Cervical position	Posterior	central	Anterior	
Station (cm in relation to spine)	-3 above spines	-2 above spines	-1 to 0 above spines	Below spines
Total Score 13: Favourable: Score 6-13, Unfavourable Score 0-5.				
Substitue the length of cervix for % of effacement				

Figure 1: Bishop Score and Modified Bishop Score

Contraindications for IOL:

- Prior classical or other high risk cesarean incision
- Prior uterine rupture
- Active genital herpes infection.
- Placenta previa or vasa previa.
- Transverse or oblique fetal lie.
- Absolute cephalopelvic disproportion (as in women with pelvic deformities).
- Cervical carcinoma.

Special caution required for:

- Previous caesarean section.
- Multiple pregnancy.
- Polyhydramnios.
- Maternal heart disease

Risks and complications of IOL:

- CAESAREAN DELIVERY: Especially increased in nulliparous, two-to threefold risks, caesarean rates are inversely related with favourability of the cervix at induction, that is, the Modified Bishop score.
- CHORIOAMNIONITIS: Ascending infections.
- UTERINE ATONY: Postpartum atony and haemorrhage are more common in women undergoing induction or augmentation. Intractable atony was the indication for a third of all caesarean hysterectomies.

- UTERINE RUPTURE AND HYPERTSTIMULATION: Increased risks of complications, bleeding and caesarean section and other adverse outcomes in patients not properly monitored.
- THICK MECONIUM STAINED LIQOUR.
- ACCIDENTAL RUPTURE OF MEMBRANES & CORD PROLAPSE.
- SYSTEMIC SIDE EFFECTS: Nausea, Vomiting, Diarrhoea, Fever.

VARIOUS METHODS OF INDUCTION OF LABOUR (1)

1. Induction of labour with a favourable cervix (Modified Modified Bishop score >6):

- Oxytocin
- Amniotomy- not recommended alone

2. Methods of cervical ripening and induction of labour in unfavourable cervix:

- Prostaglandins E2
- Intracervical Dinoprostone Gel
- Dinoprostone Vaginal Pessary
- Prostaglandin PGE1 (Misoprostol)
- Balloon Devices: Foleys Catheter
- Low-Dose Oxytocin Infusion
- Membranes Sweeping
- Mechanical dilators like - DILAPAN, laminaria

Oxytocin

Intravenous oxytocin is the most commonly used method of induction for women with a favourable cervix. Oxytocin can be used alone, in combination with amniotomy, or following cervical ripening. It can be used for induction as well as augmentation of labour. It should be used with caution in women with previous caesarean delivery and grand multiparous women because of the risk of uterine rupture. Intravenous oxytocin and amniotomy is most likely to achieve vaginal delivery in 24 hours.

Amniotomy

A simple and effective method when the membranes are accessible, and the cervix is favorable. The liquor should be drained slowly because sudden decompression of uterus can lead to placenta abruption. Care should be taken when amniotomy is done in unengaged presentation because there is a risk of cord prolapse. Amount and color (meconium or blood stained) of the liquor is observed. Monitoring of fetal heart should be done during and after the procedure. Amniotomy alone is not recommended for induction of labour.

Prostaglandins E2

Prostaglandins (PG) E2 (dinoprostone) is available in two forms in India for cervical ripening:

- Dinoprostone gel (3 g gel/0.5 mg dinoprostone) is placed inside the cervix, but not above the internal os. The application can be repeated after 6-8 hours, not to exceed 3 doses in 24 h.

- Dinoprostone vaginal pessary (10 mg embedded in a mesh) is placed transversely in the posterior fornix of the vagina for 24 h.

PGE2 has an associated risk of uterine tachysystole and higher rates of chorioamnionitis in the setting of ruptured membranes. The use of vaginal and intracervical dinoprostone may not be very effective in women with ruptured membranes. Both forms are found to have equal efficacy. Both result in a significantly lower caesarean delivery rate and an increased proportion of vaginal deliveries within 24 hours. Vaginal preparations are easier to administer than the intracervical preparation.

Intracervical Dinoprostone Gel

The gel should be stored in a refrigerator at '2° to 8°C'. The application (3 g gel/0.5 mg dinoprostone) can be repeated in 6 h, not to exceed three doses in 24 hours. Ambulation of the patient is allowed after 30 min of insertion. Temperature, pulse, respiratory rate, blood pressure, uterine activity and vaginal bleeding should be examined immediately after insertion then hourly for 4-6 hours. If necessary, oxytocin for augmentation of labour is started only 6 h after the last dose.

Dinoprostone Vaginal Pessary

The dinoprostone pessary (10 mg), placed transversely in the posterior fornix of the vagina, releases PGE2 at a constant rate of approximately 0.3 mg/hour over the 24-h dosing period. Ambulation of the patient is allowed after 30 min of insertion. Monitoring at frequent intervals for uterine contractions and foetal condition should begin after administration of the drug. It is removed at the end of the 24-h dosing period or once the onset of active labour is achieved, whichever is earlier. Rupture of

membranes after the insertion of pessary does not necessitate removal of the pessary. It can be easily administered and quickly removed in case of uterine hyperstimulation. Oxytocin for augmentation of labour, if necessary is started 30 min after the removal of the pessary.

Prostaglandin (PGE1) (Misoprostol)

Misoprostol is not yet approved for induction of labour by Drug Controller General of India.

Balloon Devices: Foleys Catheter

Transcervical Foleys catheter is safe, cheap, easy to store and preferred in cases of scarred uterus and unfavorable cervix provided there are no signs of infection. It causes less uterine hyperstimulation as compared to prostaglandins but does not reduce caesarean rates. Balloon catheter and vaginal prostaglandins may have similar effectiveness. The catheter is left in place until it falls out spontaneously or for 24 hours. Foleys catheter followed by oxytocin infusion is recommended as an alternative method for induction of labour. It is contraindicated in placenta previa and should be avoided in women with ruptured membranes and undiagnosed vaginal bleeding.

Low-Dose Oxytocin Infusion

The low-dose regimen for cervical ripening begins with 1 to 2 mU/min, increased to1 to 4 mU at every 30-min interval. It can be used in patients where prostaglandins are not available.

Membranes Sweeping

It solely improves rate of entering spontaneous labour. It does not improve maternal or neonatal outcome improvements. It is suitable for non-urgent indications for term pregnancy termination because interval between sweeping membranes and initiation of labour can be longer than other methods of cervical ripening. It can be done simultaneously at the time of assessing the cervix after informing the patient. It can be repeated if labour does not start spontaneously.

DILAPAN

Mechanical methods are becoming more popular since they have been noted to have a better safety profile compared to pharmacological agents like prostaglandins. Previously, among the mechanical methods Balloon catheters have been the gold standard method for decades, while there was a lack of data on synthetic osmotic cervical dilators.

Dilapan-S is a second generation synthetic osmotic dilator made from a patented anisotropic xerogel AQUAACRYL.[6,7] There has been a significant interest and increase in the use of DILAPAN-S over the last one decade.

In 2015, Dilapan-S was approved by the Food and Drug Administration (FDA) for induction of labor and since then numerous studies have been published on the use of Dilapan-S regarding to induction of labour and also termination of pregnancy.With DILAPAN being considered more in the recent years, more interest and research/ studies being done on this mode of induction of labour.The rate of vaginal deliveries associated with the use of Dilapan-S ranges from 61.6 to 81.7 %, and the usage has not been reported to cause any serious complications.

Some studies have shown that Dilapan-S was to be as effective as the Foley balloon catheter as well as the PGE2 vaginal insert and also oral misoprostol in achieving vaginal delivery. They noted a significantly higher levels of patient's satisfaction during the cervical ripening process with DILAPAN compared to the other methods and also significantly lower rates of uterine hyperstimulation compared to prostaglandins.

No significant complications were noted. Minor complications (e.g. vaginal bleeding) associated with the use of Dilapan-S were < 2 %. The rates of maternal infections were similar to Foley balloon and vaginal PGE2 or misoprostol. Due to these beneficial properties Dilapan-S might be an ideal option for outpatient cervical ripening, as shown in some recent randomized clinical trials comparing inpatient to outpatient cervical ripening.

The additional advantage for DILAPAN is that it is the only cervical ripening method that is not contraindicated for induction of labor in women with a previous cesarean section.

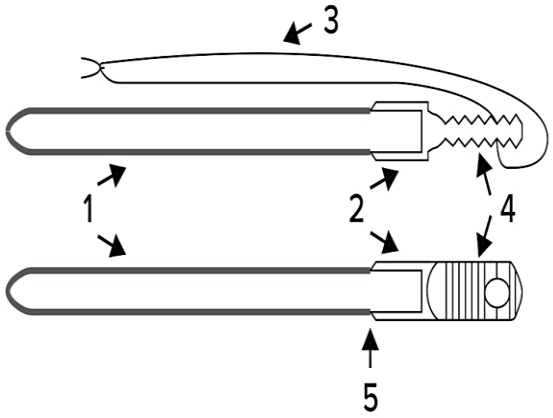
Dilapan-S is a hygroscopic rod made of a patented Aquacryl® hydrogel. Dilapan-S does not contain latex. The thin (3 or 4 mm) rod is inserted into the cervical canal, where it absorbs fluid from the cervical tissue, and can expand up to ~15 mm in diameter (for the 4 mm rod) over a 12 – 24 hours period. Typically, 3 to 5 rods are inserted in a single procedure, with the rods inserted one at a time. Dilapan-S is intended for single use only.

It is a synthetic gel rod, which increases in volume by absorbing fluids from the surrounding tissues throughout the cervical canal and thus exerting steady radial pressure on the cervical wall, which dilates the cervix.

This pressure also promotes the release of endogenous prostaglandins, which causes collagen degradation and therefore further softens the cervix. An estimated 500 women in poor nations lose their lives to labor-related problems each year. The advent of inducing agents has eased the delivery process immensely by reducing the duration of labour.[6,7]

Figure 2: DILAPAN-S: Gradual Hygroscopic Expansion Timeline (0–24 Hours)

Figure 3: Schematic Diagram OF DILAPAN-S

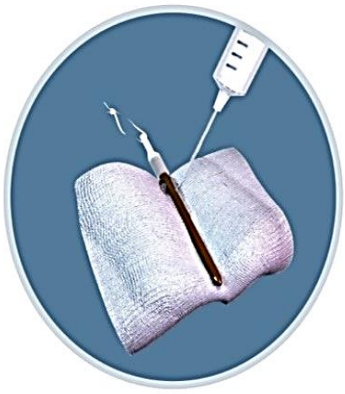


1. *Dilating part made of hydrogel*
2. *Collar*
3. *Marker string*
4. *Handle*
5. *Point of maximal insertion*

Figure 4: Instructions for insertion of DILAPAN-S

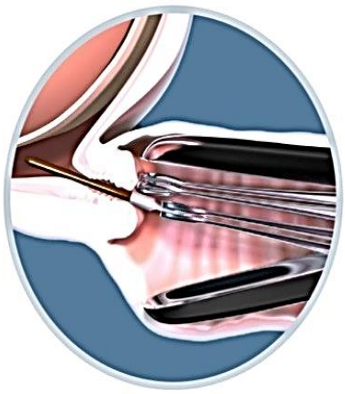
1 **Insert a vaginal bivalve speculum** and prepare the vagina and cervix with an antiseptic solution.

Careful placement of the device is essential to avoid traumatic injury to the cervix or uterus (see Instructions for Use—Insertion).



2 **Moisten the Dilapan-S rods** with sterile water or saline to lubricate the surface.

4 mm x 65 mm actual size



3 **Place Dilapan-S rods** by using forceps to grasp the handle of the Dilapan-S rod. Insert the rods one at a time through the external cervical os, so that the border of the collar rests at the external os.

Record the number of rods placed.

Insert a gauze pad moistened with sterile water or saline to help keep the rod(s) in place, if needed.

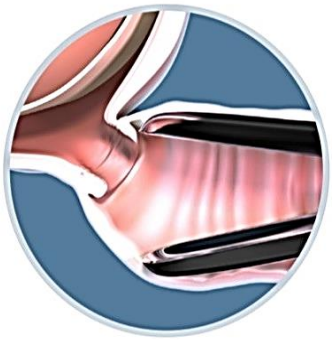
Figure 5: Instructions for removal of DILAPAN-S

Instruct patients to: Report any excessive bleeding, pain, or temperature elevation, and to avoid bathing, douching, and intercourse. Patients should return to the physician for removal of Dilapan-S at the indicated time and should be instructed not to attempt self-removal under any circumstances.

1 **Remove any gauze** in vaginal canal placed during insertion procedure, if used.

2 **Remove Dilapan-S rods** by grasping the handle or carefully pulling the marker string (occasionally it may be necessary to use forceps).

Potential Complications/Risks: Twisting of device during removal may cause the device to break (see Instructions for Use—Removal). Complications may include: device entrapment and/or fragmentation, expulsion, or retraction; patient discomfort or bleeding; spontaneous rupture of membranes; spontaneous onset of labor; cervical laceration.



3 **Ensure all inserted rods are removed.**

Figure 6: Mechanism of action of DILAPAN-S

BIOPHYSICAL

- The biophysical mode of action occurs when the Dilapan-S rods are inserted into the cervical canal, where they ***absorb moisture from the cervix.***

MECHANICAL

- As the Dilapan-S rods expand, they exert ***controlled radial pressure*** on the cervical canal, which dilates the cervix.

PHYSIOLOGICAL

- Stretching of the cervical tissue promotes the release of local endogenous prostaglandins. These ***local prostaglandins initiate collagen degradation*** and cervical softening and ripening.

After insertion, the Dilapan-S rod expands to several times its original diameter. The amount of dilation achieved depends on the amount of time in situ, but the majority, up to 80%, of rod expansion occurs in 4 to 6 hours, which is the minimum insertion time. Dilapan-S rods should not be left in place for more than 24 hours.

Risks associated with the procedure

Twisting the device during its removal may cause the device to break. In the case of breakage, all fragments from the uterus must be completely removed. If any doubt, a hysteroscopy or ultrasound scan should be done to confirm.

Any cervical manipulation may cause a vaso-vagal reaction. Monitor the patient for any unusual pallor, nausea, vertigo or weakness. Usually, the symptoms disappear once the patient lies in recumbent position for 3 to 10 minutes.

Complications that may be associated with use, or may occur during the indicated procedure:

- Device entrapment
- Fragmentation or detachment of the handle
- Device expulsion
- Device retraction into the uterus
- Patient discomfort or bleeding during and/or after insertion
- Spontaneous rupture of membranes
- Spontaneous onset of labor
- Cervical laceration

AIMS AND OBJECTIVES

Primary Objective

- To determine the efficacy of synthetic osmotic cervical dilator (DILAPAN-S) vs Dinoprostone vaginal gel for cervical ripening in induction of labour.

Secondary Objective

- To determine the feto-maternal outcome in women induced with mechanical dilators (Dilapan-S) and Prostaglandin gel (Dinoprostone gel)

REVIEW OF LITERATURE

Mechanical methods vs pharmacological methods-

Multiple studies over the years have established the efficacy of mechanical methods of induction of labour and also rated higher than pharmacological methods in regard to some adverse effects seen pharmacological agents. Historically Balloon catheters have been used predominantly. Laminaria, a hygroscopic dilator for cervical ripening was used in the past. Now DILAPAN has to the foray as an important agent of mechanical induction method of labour

Werner Rath (2021) et al; in their study on Pharmacological vs mechanical (Balloon catheters) methods of induction of labour. Balloon catheters were noted to be an effective and safe method of cervical priming. Balloon catheters are as effective as the vaginal prostaglandin E2 or oral misoprostol. balloon catheter had the advantage of not causing uterine hyperstimulation and monitoring is less expensive, making it a suitable option for outpatient usage. Admittedly, IV oxytocin was required to induce or augment labor in approximately 75% of cases. The usage of balloon catheters was not associated with a higher risk of maternal and neonatal infection compared to vaginal PGE2.[9]

No significant complications were noted. Though the outpatient usage of Balloon catheter compared to vaginal PGE 2, had a lower rate of deliveries/24 hours and a significantly higher need for oxytocin; however, they had a shorter hospital stay, frequency of pain was significantly lower, and had a longer duration of sleep. This makes the mechanical methods for a better choice for outpatient induction of labour especially in low-risk patients who don't need constant monitoring. This can also reduce burden on obstetric staff and increase cost effectiveness. [9]

Vaan (2019) et al; conducted a review on the topic of Mechanical methods of Induction of Labor. The comparison of balloon catheters to PGE2, and they reported little or no difference in percentage of vaginal deliveries. When compared with balloon with low dose misoprostol it is uncertain and when compared with low dose oral misoprostol balloon catheter will probably increase the risk of vaginal delivery not achieved within 24 hrs. The study concluded that moderate quality evience shows that mechanical induction with balloon is probably as effective as PGE2 and balloon catheter is less effective when compared to oral misoprostol. [10]

Sachez-Ramos(2024) et al conducted a review on the topic of Methods for Induction of labor: Efficacy and Safety. Although fewer trials have assessed the efficacy of other mechanical dilators, such as Dilapan-S, these mechanical agents seem to have efficacy similar to that of the Foley catheter for pre-induction cervical ripening. [11]

The superiority of DILAPAN over laminaria (other method of hygroscopic induction of labour) has been well established.

Tomas Drunecky (2015) et al; in their study on compares natural and synthetic osmotic dilators noted Synthetic dilators (DILAPAN) compared to Laminaria reached higher maximum diameters, acted faster, were more consistent and were able to expand against force three times more.

N Johnson (1989) et al; They noted that Dilapan tent does not share the disadvantages of inconsistency, long duration of action, and risk of sepsis, but tends to fragment and fracture so that the distal portion remains within the uterus. [12]

PD Blume that (1990) et al; noted a Dilapan appeared to be a preferable alternative to Laminaria japonicum because its use may result in a shorter induction-to-delivery interval with fewer devices required to obtain significant cervical ripening .[13]

Effectiveness of DILAPAN of cervical ripening & induction of labour

Maier, J.T (2015) et al; in their observational non-interventional study in eighty three women, near term with a Modified Bishop Score (BS) < 4, who underwent cervical ripening with Dilapan-S left in place for at least 12 hours ('overnight') in an outpatient setting followed by intravenous oxytocin or PGE2 gel or misoprostol orally. The application of Dilapan-S is cost-effective as patients can be seen in outpatient care. The device is efficient and safe. It is an attractive option for physicians and patients to lower the cesarean section rate by facilitating VBAC. 60.2% of patients delivered vaginally, 4.8% by ventouse/forceps and 34.9% by secondary cesarean section. Parous women were found to have a significantly higher chance of vaginal birth (82.6% vs. 60.2%). The average time from cervical ripening to delivery was 36 hours No adverse fetal or maternal outcomes were noted.[14]

Gupta (2018) et al; in one of the biggest Multi center observational study evaluating the efficacy of Dilapan-S as a ripening agent prior to induction of labour. This was a prospective multi center international observational study including 444 pregnant women (≥ 37 + 0 to 42 weeks of gestation). Up to 5 rods were placed and removed after 12 or 24 hours. After cervical ripening with Dilapan-S, labor induction was carried out with PGE1- andPGE2- and oxytocin intravenously in some patients with or without artificial rupture of membranes. The total induction-delivery interval was 24.3(±10.4) hours. The mean vaginal delivery rate was significantly higher (76.6

vs.64.8 %) when Dilapan-S was inserted for < 12 hours vs when inserted for 64.8%Spontaneous labors (no induction agent needed) after cervical ripening with Dilapan-S occurred in 10.1 % of women. The mean number of dilators used was 3.8 (± 1.2) and the mean gain in Bishop score was 3.6 being approximately 6.5 (± 2.8) after extraction of Dilapan. In total, 3.4 % of women experienced non-serious complications such as bleeding during device insertion/ removal (2.7 %), cramping or pain (0.2 %) and other not specified (0.4 %); 2 % had spontaneous dilator expulsions. The rate of uterine hyper stimulation was 0.2 %. Maternal infections were observed in 3.2 % of patients. [8]

A secondary analysis of the previous study done in 2020 by Saad et al; on the evaluation of the determinants of vaginal delivery and safety in women undergoing cervical ripening with Dilapan-S prior to induction of labor. Other than the outcomes reported in the Gupta el at study, it has been shown that vaginal delivery rates were significantly correlated with Modified Bishop Scores of pre Dilapan-S, post Dilapan-S and difference. In the multivariate analysis prior vaginal delivery and post Dilapan-S Modified Bishop Scores were identified as strong predictors of vaginal delivery. Cox regression analyses demonstrated that the duration of labor was significant shorter in women that had vaginal delivery. [11]

Comparison of cervical ripening with Dilapan-S versus balloon catheters

Shindo R (2017) et al; in a retrospective observational study, involving a total of 17363 near term nulliparous pregnant women, compared the efficavy and safety of four mechanical methods (synthetic osmotic dilators n = 4350, balloon catheter with a filling volume < 40 ml n = 4103, balloon catheter with a filling volume ≥ 40 ml n = 6618, overlapping groups = combination of methods n = 1990) as a

method of for cervical ripening / labour induction. The rate of vaginal delivery was in was cervical dilators 74.6 % in balloon with < 40 ml was 72.3 % and in balloon ≥ 40 ml was 73.8 %. The rate of vaginal deliveries was similar. The perinatal outcome (Apgar Score, umbilical artery pH) was significantly better in the dilator group.[17]

Saad (2019) et al; conducted a single centre, randomized open label trial (DILOFOL trial) to test Dilapan-S against Foley catheter for pre-induction cervical ripening in term pregnancies. 419 women with an unfavorable cervix (BS < 6) were studied. 209 to Foley balloon (filling volume 60 ml, time left in place at least 12 hours), and 210 to Dilapan-S (time left in place 12 hours but no longer than 24 hours). As many rods as possible were inserted into the cervical canal. The primary outcome of the study was the rate of vaginal delivery, which was 81.3 % in the Dilapan-S and 76.1 % in the balloon catheter-group (p = 0.197) indicating non inferiority of DILAPAN. Secondary outcomes (e.g. changes in Modified Bishop score, induction to delivery interval, maternal and neonatal adverse events, hospital stay) were not significantly different between groups other than for a longer time the device remained in place (Dilapan-S: 774 ± 295 min. vs. Foley balloon 666 ± 319 min, p = 0.005). There were no significant differences between DILAPAN-S and Foley balloon in the frequency of vaginal bleeding (3.1 vs. 0.9 %), cervical lacerations (1 vs. 0.5 %), uterine hyper stimulation (0 vs. 0 %) and maternal infectious (14.3 vs. 13.1 %). Patients with DILAPAN-S had significantly more satisfaction score than patients with Foley balloon related to sleep, relaxing time and performance of desired daily activities (p = 0.001).[16]

Pekarev OG (2022) et al in a prospective study including 200 pregnant women at term gestation with a Modified Bishop score between 0–6 points (mean 3.5). Cervical ripening was performed with four different methods:

1. DILAPAN-S combined with two doses of oral mifepristone (200 mg each) 24 h apart (n = 50)
2. DILAPAN-S (4 rods) only for 12 hours (n = 50)
3. Foley catheter for 12 hours (n = 50) and
4. Two doses of intracervical PGE2 gel (0.5 mg each) 6 h apart.

Cervical maturation was assessed using the Modified Bishop score and the ultrasound cervicometry along with the color mapping and calculation of strain ratio (SR) before the start of induction and 12 hours after the induction. The primary outcome of the study was the change in Modified Bishop score and sonoelastographic cervical maturation after the intervention.

In gain in Modified Bishop scores was 11.4, 10.2, 9.4 and 9.7 respectively. This correspond to the sonoelastographic SR values, which were lowest among the patients receiving the combination of Dilapan-S and mifepristone and highest among the patients receiving intracervical gel. Further details on cervical sonoelastographic findings are presented in the paper. This is the first prospective study evaluating cervical ripening with different mechanical and pharmacological methods by using the BS and ultrasound cervicometry with the color mapping. The authors concluded that cervical sonoelastography allows an objective assessment of cervical maturation, specifically the degree of softening after pre-induction which is a strong predictor of labor induction success. [18]

<u>Comparison of cervical ripening with Dilapan-S and Prostaglandin E2/ misoprostol</u>

Crosby DA (2018) et al; This was prospective observational study on total of 52 low-risk nulliparous women with an unfavorable cervix (Modified Bishop score $\leq$ 6) and postdate pregnancy ($\geq$ 41 weeks gestation) received either Dilapan-S (n = 26,

1–5 rods, left in place for up to 24 hours) or the 10 mg PGE2 vaginal pessary (n = 26, left in place for up to 24 hours). If the cervix was still unfavorable after intervention, up to two intracervical applications of PGE2 gel were used in both groups for further induction. The primary outcome measures were compliance with study protocol, maternal infection, rate of uterine hyper stimulation and perinatal/neonatal outcomes. Compliance to study protocol was 25/26 (96 %). It was not possible to insert Dilapan-S in just one woman. There were no significant differences between the groups regarding primary outcomes. The mean change in Bishop scare was comparable (3.3 vs 3.7) as well as the rate of vaginal delivery/24 h (19.2 vs 15.4%, NS). DILAPAN-S was left in place longer than the PGE2 vaginal pessary (22.8 vs. 17.3 h, p = 0.005). The mean number of rods used was 2.6 (range 1–4), and the mean pain score out of ten at DILAPAN-S insertion was 2.2 (range 0–7). [19]

Gupta JK (2022) et al, known as SOLVE trial which was a randomized trial comparing Dilapan-S to vaginally applied PGE2. The study included 674 women with ≥ 37 +0 weeks' gestation. The aim was to compare the efficacy, maternal and neonatal safety, and maternal satisfaction of Dilapan-S (n = 337) to 10 mg PGE2 vaginal insert (n = 337) for induction. Up to five rods were inserted into the cervical canal and left in place for a minimum of 12 hours and up to a maximum of 24 hours. If the cervix remained unfavorable after first round (BS < 6), a second (then third) round of dilators were planned for an additional 12 to 24 hours. The PGE2 vaginal insert remained in place for up to 24–32 hours. If spontaneous labor had not started, amniotomy was conducted after the BS was > 6, followed by intravenous oxytocin according to the hospital protocols.

The most common indications for induction of labor were post-term pregnancy, fetal growth restriction (FGR) and reduced fetal movements. The primary

outcome was failure to achieve vaginal delivery within 36 hours (i.e. cesarean delivery), which occurred in 37.4 % of patients given Dilapan-S and 34.3 % of patients given PGE2 vaginal pessary Analgesia during cervical ripening was significantly more often required in women receiving PGE2 compared to women with Dilapan-S (66.3 vs. 51.2 %, $p < 0.0001$), and the rate of complications was higher with vaginal PGE2 (22.6 %) than with Dilapan-S (7.6 %); e.g. uterine tachysystole: 5.0 vs. 0.4 %, uterine hyperstimulation with non-reassuring/abnormal fetal heart rate (FHR): 4.3 % vs. 0. There was also a higher need for reinsertion of vaginal PGE2 by approximately 10 %. Amniotomy undertaken for induction of labor was significantly more frequently needed in the DILAPAN-S group (70.2 vs. 42.6 %, $p < 0.0001$) as well as oxytocin required for induction of labor compared to the PGE2 group (62.7 vs. 39.3 %; $p < 0.0001$). There was no evidence of any difference in neonatal outcomes between the groups. Using a questionnaire consisting of 23 questions maternal satisfaction during the cervical ripening process was better with the use of DILAPAN-S compared to the PGE2 vaginal pessary.[34]

Gavara R (2022) et al; only randomized trial comparing Dilapan-S with oral misoprostol for induction of labor near term. 303 pregnant women ≥ 37 + 0 weeks of gestation with Modified Bishop score < 6 were included. cervical dilatation by using Dilapan-S was compared to 25 µg misoprostol orally every 2 hours (up to six doses) for induction of labor. After 12 hours of cervical ripening, oxytocin was initiated with a maximum dose limited to 40 mU/min and amniotomy was performed as soon as clinically feasible. The most common indication for induction of labor was post- term pregnancy, followed by elective induction.

The primary outcome was the rate of vaginal delivery within 36 hours of the study intervention: 61.6 % of patients achieved vaginal delivery within 36 hours of

initiation of study intervention in the Dilapan-S group versus 59.2 % in the misoprostol group, with an absolute difference of 2.4 % (95 % CI; 9 % to 13 %), indicating noninferiority for the prespecified margin of 10 %. There were no significant differences between groups in secondary out- comes such as median change in BS (2 vs. 3), vaginal delivery rate (72.8 vs. 72.3 %), duration from initiation of cervical ripening to vaginal delivery (24.9 ± 8.98 vs. 25.8 ± 16.19 hours), intrapartum maternal fever (8.9 vs. 11.2 %) and neonatal outcomes. Uterine tachysystole during clinical ripening occurred in 53.6 % of patients receiving oral misoprostol, which was significantly more frequent than the 25.7 % in the Dilapan-S group ($p < 0.01$). Failure to place Dilapan-S was found in 2.6 % of women. Patients who received Dilapan-S reported lower pain scores ($p = 0.02$), had less abdominal discomfort ($p = 0.04$) and were able to sleep more ($p = 0.03$) during cervical ripening compared to patients receiving misoprostol.[20]

Koeingbauer(2021) et al; conducted a Prospective study on the topic of Cervical ripening after cesarean section: a prospective dual center study comparing a mechanical osmotic dilator vs. prostaglandin E2. The study participants were 102. Patients receiving cervical ripening with the osmotic dilator delivered vaginally/by ventouse in 52% of cases, compared to 53% when using dinoprostone. The time of onset of Labor was same for both groups. The study concluded that application of the osmotic dilator leads to similar outcomes in VBAC rate and time from onset of labor.[21]

Rath (2023)et al, conducted an evidence-based review on the topic of Synthetic Osmotic Dilatators for Pre-induction cervical ripening. The rate of Vaginal delivery ranges from 61.6% to 81.7%. Dilapan-S is as effective as Foley balloon, and PGE2 vaginal inserter and orally administered misoprostol. Minor complications were

associated with use of Dilapan-S were <2% and maternal infections and morbidity were less. Dilapan-S is only cervical ripening method that is not for contraindicated for induction of labor after CS section.[11]

Reinhard (2016) et al; conducted a pilot cohort study on the topic of Mechanical Versus Pharmacological induction methods in term gestation pregnancies and studied the affect on maternal and fetal outcome. They compared Hygroscopic Cervical dilator, DILAPAN-S and Prostaglandin. The study conducted from February to May 2015. The total number of Sample size is 63. The result showed that induction-to-delivery was statistically significantly shorter in the intracervical prostaglandin compared to the Dilapan-S or the intravaginal prostaglandin group. No difference in induction-to-delivery time was found between Dilapan-S and intravaginal PGE2. The Dilapan-S with PGE-2 seems to produce hyper stimulation. Intravaginal PGE-2 cause rare hyperstimulation. [22]

Cost effectiveness of Dilapan

Outpatient cervical ripening with a balloon catheter or synthetic osmotic cervical dilators has become increasingly important, particularly after COVID-19 pandemic.

SaundersSJ (2021) et al; A randomized clinical trial comparing outpatient with inpatient cervical ripening for labour induction in the US. In patients were given vaginal PGE2 insert or the single-balloon catheter. In the comparison OP patients' group (OP-select), 50.9% of low-risk women (41.4% of the study population) received outpatient cervical ripening using a synthetic hygroscopic cervical dilator. Implementing OP-select resulted in hospital savings of US$689 per delivery, with women spending 1.48 h less time in the labor and delivery unit and 0.91 h less in the

postpartum recovery unit. The cesarean-section rate was decreased by 3.78 percentage points (23.28% decreased to 19.50%). In sensitivity testing, hospital costs and cesarean-section rate were reduced in 91% of all instances. This indicates the potential to reduce hospital costs, hospital stay, and the cesarean section rate. It may potentially allow for better infection-prevention control as well. [23]

Saad A (2022) et al; a randomized clinical trial involving 339 participants, comparing outpatient with in patient pre-induction cervical ripening using a synthetic osmotic dilator has shown that outpatient cervical ripening decreased hospital stay and time from administration to active labor without significant adverse outcomes.[12]

Walker KF (2022) et al; an UK cost-consequence comparing Synthetic osmotic dilators (Dilapan-S) to dinoprostone vaginal insert (Propess) for inpatient induction of labor. Dilapan-S was cost neutral compared to Propess. Midwife and obstetrician times were decreased by 146 min (-11%) and 11 min (-54%), respectively. Sensitivity analysis showed that in 78% of simulations, use of Dilapan-S reduced midwife time with a median of 160 min (IQR -277 to -24 min). Costs were reduced in 54% of simulations. Further model by the same group comparing Dilapan-S with vaginal PGE2 inserts (Propess) for inpatient induction of labor indicated that adoption of Dilapan-S is likely to be cost-neutral and reduces staff workload in comparison to Propess. [24]

Kümmer J (2022) et al; A retrospective analysis comparing cervical ripening with Dilapan-S in an outpatient procedure with the use of oral misoprostol or vaginal PGE2 gel in an inpatient setting has shown that cervical ripening with Dilapan-S resulted in a significant reduction of time period from patient admission to the onset

of labor, shorter in patient stay from admission to delivery and fewer hospital days in the outpatient group thus decreasing socioeconomic costs. [13]

Mention of Usage of DILAPAN-S in various Guidelines / Recommendations

The consensus on the use of osmotic cervical dilators is inadequately represented in current guideline recommendations, as most of data is recent and the guidelines aren't yet updated. Only the most recent NICE guideline 2021 states that for women with a Modified Bishop score of 6 or less mechanical methods to induce labor (balloon catheter or osmotic cervical dilators) should be considered if pharmacological methods are not suitable (e.g. in women with a higher risk of, or from hyperstimulation or those who have had a previous cesarean section) acknowledging that mechanical methods are less likely to cause hyperstimulation than pharmacological methods.

The German AWMF Guideline 015/088 states that synthetic osmotic cervical dilators are a safe method for induction of labor in patients with an unripe cervix and are also safe in patients with a previous cesarean section. The recent ACOG Practice Bulletin No. 205 'Vaginal Birth after Cesarean Delivery' 2019 mentioned only the Foley catheter as an option for labor induction after a previous cesarean section, but did not report on synthetic osmotic cervical dilators. This may be due to the fact that there exist only few prospective observational studies comparing Dilapan-S with vaginal PGE2 for cervical ripening/induction of labor in women with a previous cesarean section. FOGSI 2018 guidelines has no clear guidelines mentioned on the usage of DILAPAN-S

MATERIALS AND METHODS

Study Setting: Department of Obstetrics and Gynecology at KLES DR.PRABHAKAR KORE CHARITABLE HOSPITAL AND MEDICAL RESEARCH CENTER,BELAGAVI

This is a hospital based single centre, randomized controlled study conducted on 202 pregnant women who are admitted to labour room for induction of labour fulfilling inclusion criteria and with no contraindication to vaginal delivery without any fetomaternal high risk factor. Written informed consent taken from the patients.

Study period: One year (From April 2024 to April 2025)

Sample Size: The sample size was calculated assuming the expected mean and standard deviation of the duration of administration of cervical ripening agent in the Dilapan-S as ,σ1(28.6,9.4) and in the Dinoprostone as , σ0(24.9,9.4), as per the previous study by Gupta JK et al. 7 The other parameters considered for sample size calculation included were 80% power of study and 5% two-sided alpha error. The required sample size was calculated using the following formula.

Formula used for sample size calculation:

$$N = \frac{(u + v)^2(\sigma_1^2 + \sigma_0^2)}{(\mu_1 - \mu_0)^2}$$

N	Sample size
μ1 , μ0	Difference between the means (μ1=28.6 and μ0=24.9)
σ1, σ0	Standard deviations (σ1=7 and σ0 =7)
u	Two sided percentage point of the normal distribution corresponding to 100% - the power = 80%, u = 0.84
v	Percentage point of the normal distribution corresponding to the (two sided) significance level for significance level = 5%, v = 1.960

The required sample size as per the above-mentioned calculation was 101 in each group.

Sampling technique:

- Allocation concealment: Will be done by sequentially numbered opaque sealed envelopes (SNOSE)
    - Group A: (n=101) Dilapan S- maximum of 4 rods inserted into cervical canal leaving for minimum of 12 hours and maximum of 18 hours
    - Group B: (n=101) Dinoprostone – Cerviprime gel maximum of 4.5 mg over 18 hours
- Blinding: Statistician blinding will be done by Anonymization of the nature of intervention

Inclusion criteria:

- Women with Ultrasonographically confirmed Singleton live intrauterine pregnancy
- Term gestation(37-42 weeks)
- Cephalic presentation
- Reactive admission NST.
- Modified Bishop score ≤ 6
- Intact Membranes
- No contraindications to vaginal delivery

Exclusion Criteria:

- Previous Lower Segment Cesarean Section (LSCS)
- Contra-indications of prostaglandins and Vaginal delivery
- Malpresentation.
- Premature Rupture of Membrane (PROM).
- Already diagnosed Mullerian anomalies or gross fetal anomalies
- Hypersensitivity to Prostaglandins
- Active vaginal infections
- Placental abnormalities-Placenta previa/Vasa previa/Low lying placenta
- Multiple gestation
- Cephalo Pelvic Disproportion
- Patient not willing to participate
- Cervical Surgeries-like LEEP,LEETZ,Trachelectomy

Study protocol:

Pregnant women of age >18 years, admitted to labour room for induction of labour fulfilling the inclusion criteria will be screened. Informed written consent will be taken. Participants will be randomized using SNOSE method between Group A (DILAPAN-S) and Group B (Dinoprostone gel) at KLES DR Prabhakar Kore Charitable Hospital, Belagavi. Approval from institutional ethics committee will be taken.

Cervical status will be assessed using the Modified Bishop's score. Cervical ripening will be done using either DILAPAN-S or DINOPROSTONE gel as per randomization. Sterile speculum examination will be conducted to look for any vaginal infections. Vaginal douching will be done with antiseptic solution.

In participants of group A single time insertion of DILAPAN-S rods (1-4 rods) will be done and vagina will be packed with moist vaginal pack. The rods will be left in place for a maximum of 18hours.

In participants of Group B intracervical instillation of Dinoprostone Gel every 6th hourly for maximum of 3 doses will be done.

Rest of the labour will be managed as per hospital protocol.

Success of induction (vaginal deliveries), failed induction, indications for caesarean section in the study participants' maternal complications and perinatal outcomes will be studied.

Data collection procedure:

Data will be collected using data collection instrument. Details pertaining to patient demographics, detailed obstetric history, method of cervical ripening, details pertaining to labour in the current pregnancy, maternal and fetal outcomes of the current pregnancy will be collected.

Data processing and analysis/statistical analysis:

The entire data will be validated by checking for and correcting any unusual values and typographic errors. All the quantitative variables will be checked for compliance with normal distribution, within each study group by using visual inspection of histograms and normality Q-Q plots. Skewness a Kurtosis Z-Values and Shapiro-Wilk test P-values will also be used for this purpose.

Data will be analysed by Intention to treat (ITT) analysis. Initially all the baseline variables will be compared between the two groups, to assess any significant differences in these variables between the two study groups. Then the key primary and secondary outcome variables will be compared between the two groups, to document the efficacy and safety of the intervention.

The mean and standard deviation of the normally distributed quantitative variables will be compared between the two groups using independent sample t-test. The median and Inter quartile range (IQR) of the non-normally distributed quantitative variables will be compared between the two groups, using Mann-Whitney U test. The qualitative variables will be compared between the two methods using Chi-square test/ Fisher's exact test.

Efforts will be made to control for the confounding by appropriate regression methods, for all the key outcome variables. P Value < 0.05 will be considered as statistically significant. Data will be analysed by using co-Guide software, V.1.0.

Anticipated serious adverse events (SAE) or adverse events which may occur during course of this study:

- In Group 1 (Dilapan-S) –
  - Device expulsion (Will be taken care by vaginal packing)
  - Patient discomfort or bleeding during and/or after insertion
  - Rupture of membranes
- In Group 2 (Dinoprostone gel) –
  - Uterine hyper stimulation
  - Hypersensitivity to prostaglandins
  - Meconium staining of liquor
  - Fetal Distress

Investigations or interventions required to be conducted on the study participants:

Participants will be randomized into Group-A and Group-B where for Group A induction of labor will be done by insertion of mechanical osmotic dilator(Dilapan-S) and for Group B induction of labor will be done using Dinoprostone gel.

Budget Analysis:

The cost of the investigations/ interventions necessary for the completion of the study was taken by the principal investigator.

RESULTS

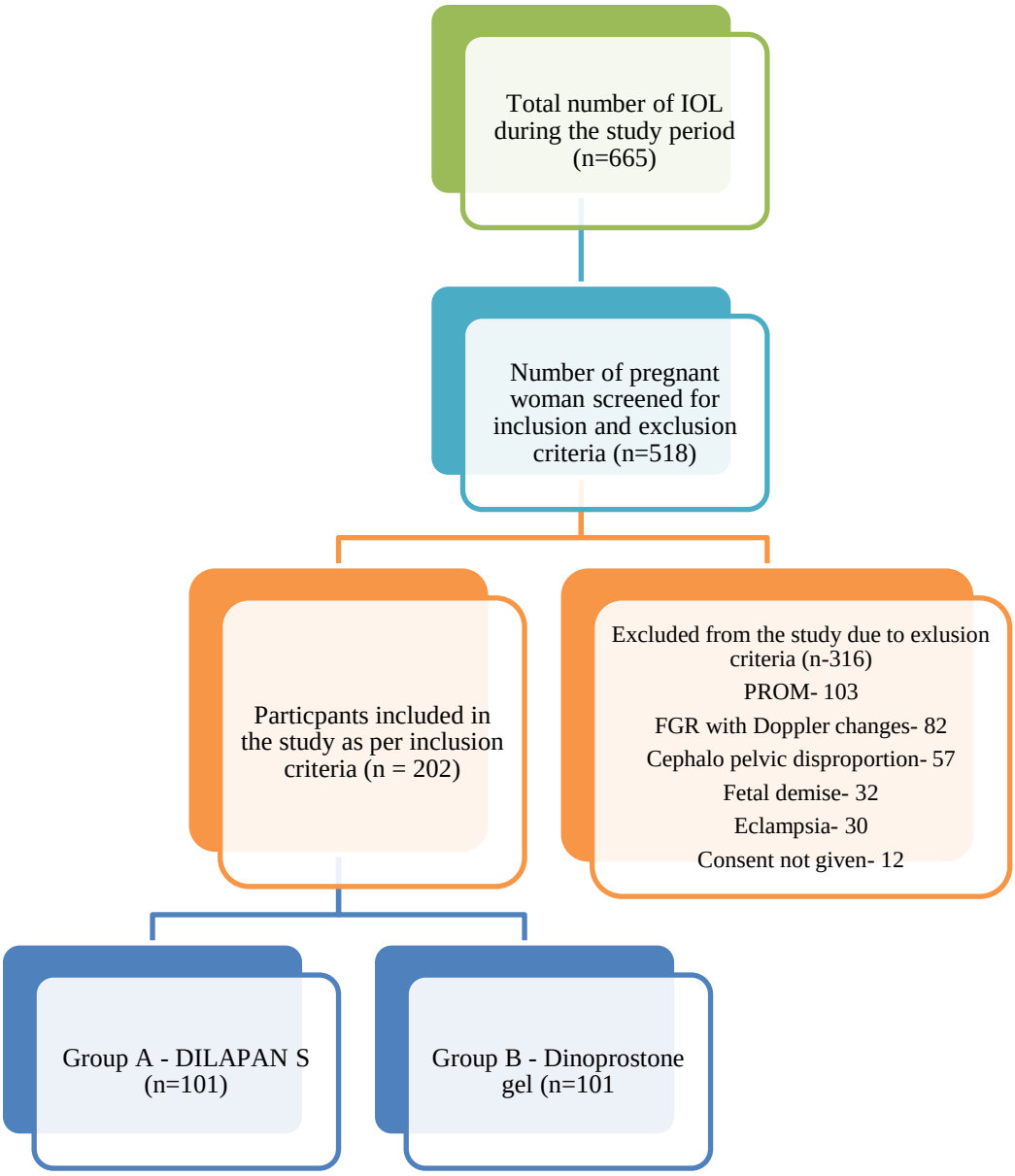


Figure 7: Consort diagram for the randomized controlled study

Out of the 665 IOL done at KLE Dr Prabhakar Kore Charitable Hospital and MRC, for a period of 1 year, 518 participants were screened for the study. Out of the screened participants, 202 participants were recruited after fulfillment of the inclusion criteria and randomized equally into two groups of 101 participants. Group A (n=101)

were allotted for DILAPAN-S administration and Group B (n=101) were allotted for Dinoprostone gel administration. In the study group A, single time insertion of DILAPAN-S was done followed by packing of vagina with moist vaginal pack. The rod/rods were left in place for maximum of 18 hours. In the participants of Group B, intracervical instillation of Dinoprostone gel every 6^{th} hourly for maximum of 3 doses was administered.

A total of 202 participants were enrolled, with 101 (50.0%) in Group A and 101(50.0%) in Group B.

Table 1: Distribution of Study Participants by Group

Intervention arm	Frequency	Percentage
Group A	101	50.0
Group B	101	50.0

Fig **8: Distribution of Study Participants by Group**

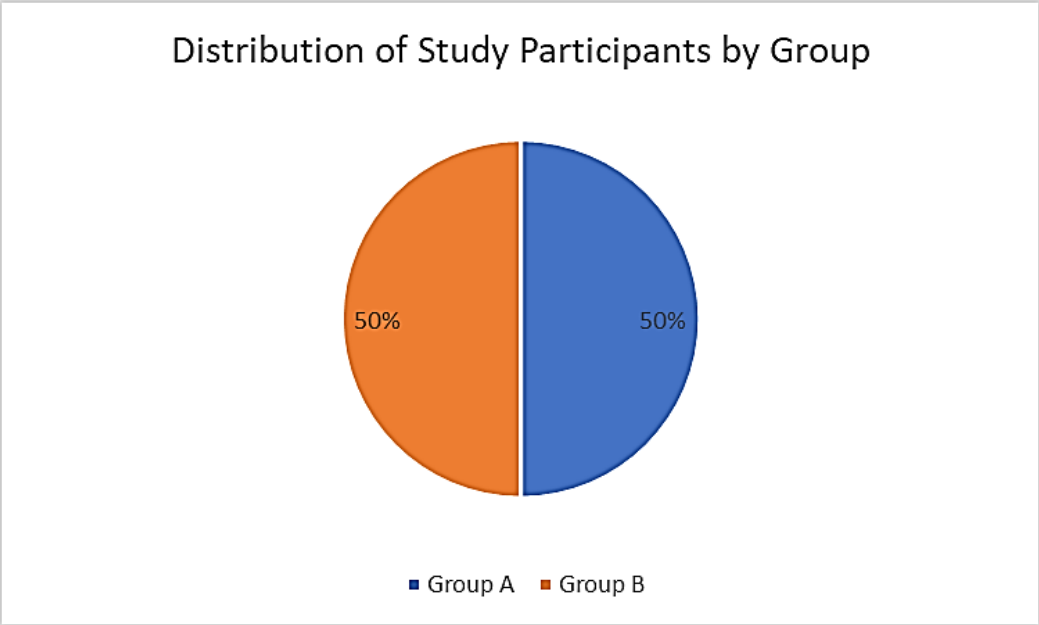


Table 1 and Figure 8 outlines the distribution of study participants within the intervention arm. A total of 202 participants were divided equally into Group A (101 participants, 50.0%) and Group B (101 participants, 50.0%). The equal allocation minimises selection bias and ensures a fair comparison between groups. Such balance in randomized controlled trials (RCTs) is crucial to maintaining homogeneity in baseline characteristics and enhances the validity of the study's findings. Randomization reduces confounding factors, allowing a clearer interpretation of intervention effects.

Table 2: Descriptive Statistics of Participants' Age (Years)

Age (in yrs)	Minimum	Maximum	Mean	Std. Deviation
Group A (N=101)	18	38	24.92	4.18
Group B(N=101)	19	33	24.55	3.19

Table 2 presents the age statistics for participants in Groups A and B. In Group A, ages range from 18 to 38 years, with an average age of 24.92 years and a standard deviation of 4.18, indicating more variation in age. Group B participants are between 19 and 33 years old, with a slightly lower mean age of 24.55 years and a smaller standard deviation of 3.19, reflecting less age variability. While the average ages of the two groups are nearly the same, Group A has a wider age range and greater dispersion. These figures offer insight into the distribution and spread of ages within each group.

Table 3: Comparison of Age Distribution Between Study Groups

Age (in years)	Group A (N=101)		Group B (N=101)		Chi square	P value
	Frequency	%	Frequency	%		
<20	15	62.5%	9	37.5%	4.205	0.240
21 – 25	45	43.3%	59	56.7%		
26 – 30	32	52.5%	29	47.5%		
>30	9	69.2%	4	30.8%		

Fig 9: Comparison of Age Distribution Between Study Groups

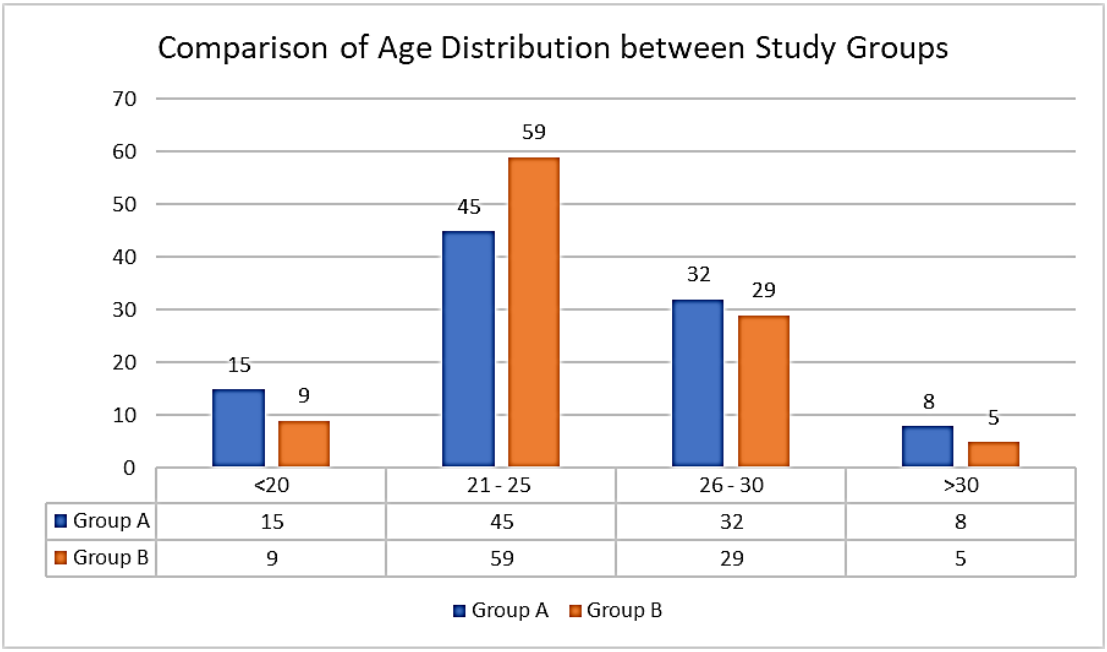


Table 3 and Figure 9 presents a comparison of age distribution between Group A and Group B across four age groups. In the under-20 category, Group A had a greater share (62.5%) than Group B (37.5%). For the 21–25 age group, Group B had a slightly higher proportion (56.7%) compared to Group A (43.3%). In the 26–30 category, Group A again showed a higher percentage (52.5%) than Group B (47.5%). Similarly, for those over 30, Group A made up 69.2%, while Group B accounted for 30.8%. The Chi-square statistic of 4.205 and a p-value of 0.240 suggest no significant difference in age distribution, indicating similar age profiles in both groups.

Table 4: Gestational Age at Enrolment

Gestational age at enrolment (weeks)	Minimum	Maximum	Mean	Std. Deviation
Group A (N=101)	37	42	38.97	1.33
Group B (N=101)	37	41	39.04	1.26

Table 4 displays the gestational age at enrolment for participants in Groups A and B. In Group A, the gestational age ranged from 37 to 42 weeks, with a mean of 38.97 weeks and a standard deviation of 1.33, indicating slight variation around the average. For Group B, the gestational age ranged from 37 to 41 weeks, with a mean of 39.04 weeks and a slightly lower standard deviation of 1.26, suggesting slightly less variability. The mean gestational ages of both groups are very close, showing consistency in the timing of enrolment across participants. Overall, the data indicates that participants were enrolled at full term in both groups with minimal variation.

Table 5: Comparison of Gestational Age between Groups

Gestational age at enrolment (weeks)	Group A (N=101)		Group B (N=101)		Chi square	P value
	Frequency	%	Frequency	%		
37 – 39	44	47.3%	49	52.7%	0.332	0.576
40 – 41	55	51.8%	51	48.2%		
>42	2	66.6%	1	33.4%		

Fig 10: Comparison of Gestational Age between Groups

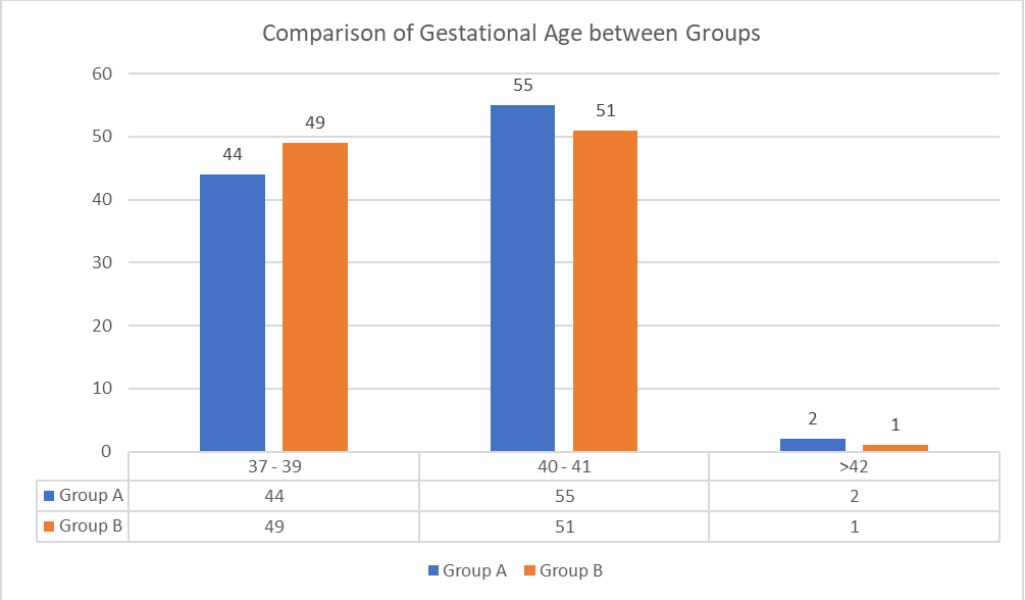


Table 5 and Figure 10 compares the gestational age at enrolment between Group A and Group B across three categories: 37–39 weeks, 40–41 weeks, and over 42 weeks. In the 37–39-week range, 47.3% of participants were from Group A and 52.7% from Group B. For the 40–41-week category, Group A had a slightly higher percentage (51.8%) than Group B (48.2%). In the >42 weeks category, two-thirds (66.6%) were from Group A and one-third (33.4%) from Group B. The Chi-square value of 0.332 and a p-value of 0.576 indicate no statistically significant difference in gestational age distribution between the groups, suggesting that participants were enrolled at similar stages of pregnancy in both groups.

Table 6: Gravida Status Distribution Between Groups

Gravida status	Group A (N=101)		Group B (N=101)		Chi square	P value
	Frequency	%	Frequency	%		
Primigravida	65	51.6	61	48.4	0.581	0.269
G2	18	36.7%	29	63.3%		
G3	14	58.3%	10	41.7%		
G4	3	100.0%	0	0.0%		
G5	0	0.0%	2	100.0%		

Fig 11: Gravida status between groups

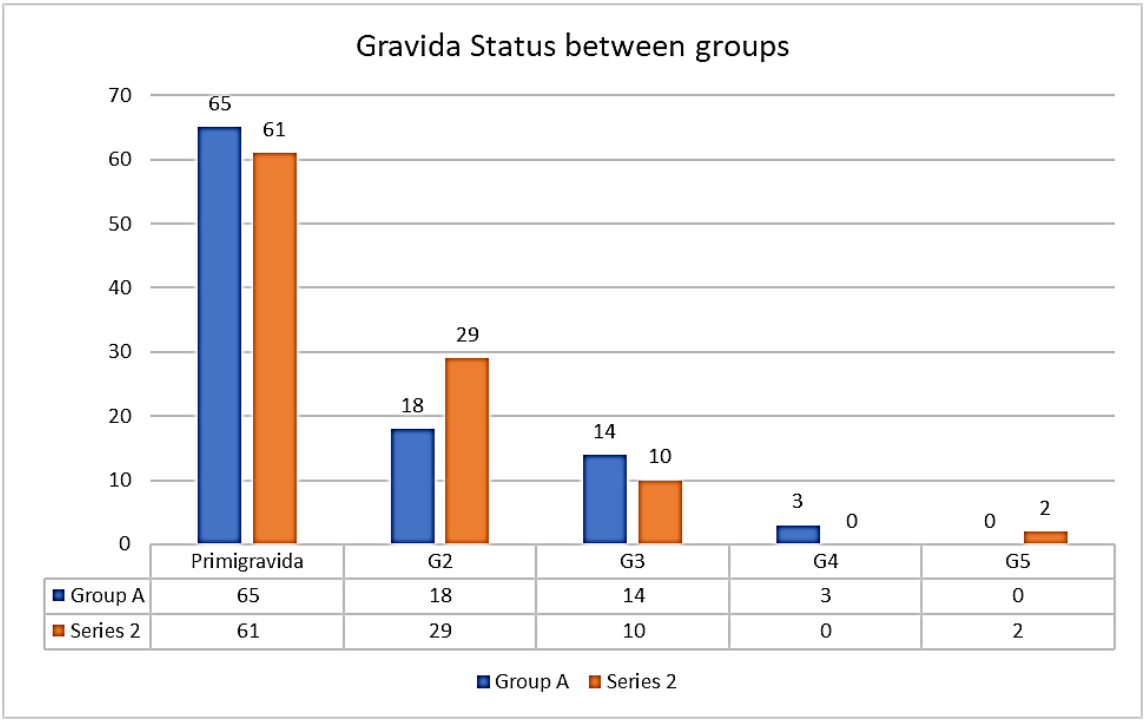


Table 6 and Figure 11 presents the distribution of gravida status among participants in Group A and Group B. Primigravida women made up the majority in both groups, with 65 (51.6%) in Group A and 61 (48.4%) in Group B. The distribution of multigravida cases (G2 to G5) varied, with G2 more common in Group B (63.3%) and G3 more common in Group A (58.3%). Notably, all G4 cases were observed in Group A, while both G5 cases were in Group B. The chi-square value of 0.581 and a p-value of 0.269 indicate no statistically significant difference in gravida status between the groups. Overall, the gravida distribution was comparable, with no meaningful deviation between the groups.

Table 7: Descriptive Statistics of BMI (kg/m²)

BMI (kg/m2)	Minimum	Maximum	Mean	Std. Deviation
Group A (N=101)	18.9	32.9	23.33	3.16
Group B (N=101)	19.1	32.5	23.5	2.99

Table 7 presents the descriptive statistics of Body Mass Index (BMI) for participants in Groups A and B. In Group A, BMI values ranged from 18.9 to 32.9 kg/m², with a mean of 23.33 and a standard deviation of 3.16, indicating moderate variability in BMI. Group B had a slightly narrower range, from 19.1 to 32.5 kg/m², with a slightly higher mean BMI of 23.5 and a lower standard deviation of 2.99, suggesting slightly less variation. The average BMI values for both groups are very similar, falling within the normal to overweight range. These results indicate that both groups had comparable BMI distributions at the time of assessment.

Table 8: Comparison of BMI Categories Between Groups

BMI (kg/m2)	Group A (N=101)		Group B (N=101)		Chi square	P value
	Frequency	%	Frequency	%		
18.5 – 24.9	79	50.3%	78	49.7%	0.730	0.674
25 – 29.9	17	45.9%	20	54.1%		
>30	5	62.5%	3	37.5%		

Figure 12: Comparison of Body Mass Index Between Groups

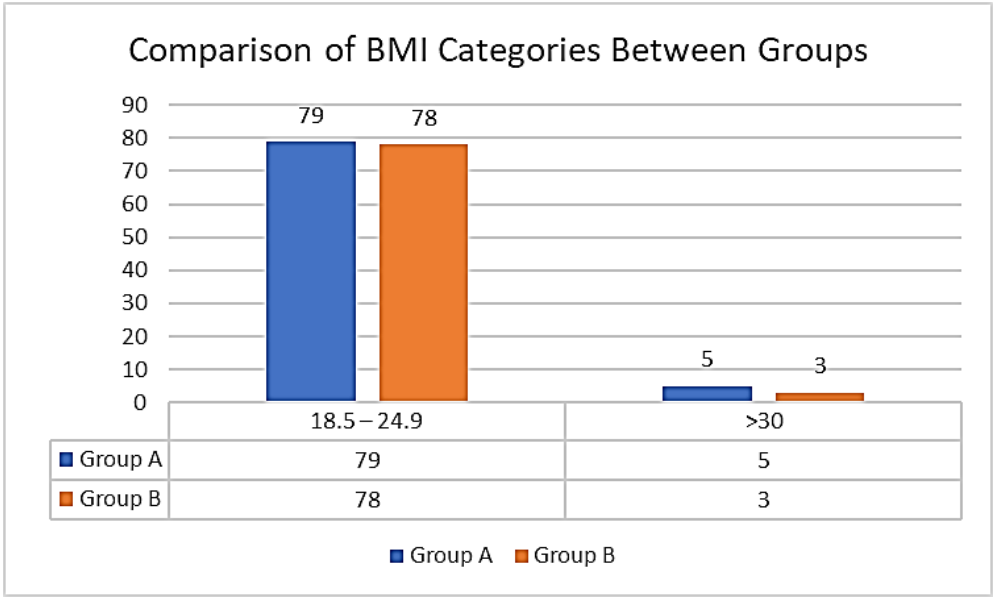


Table 8 and Figure 12 compares BMI categories between Group A and Group B. In the normal BMI range (18.5–24.9 kg/m²), 50.3% of participants were in Group A, while 49.7% were in Group B. Among overweight participants (25–29.9 kg/m²), 45.9% belonged to Group A and 54.1% to Group B. In the obese category (>30 kg/m²), 62.5% were in Group A, and 37.5% in Group B. The chi-square value is 0.730, with a p-value of 0.674, indicating no statistically significant difference in BMI distribution between the groups. This suggests that BMI was similarly distributed, minimising confounding effects in the study.

Table 9: Descriptive statistics of Pre-induction Modified Bishop Score

Pre-induction Modified Modified Bishop score	Minimum	Maximum	Mean	Std. Deviation
Group A (N=101)	0	6	2.01	1.67
Group B (N=101)	0	6	2.03	1.75

Table 9 presents the descriptive statistics of the pre-induction Modified Bishop score for Groups A and B. The Modified Bishop score, which assesses cervical readiness for labor induction, ranged from 0 to 6 in both groups. Group A had a mean score of 2.01 with a standard deviation of 1.67, while Group B had a very similar mean of 2.03 and a slightly higher standard deviation of 1.75. These mean values suggest that, on average, participants in both groups had low Modified Bishop scores prior to induction, indicating that most had an unfavourable cervix at the time of assessment. The nearly identical statistics imply a comparable level of cervical readiness between the two groups before induction.

Table 10: Pre-Induction Modified Bishop Score Classification in Group A and Group B

Pre-Induction Modified Bishop score classification	Group A (N=101)		Group B (N=101)	
	Frequency	%	Frequency	%
<6	101	50.0%	101	50.0%
>6	0	0.0%	0	0.0%

Figure 13: Pre-Induction Modified Bishop Score Classification in Group A and Group B

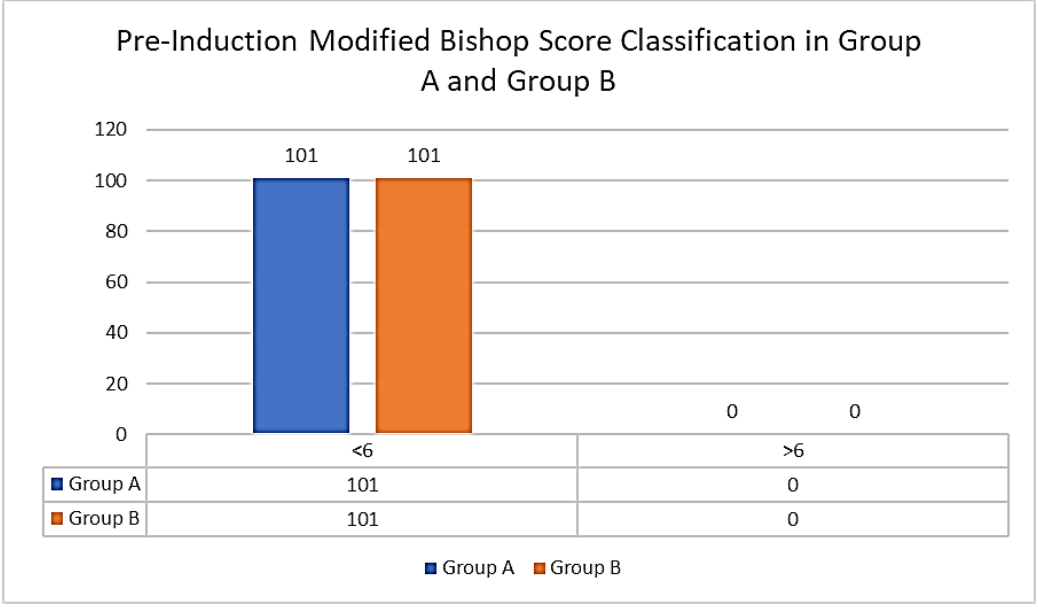


Table 10 and Figure 13 illustrates the distribution of pre-induction Modified Bishop scores in two different groups (Group A and Group B). The Modified Bishop score is a clinical assessment tool used to evaluate the cervix's readiness for labor induction. The score ranges from 0 to 13, considering factors such as cervical dilation, effacement, consistency, position, and fetal station.

In the table, the scores are divided into two categories:

- <6: A score less than 6 indicates an unfavourable cervix, suggesting that induction of labor may be less likely to succeed.
- >6: A score greater than 6 reflects a more favourable cervix, with a higher likelihood of a successful induction.

In Group A, all subjects have a Modified Bishop score of less than 6, meaning none of the participants had a favourable cervix at the time of assessment. Similarly, in Group B, all participants also have a Modified Bishop score less than 6. This uniform distribution suggests that, in both groups, participants had unfavourable cervices before labor induction, which could influence the outcomes of the induction process. The absence of participants with scores above 6 highlights a potential challenge in both groups for successful induction.

Table 11: Indications for Induction of Labour in each study groups

Indicator for IOL	Group A		Group B		Chi square	P value
	Frequency	%	Frequency	%		
Post datism	56	54.3%	47	45.7%	1.243	0.265
FGR	17	42.5%	23	57.5%		
Gestational HTN	12	40%	18	60%		
Oligohyramnios	11	47.8%	12	52.2%		
Macrosomia	2	66.6%	1	33.4%		
Overt DM	2	100%	0	0.0%		
Polyhydramnios	0	0.0%	1	100%		

Fig 14: Indications for Induction of Labour in each study groups

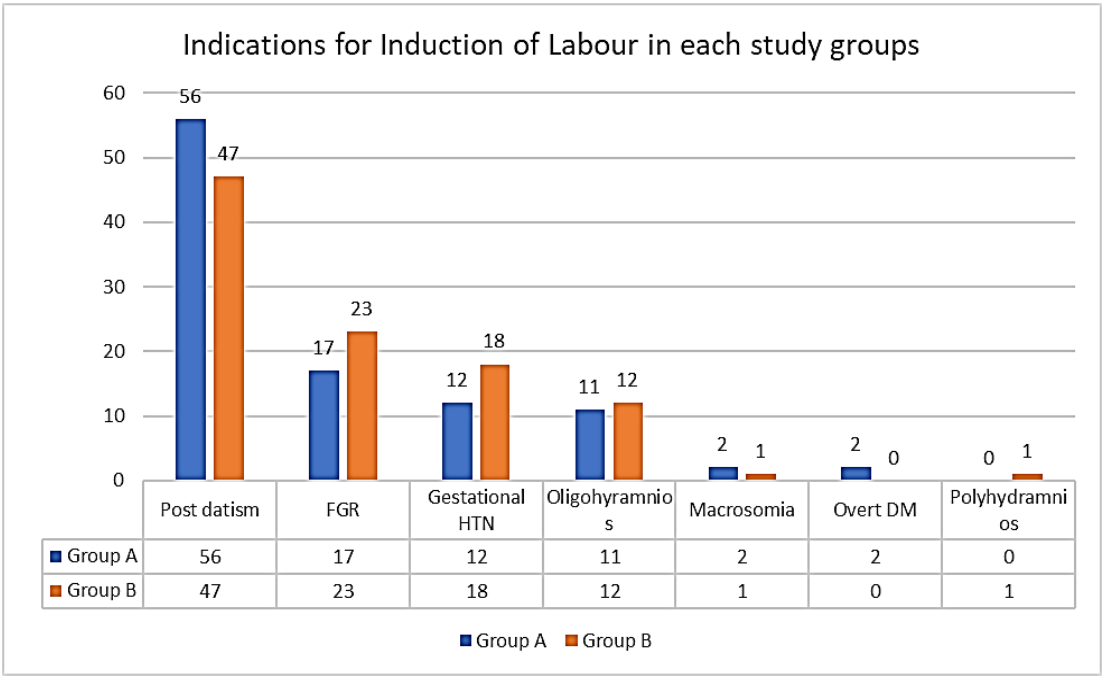


Table 11 and Figure 14 presents the various indications for induction of labour (IOL) in Group A and Group B. The most common indication in both groups was post datism, observed in 56 (54.3%) cases in Group A and 47 (45.7%) in Group B, with a chi-square value of 1.243 and a p-value of 0.265, indicating no statistically significant difference. Other indications such as fetal growth restriction (FGR), gestational hypertension, and oligohydramnios were comparably distributed between the groups, also showing no significant differences. Rare indications like macrosomia, overt diabetes mellitus, and polyhydramnios were infrequent and did not yield statistically significant results. Overall, the distribution of IOL indications was similar across both groups, suggesting comparable clinical profiles.

Table 12: Comparison of Adminstration of Oxytocin for Augmentation of labour between Group A and Group B

Oxytocin Administration	Group A (N=101)		Group B (N=101)		Chi square	P value
	Frequency	%	Frequency	%		
Administered	10	55.5%	8	44.5%	0.002	0.965
Not administered	91	49.5%	93	50.5%		

Figure 15: Comparison of Adminstration of Oxytocin for Augmentation of labour between Group A and Group B

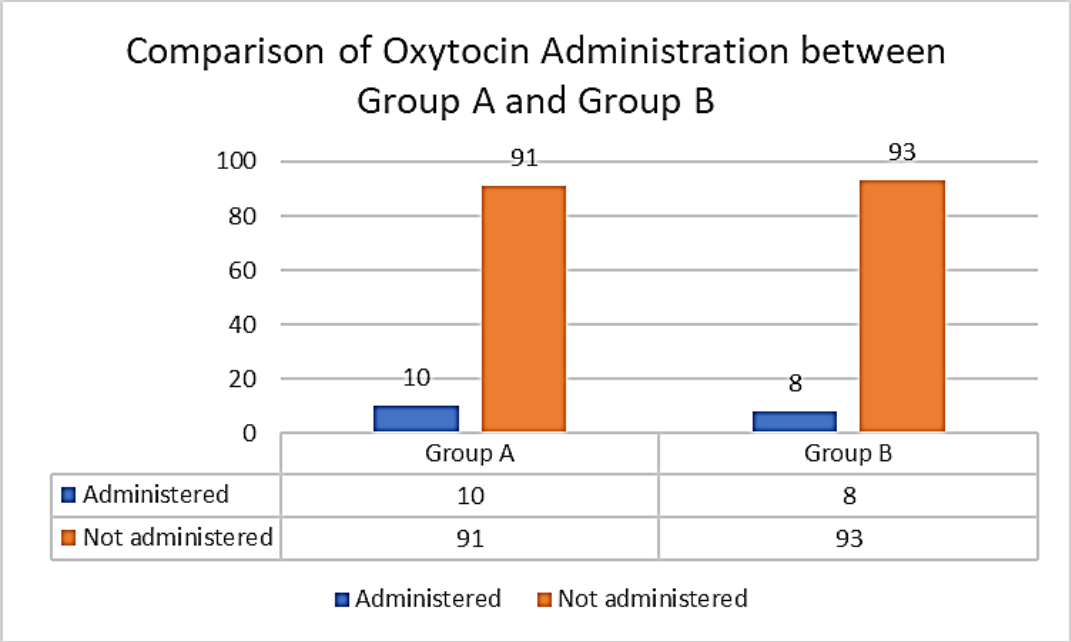


Table 12 and Figure 15 compares the administration of oxytocin between two groups (Group A and Group B) during labor induction. Oxytocin is a hormone commonly used to induce or augment labor by stimulating uterine contractions. The table presents the frequency and percentage of participants who received oxytocin in both groups. In Group A, 10 participants (55.5%) were administered oxytocin for

augmentation of labour, while 91 participants (49.5%) did not receive it. Similarly, in Group B, 8 participants (44.5%) received oxytocin for augmentation of labour, and 93 participants (50.5%) did not. A Chi-square test was conducted to determine whether there was a significant difference in oxytocin administration between the two groups. The Chi-square value was 0.002, with a P value of 0.965, which is greater than the conventional significance level of 0.05. This indicates that there is no statistically significant difference in the use of oxytocin between Group A and Group B. Both groups exhibited similar patterns of oxytocin administration for augmentation of labour, suggesting that the choice to administer oxytocin was not influenced by the group categorization, and the rates of administration were comparable across the two groups.

Table 13: Comparison of Tab.Misoprostol (25mcg) Administration between Group A and Group B

Misoprostol (25mg) administration	Group A (N=101)		Group B (N=101)		Chi square	P value
	Frequency	%	Frequency	%		
Not Administered	20	27.7%	52	72.3%	39.403	**<0.001**
1 dose	9	36.0%	16	64.0%		
2 doses	10	55.6%	8	44.4%		
3 doses	14	66.7%	7	33.3%		
4 doses	16	72.7%	6	27.3%		
5 doses	6	46.2%	7	53.8%		
6 doses	26	83.9%	5	16.1%		

Fig 16: Comparison of Tab.Misoprostol (25 mcg) Administration between Group A and Group B

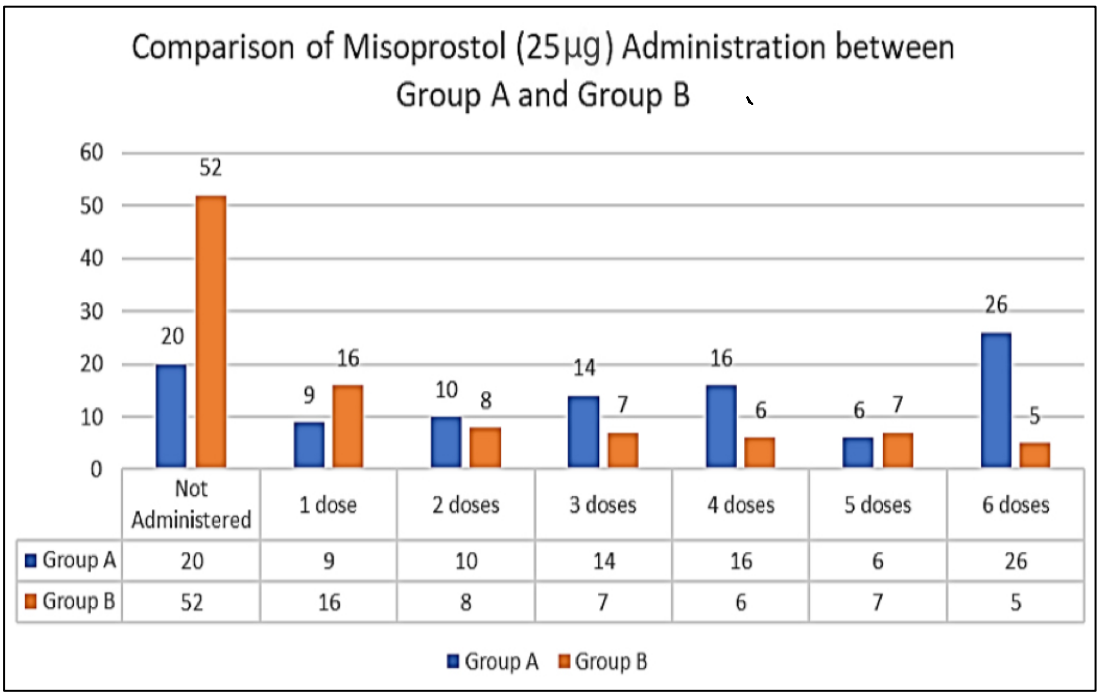


Table 13 and Figure 16 compares the administration of Tab.Misoprostol (25mcg) between two groups (Group A and Group B) during labor induction. Tab.Misoprostol is commonly used for cervical ripening and induction of labor, and the table provides the frequency and percentage of participants who received different doses of Tab.Misoprostol in both groups. In Group A, the administration of Tab.Misoprostol is distributed across various doses, with the highest percentage (83.9%) receiving 6 doses, and the lowest percentage (27.7%) not receiving any doses. In Group B, the distribution shows that the majority (72.3%) did not receive any Tab.Misoprostol, while only 16.1% received 6 doses, and smaller percentages received other doses. A Chi-square test was conducted to assess the difference in Tab.Misoprostol administration between the groups. The Chi-square value is 39.403 with a P value of less than 0.001, indicating a statistically significant difference in the distribution of Tab.Misoprostol doses between Group A and Group B. The results suggest that Group A had a higher proportion of participants receiving Tab.Misoprostol, particularly in higher doses, while Group B had a lower proportion of participants receiving Tab.Misoprostol.

Table 14: Proportion of Participants Who Entered Active Labor

Went into active labor 4 cm	Group A (N=101)		Group B (N=101)		Chi square	P value
	Frequency	%	Frequency	%		
Yes	67	51.5%	63	48.5%	0.233	0.369
No	34	47.2%	38	52.8%		

Fig 17: Proportion of participants who entered active labour

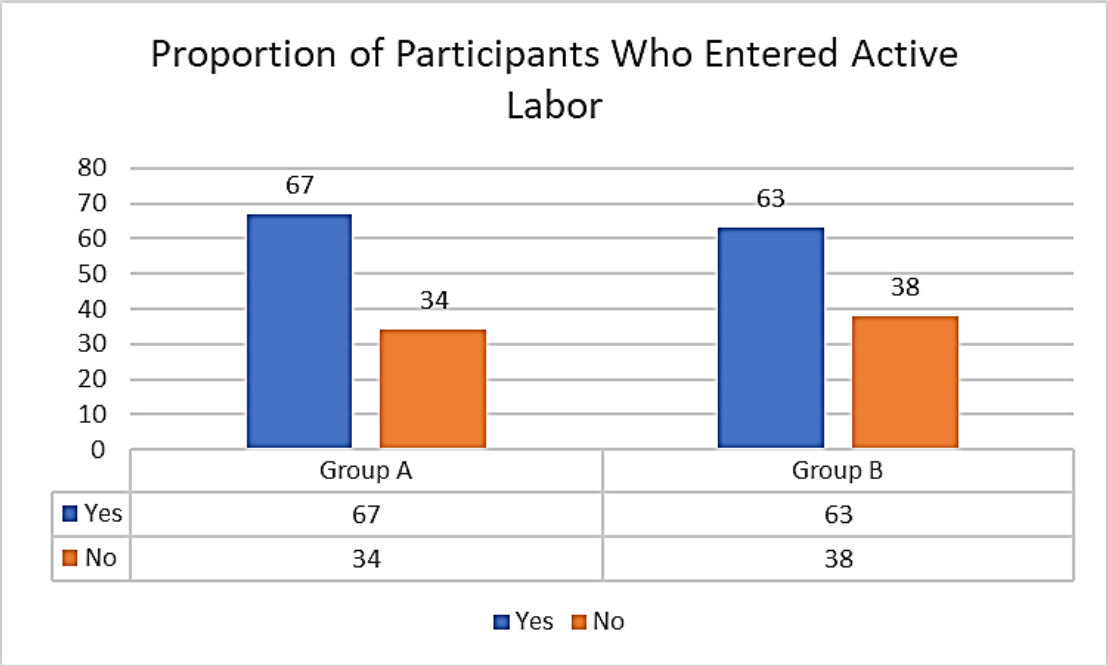


Table 14 and Figure 17 presents the proportion of participants who entered active labor at 4 cm cervical dilation in Group A and Group B. Among those who progressed to active labor, 51.5% were in Group A, while 48.5% were in Group B. In contrast, 47.2% of those who did not enter active labor were in Group A, and 52.8% were in Group B. The chi-square value is 0.233, with a p-value of 0.369, indicating no statistically significant difference between the groups. This suggests that the likelihood of entering into active labor was similar in both study groups.

Table 15: Comparative Analysis of Induction-to-Delivery Duration Between Group A and Group B

Duration between induction and delivery time (in hours)	Group A (N=101)		Group B (N=101)		Chi square	P value
	Frequency	%	Frequency	%		
<12 hours	7	25.0%	21	75.0%	33.824	**<0.001**
12 – 24 hours	26	33.8%	51	66.2%		
1 – 2 days	61	70.1%	26	29.9%		
2 – 3 days	5	62.5%	3	37.5%		
>3 days	2	100%	0	0.0%		

Fig 18: Comparative Analysis of Induction-to-Delivery Duration Between Group A and Group B

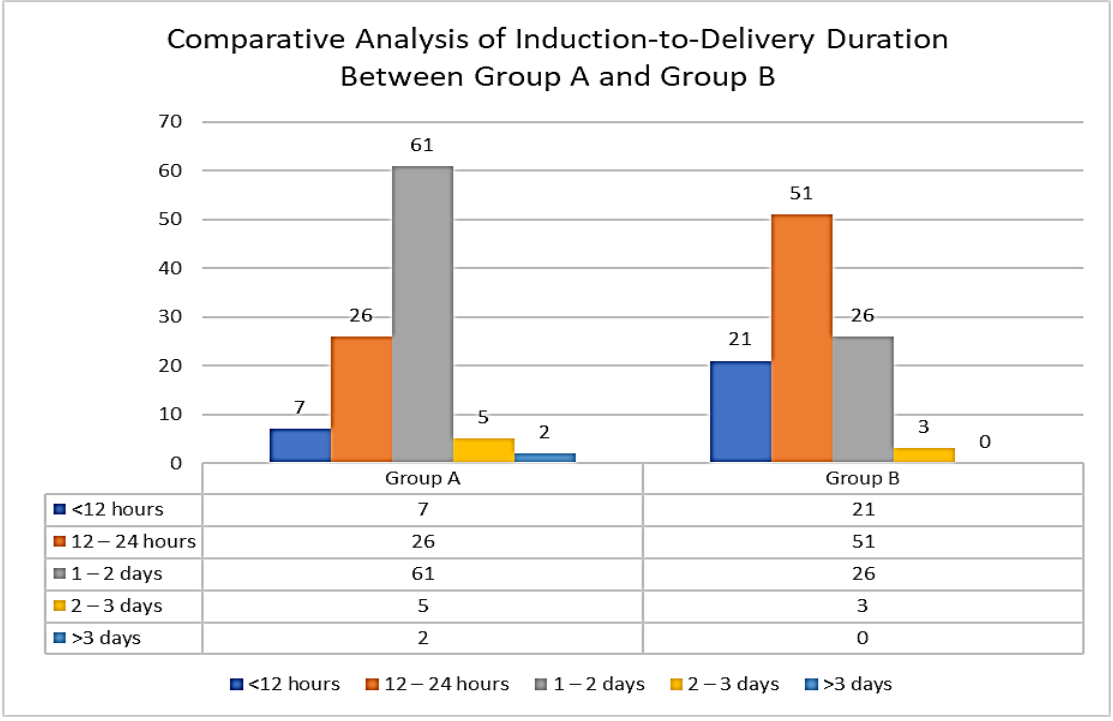


Table 15 and Figure 18 presents a comparative analysis of the duration between induction and delivery for Group A and Group B. The distribution of delivery times is categorized into five intervals: <12 hours, 12–24 hours, 1–2 days, 2–3 days, and >3 days. The chi-square test value (33.824) and the highly significant p-value (<0.001) suggest a strong statistical difference between the two groups in terms of labor duration after induction.

A notable observation is that a higher percentage of deliveries in Group B occur within shorter time frames. Specifically, 75.0% of Group B delivered within 12 hours, compared to only 25.0% in Group A. Similarly, in the 12–24-hour category, 66.2% of Group B delivered, whereas only 33.8% of Group A did. In contrast, for longer durations (1–2 days and beyond), Group A had a higher proportion of cases, with 70.1% taking 1–2 days and 100% of cases in the >3 days category.

Table 16: Mode of Delivery Distribution Between Groups

Mode of delivery	Group A (N=101)		Group B (N=101)		Chi square	P value
	Frequency	%	Frequency	%		
Vaginal	57	51.4%	54	48.6%	0.088	0.438
LSCS	44	48.4%	47	51.6%		

Fig 19: Mode of Delivery Distribution between Groups

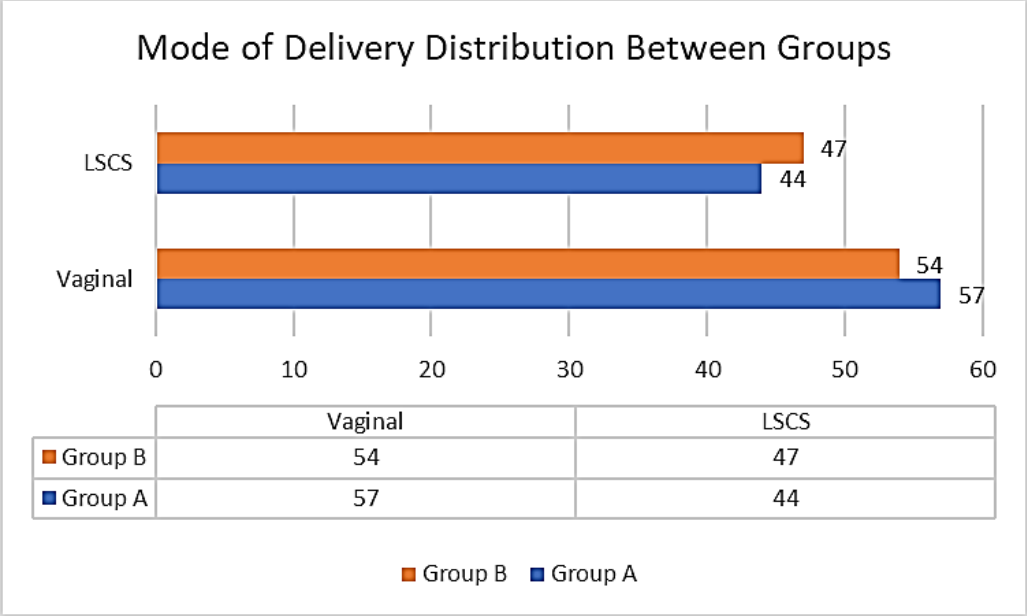


Table 16 and Figure 19 compares the mode of delivery distribution between Group A and Group B. Among participants who had a vaginal delivery, 51.4% were in Group A, while 48.6% were in Group B. For those who underwent Lower Segment Cesarean Section (LSCS), 48.4% belonged to Group A, and 51.6% were in Group B. The chi-square value is 0.088, with a p-value of 0.438, indicating no statistically significant difference between the groups. This suggests that the mode of delivery was comparable between the groups, reducing the likelihood of bias and ensuring balanced distribution in delivery outcomes for the study.

Table 17: Subgroup Analysis of Vaginal Deliveries

Vaginal delivery subgroup	Group A (N=101)		Group B (N=101)		Chi square	P value
	Frequency	%	Frequency	%		
Spontaneous	54	52.4%	49	47.6%	0.667	0.717
Instrumental	3	37.5%	5	62.5%		

Fig 20: Subgroup Analysis of Vaginal Deliveries

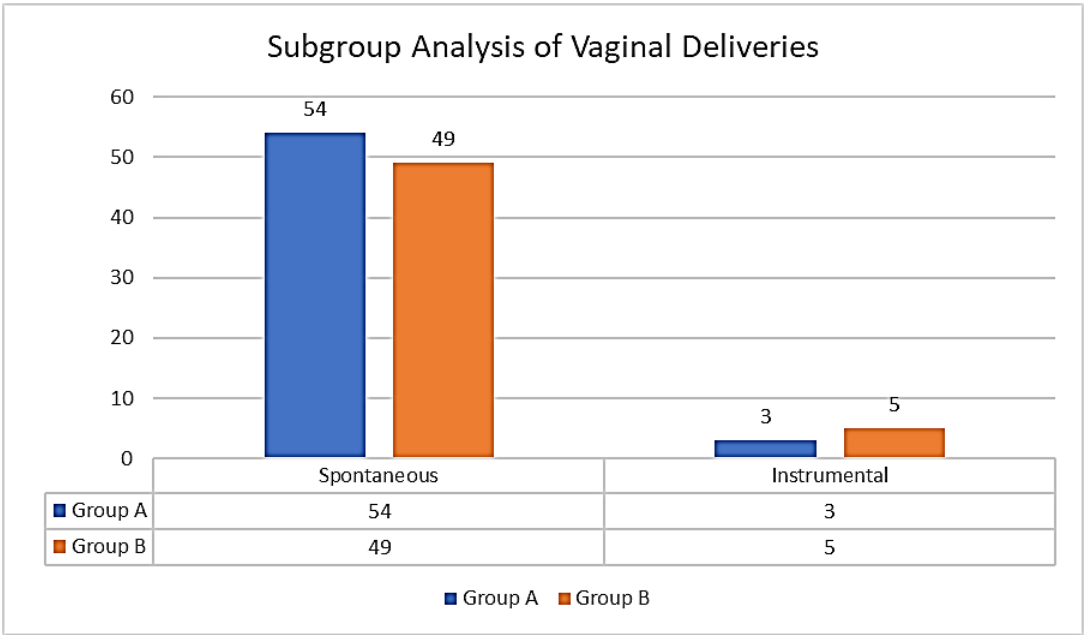


Table 17 and Figure 20 provides a subgroup analysis of vaginal deliveries, comparing spontaneous and instrumental deliveries between Groups A and B. Among spontaneous vaginal deliveries, 52.4% occurred in Group A and 47.6% in Group B, showing a fairly even distribution. For instrumental deliveries, Group B had a higher percentage (62.5%) compared to Group A (37.5%). The Chi-square value of 0.667 and a p-value of 0.717 indicate no statistically significant difference between the groups in terms of the type of vaginal delivery. Overall, both groups had similar rates of spontaneous and instrumental deliveries, suggesting that the method of vaginal delivery was not significantly influenced by intervention.

Table 18: Indications for Lower Segment Cesarean Section (LSCS)

Indications for LSCS	Group A (N=101)		Group B (N=101)		Chi square	P value
	Frequency	%	Frequency	%		
Anamnios	0	0.0%	2	100.0%	10.496	0.312
CDMR	3	60.0%	2	40.0%		
CPD	1	50.0%	1	50.0%		
Deep transverse arrest	1	100.0%	0	0.0%		
Failed induction	10	58.8%	7	41.2%		
Fetal distress	10	52.6%	9	47.4%		
Inadequate progression of labour	10	35.7%	18	64.3%		
MSL	7	50.0%	7	50.0%		
Second stage arrest	2	66.7%	1	33.3%		

Fig 21: Indications for Lower Segment Cesarean Section (LSCS)

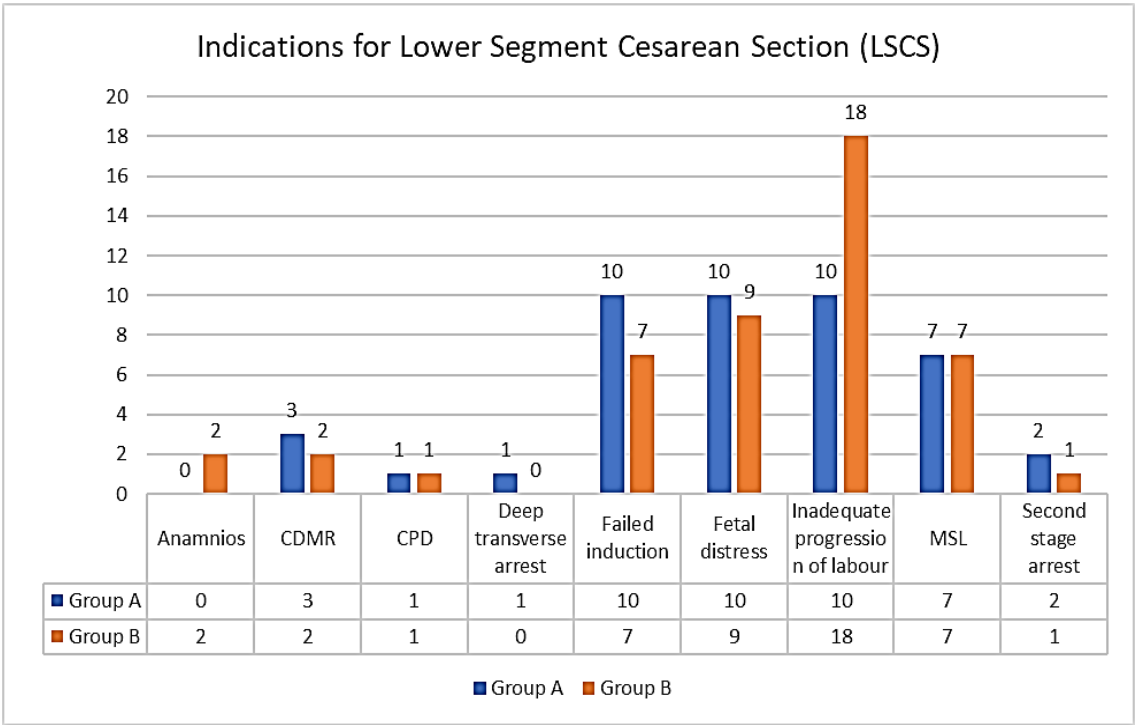


Table 18 and Figure 21 outlines the various indications for Lower Segment Cesarean Section (LSCS) in Group A and Group B. The most frequent indications in both groups included failed induction, fetal distress, and inadequate progression of labour. For instance, failed induction accounted for 10 cases (58.8%) in Group A and 7 (41.2%) in Group B, while inadequate progression of labour was more common in Group B (64.3%) than in Group A (35.7%). Rare causes such as anamnios, deep transverse arrest, and second stage arrest were observed in very few cases. Although anamnios showed a chi-square value of 10.496, the p-value of 0.312 indicates no statistical significance. Overall, LSCS indications were distributed fairly evenly between the groups without significant differences.

Table 19: Incidence of Maternal Complications

Maternal Complication		Group A		Group B	
		Frequency	%	Frequency	%
Chorioamnionitis	Absent	101	50.0%	101	50.0%
	Present	0	0%	0	0%
Postpartum metritis	Absent	101	50.0%	101	50.0%
	Present	0	0%	0	0%
Uterine Hypertonus	Absent	101	50.0%	101	50.0%
	Present	0	0%	0	0%
Tachysystole	Absent	101	50.0%	101	50.0%
	Present	0	0%	0	0%

Table 19 presents the incidence of maternal complications in Groups A and B, including chorioamnionitis, postpartum metritis, uterine hypertonus, and tachysystole. In all four categories, there were no reported cases of any complications in either group. Each complication was absent in 101 participants from both groups, indicating a 50% share per group. This uniform absence suggests that the interventions or conditions under study did not result in any maternal complications among the participants. The findings highlight a favorable maternal safety profile in both groups, with no differences in complication rates. Overall, the data indicate that the risk of maternal complications was minimal and consistent across both groups during the study period.

Table 20: Neonatal Outcomes: Live Birth vs. Stillbirth

Neonatal Outcome	Group A		Group B	
	Frequency	%	Frequency	%
Live birth	101	50.0%	101	50.0%
Stillbirth	0	0%	0	0%

Table 20 presents neonatal outcomes, comparing live births and stillbirths between Group A and Group B. In both groups, 101 (50.0%) in Group A and 101 (50.0%) in Group B resulted in live births, with no stillbirths reported in either group. This indicates a 100% live birth rate, suggesting optimal maternal and neonatal care during pregnancy and delivery. The absence of stillbirths reflects effective antenatal monitoring, timely interventions, and good intrapartum management. Since no stillbirths were recorded, neonatal outcomes were comparable between the groups, ensuring unbiased study results and reinforcing the overall positive perinatal health status in the population.

Table 21: Gender Distribution of Newborns

Gender of the baby	Group A (N=101)		Group B (N=101)	
	Frequency	%	Frequency	%
Female	62	54.9%	51	45.1%
Male	39	43.8%	50	56.2%

Fig 22: Gender distribution of Newborns in each Group

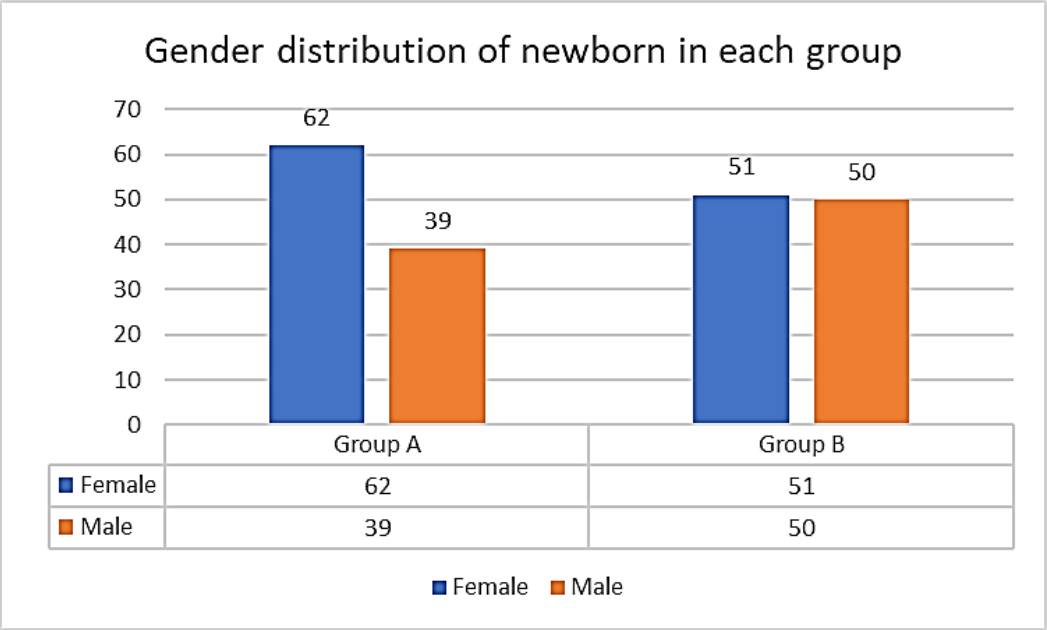


Table 21 and Figure 22 presents the gender distribution of newborns between Group A and Group B. In Group A, 61 (54.9%) of the newborns were female, while 39 (43.8%) were male. In Group B, 52 (45.1%) were female, and 50 (56.2%) were male. The distribution of male and female newborns appears relatively balanced between the groups, with a slightly higher proportion of female births in Group A and male births in Group B. This variation is likely due to natural biological distribution rather than any external factors. The similar gender distribution ensures comparability in neonatal outcomes across the study groups.

Table 22: Birth Weight of Neonates: Descriptive Statistics

Birth weight	Minimum	Maximum	Mean	Std. Deviation
Group A	1.8	3.5	2.79	0.36
Group B	1.9	3.8	2.85	0.45

Table 22 provides the descriptive statistics of neonatal birth weights for Groups A and B. In Group A, birth weights ranged from 1.8 to 3.5 kg, with a mean of 2.79 kg and a standard deviation of 0.36, indicating relatively low variability. Group B showed a slightly wider range, from 1.9 to 3.8 kg, with a higher mean birth weight of 2.85 kg and a standard deviation of 0.45, reflecting greater variation. Although both groups had similar average birth weights, Group B's neonates were slightly heavier on average. Overall, the data suggest that neonatal birth weights were fairly comparable between the groups, with no significant deviations or extreme outliers in either group.

Table 23: Birth Weight Distribution Between Groups

Birth weight (in kgs)	Group A (N=101)		Group B (N=101)	
	Frequency	%	Frequency	%
1.5 – 2.5	18	48.6%	19	51.4%
2.5 - 4	83	50.3%	82	49.7%

Fig 23: Birth Weight Distribution between Groups

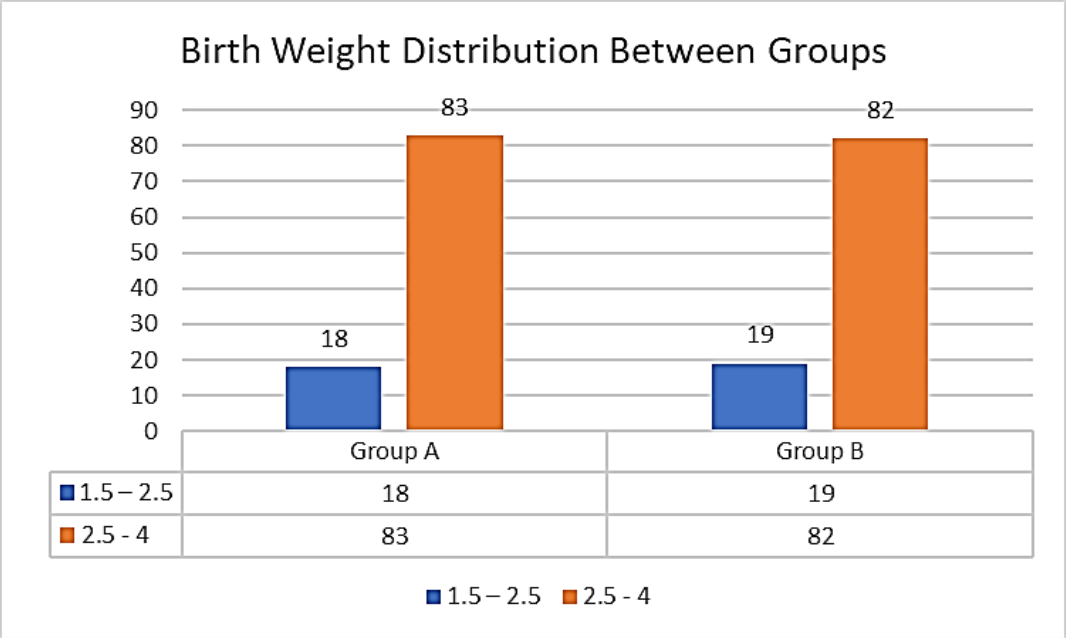


Table 23 and Figure 23 compares the birth weight distribution between Group A and Group B. Among newborns with a birth weight between 1.5–2.5 kg, 48.6% were from Group A, while 51.4% were from Group B, indicating a slightly higher proportion of lower birth weight infants in Group B. In the 2.5–4 kg category, 50.3% of newborns belonged to Group A, and 49.7% to Group B, showing a nearly equal distribution of normal birth weight infants. The overall similarity in birth weight distribution between the groups suggests comparable fetal growth patterns, reducing the likelihood of significant neonatal outcome differences between them.

Table 24: Comparison of APGAR Scores at 1 Minute Between Study Groups

APGAR Score (at 1 min)	Group A (N=101)		Group B (N=101)		Chi square	P value
	Frequency	%	Frequency	%		
Severe distress (0-3)	0	0.0%	1	100.0%	2.989	0.224
Moderate distress (4 – 6)	4	30.8%	9	69.2%		
Normal adaptation (7 – 10)	97	51.6%	91	48.4%		

Fig 24: Comparison of APGAR Scores at 1 Minute Between Study Groups

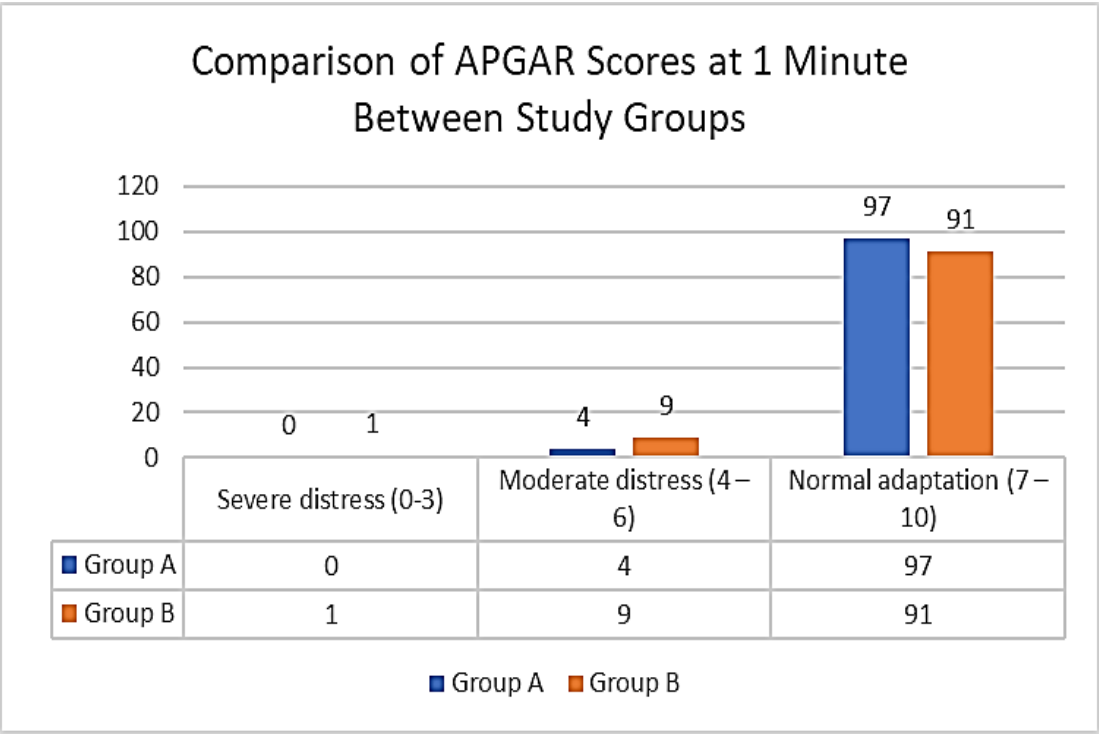


Table 24 and Figure 24 compares APGAR scores at 1 minute between Group A and Group B. Severe distress (APGAR 0–3) was observed in only one newborn from Group B (100%). Moderate distress (APGAR 4–6) was seen in 4 (30.8%) newborns from Group A and 9 (69.2%) from Group B, indicating a higher proportion of initial respiratory or physiological challenges in Group B. Normal adaptation (APGAR 7–10) was similar between groups, with 97 (51.6%) in Group A and 91 (48.4%) in Group B. The chi-square value of 2.989 and p-value of 0.224 suggest no statistically significant difference between groups.

Table 25: Comparison of APGAR Scores at 5 Minute Between Study Groups

APGAR Score (at 5 min)	Group A (N=101)		Group B (N=101)		Chi square	P value
	Frequency	%	Frequency	%		
Severe distress (0-3)	0	0.0%	0	0.0%	0.985	0.505
Moderate distress (4 – 6)	0	0.0%	1	100.0%		
Normal adaptation (7 – 10)	101	50.2%	100	49.8%		

Fig 25: Comparison of APGAR Scores at 5 Minute Between Study Groups

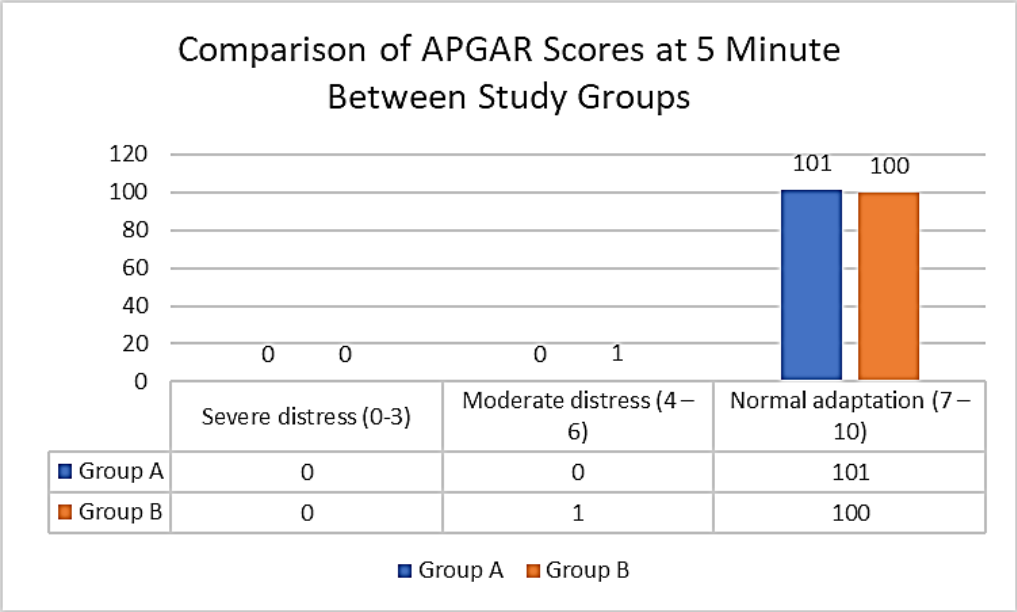


Table 25 and Figure 25 compares APGAR scores at 5 minutes between Group A and Group B. No newborns in either group had severe distress (APGAR 0–3). Moderate distress (APGAR 4–6) was observed in only one newborn from Group B (100%), while none in Group A had this condition. Normal adaptation (APGAR 7–10) was nearly identical between groups, with 101 (50.2%) in Group A and 100 (49.8%) in Group B. The chi-square value of 0.985 and p-value of 0.505 indicate no statistically significant difference between groups. These findings suggest overall good neonatal outcomes with minimal need for resuscitative interventions.

Table 26: NICU Admission Incidence Between Groups

NICU admission	Group A (N=101)		Group B (N=101)		Chi square	P value
	Frequency	%	Frequency	%		
Yes	8	42.1%	11	57.9%	0.459	0.332
No	93	50.8%	90	49.2%		

Fig 26: NICU Admission Incidence Between Groups

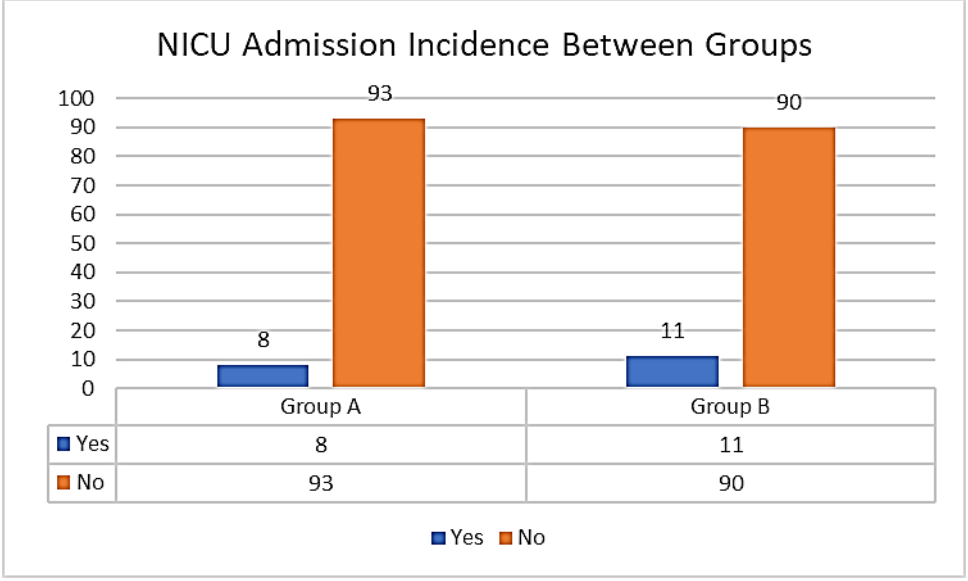


Table 26 and Figure 26 compares the incidence of NICU admissions between Group A and Group B. NICU admission was required for 8 (42.1%) newborns in Group A and 11 (57.9%) in Group B, indicating a slightly higher proportion in Group B. The majority of newborns did not require NICU admission, with 93 (50.8%) in Group A and 90 (49.2%) in Group B. The chi-square value of 0.459 and p-value of 0.332 indicate no statistically significant difference between groups. These findings suggest that neonatal outcomes were largely comparable, with a low overall need for intensive neonatal care in both groups.

Table 27: Clinical Indications for NICU Admission

Reason for NICU admission	Group A (N=101)		Group B (N=101)		Chi square	P value
	Frequency	%	Frequency	%		
Respiratory distress	8	42.1%	11	57.9%	0.459	0.332
No NICU admission	93	50.8%	90	49.2%		

Fig 27: Clinical Indications for NICU Admission

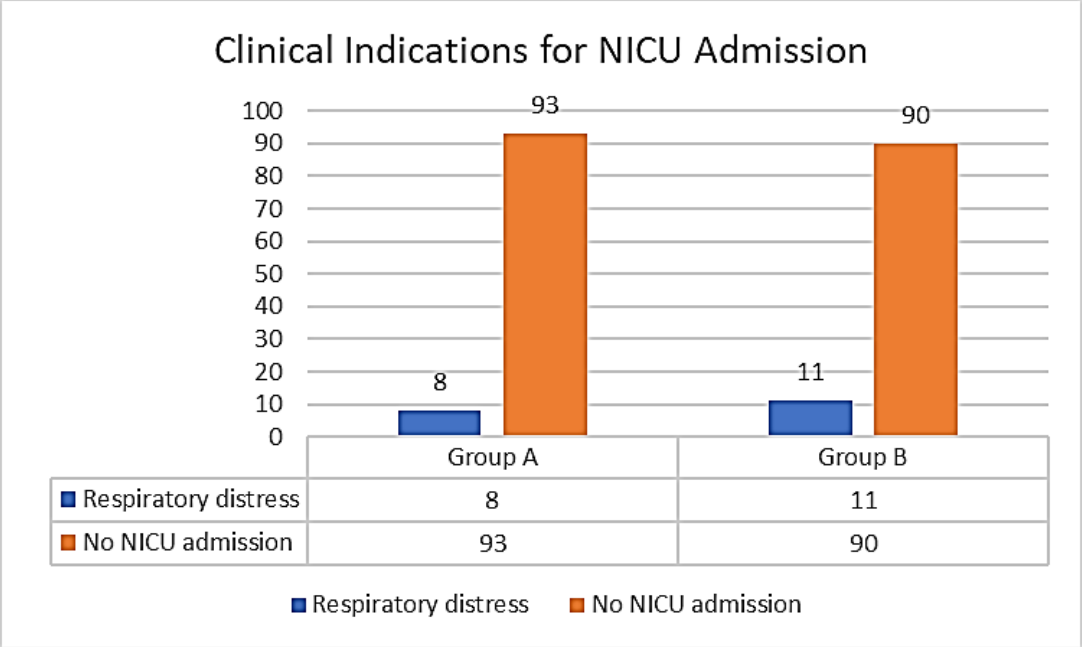


Table 27 and Figure 27 presents the clinical indications for NICU admission in Group A and Group B. Respiratory distress was the sole reason for NICU admission, affecting 8 (42.1%) newborns in Group A and 11 (57.9%) in Group B. The majority of newborns did not require NICU admission, with 93 (50.8%) in Group A and 90 (49.2%) in Group B. The chi-square value of 0.459 and p-value of 0.332 indicate no statistically significant difference between the groups. These findings suggest that

respiratory distress was the primary neonatal concern, but overall neonatal health outcomes remained comparable between the groups.

The study findings indicate that both groups had comparable maternal and neonatal outcomes, with no statistically significant differences observed in key parameters. The majority of participants had a normal BMI, and most delivered vaginally. APGAR scores at 1 and 5 minutes were within the normal range for most newborns, with only a few requiring NICU admissions, primarily due to respiratory distress. Maternal complications such as chorioamnionitis, postpartum metritis, uterine hypertonus, and tachysystole were absent in both groups. Overall, the results suggest that the intervention had no adverse effects, reinforcing the safety and effectiveness of the management approach used in both groups.

DISCUSSION

The present Randomized Controlled Trial study was carried out at the Department of OBGYN at KLES Dr. Prabhakar Kore Charitable Hospital and Medical Research Center, Belagavi for a period of one year from April 2024 to April 2025 .Out of the total 4085 deliveries conducted during the study period, 665 underwent IOL out of which 518 women were screened and after applying the inclusion and exclusion criteria, a total of 202 participants were recruited and randomized equally into two groups, with 101 participants in Group A and 101 participants in Group B.

This study presents the sociodemographic characteristics of the study participants, specifically focusing on age distribution. A total of 202 participants were enrolled, with 101 (50.0%) in Group A and 101 (50.0%) in Group B. The mean age of the study participants was 24.73 ± 3.704 years, with the age range spanning from 18 to 38 years. The study groups were well-balanced concerning age distribution, ensuring minimal confounding influence on the study outcomes. The results of this study have been compared with existing literature to provide a broader perspective on the demographic similarities and differences across similar studies in the field.

Comparison of Age Distribution with Previous Studies

In the present study, age distribution among participants was well balanced between Group A and Group B, as shown in Table 2. The mean age in Group A was 24.92 ± 4.18 years, with an age range from 18 to 38 years, whereas Group B had a slightly lower mean age of 24.55 ± 3.19 years, ranging from 19 to 33 years. Despite minor variations, the similarity in mean values between the groups suggests demographic comparability. Group A had a slightly wider age range and more

variability. These findings are further supported by the Chi-square analysis of age categories in Table 3 and Figure 9, which revealed no statistically significant difference in age distribution ($\chi^2 = 4.205$, $p = 0.240$), reinforcing the strength of the randomization process in ensuring homogeneity between the groups.

When grouped into age categories, participants aged 21–30 years formed the largest proportion in both groups. Group A accounted for 52.5% in the 26–30 category and 43.3% in the 21–25 range, while Group B had higher representation in the 21–25 category at 56.7%. The proportions of younger (<20 years) and older (>30 years) participants were smaller in both groups, with Group A contributing more participants in both extremes. The statistical parity in distribution confirms that age-related bias is unlikely to have affected the study outcomes. These observations are consistent with findings by **Sharma R et al**.,[25] who reported similar mean ages of 24.6 ± 3.8 years and 24.7 ± 4.6 years in their study groups, demonstrating no significant difference.

Comparable findings were reported by **Elliott CL et al.**, [26]where the mean ages ranged from 25.6 to 26.2 years across placebo and mifepristone treatment groups, with no significant age-based variations. **Giacalone PL et al**.[27]also observed mean ages of 28.5 ± 4.3 and 28.3 ± 5.0 years, respectively, while **McGill J et al**.[28] noted slightly older study populations but likewise reported no statistically significant intergroup differences. These studies reinforce the current findings by confirming that consistent age distribution across groups supports the validity of randomized controlled trials in labor induction.

Gestational Age

In the present study, gestational age at enrollment was similar between the two groups,factor. As shown in Table 4, Group A participants had a gestational age range from 37 to 42 weeks, with a mean of 38.97 ± 1.33 weeks, while Group B ranged from 37 to 41 weeks, with a nearly identical mean of 39.04 ± 1.26 weeks. These results confirm that participants in both groups were enrolled at or near full-term gestation, and the minimal standard deviation reflects low variability, contributing to the homogeneity of the study population.

Further analysis in Table 5 and Figure 10 stratified participants into three gestational age categories: 37–39 weeks, 40–41 weeks, and >42 weeks. In the 37–39-week group, participants were distributed fairly evenly between Group A (47.3%) and Group B (52.7%). In the 40–41-week category, Group A comprised 51.8% compared to 48.2% in Group B. In the >42 weeks category, though the total number of participants was low, Group A accounted for a greater share (66.6%) than Group B (33.4%). However, the Chi-square value of 0.332 and a p-value of 0.576 indicated no statistically significant difference between the groups, suggesting that gestational age at the time of enrolment was uniformly distributed.

These findings are consistent with the results of **Berkane N et al.29**,[29] who reported a mean gestational age of 277.2 ± 9.8 days (approximately 39.6 ± 1.4 weeks) at treatment initiation, with no intergroup difference. Likewise, **Ashtekar Archana et al.**[30] reported slightly earlier mean gestational ages of 37.12 ± 1.3 weeks and 37.8 ± 1.14 weeks in their study groups, respectively, but observed no statistically significant differences, highlighting that enrolment timing around term is a common feature in labor induction studies.

Additionally, the study by **Bullough S et al**.[31] supports this observation, noting comparable gestational ages between groups undergoing labor induction for vaginal birth after cesarean section. Their findings emphasise that consistent gestational age distribution enhances the reliability of study outcomes, as maturity at the time of intervention plays a key role in ensuring equitable response to induction methods. Altogether, these comparisons validate the current study's methodology and strengthen the internal validity of the trial by demonstrating that gestational age was appropriately matched across groups.

Gravida Status

In the present study, the distribution of gravida status between Group A and Group B was well-balanced, with no statistically significant difference ($p = 0.269$), as indicated by the chi-square value of 0.581. Primigravida women comprised 51.6% of participants in Group A and 48.4% in Group B, while multigravida participants (G2 to G5) were distributed across both groups with no meaningful skew. Notably, G2 gravidity was more common in Group B (63.3%), and G3 was more frequent in Group A (58.3%). All G4 cases were observed in Group A, and the two G5 cases belonged to Group B. Despite this variation, the overall gravida status remained comparable, ensuring parity did not confound the outcomes of the intervention.

These findings are in agreement with previous research by **Berkane N et al**., [29] who reported a predominance of nulliparous women (58.1%) in their study population, followed by participants with one or more previous deliveries. The proportion of primigravida participants in our study closely mirrors their findings, supporting the external validity of our data. Likewise, **McGill J et al**.[28] observed a higher prevalence of primigravida women—72% in both treatment arms—but

similarly found no significant disparity between groups. These patterns underscore the effectiveness of randomisation in distributing parity evenly across intervention arms, a factor that plays a critical role in labor outcomes.

Furthermore, **Edwards RK et al**. [32]conducted a randomized controlled trial comparing Foley catheter and dinoprostone insert and reported an even distribution of parity status between groups. Their results, like those of the current study, emphasise that maintaining balance in gravida status is crucial in labor induction research. Parity can influence the cervix's responsiveness to ripening agents and the overall progression of labor. The comparable gravida distribution in our study aligns with these previous findings, thereby enhancing the study's internal validity and strengthening the reliability of the conclusions regarding the efficacy of the interventions being assessed.

Body Mass Index (BMI) Comparison

In this study, the mean BMI of participants was 23.41 ± 3.08 kg/m², ranging from 18.9 to 32.9 kg/m². While most participants were within the normal weight range, some were overweight or obese. The standard deviation of 3.08 suggests moderate variability in body composition. When comparing the groups, 8% of participants in Group A and 13.3% in Group B were classified as overweight or obese. Although the categorical distribution of BMI was not statistically significant ($p > 0.05$), the mean BMI was significantly higher in Group B (23.15 ± 2.76 kg/m²) than in Group A (22.46 ± 2.21 kg/m²) ($p < 0.05$).

Yelikar K. et al.[33] reported mean BMI values of 20.08 ± 1.56 kg/m² and 21.03 ± 0.86 kg/m² for their study and control groups, respectively, with no significant difference. In contrast, our study found a significant variation in BMI between the

groups. This discrepancy may stem from differences in study populations, sample sizes, or regional nutritional patterns. Despite this difference, the overall BMI distribution in our study remained comparable between groups, minimising confounding effects.

BMI is a well-documented factor influencing labor and delivery outcomes, with higher BMI linked to prolonged labor, induction failure, and cesarean delivery. While Group B had a significantly higher mean BMI, the overall distribution of normal, overweight, and obese participants was similar across groups. This balance suggests that BMI-related confounding was unlikely to impact study outcomes significantly.

Further research is needed to assess the clinical implications of BMI differences on maternal and neonatal outcomes. Ensuring balanced BMI distribution in randomised controlled trials remains crucial to reducing bias and improving comparability in obstetric research.

Bishop Score

This study assessed the pre-induction cervical status using the Bishop Score and its implications for labor induction. The mean pre-induction Bishop Score was 2.01 (SD: 1.671), with none of the participants scoring >6. This indicates that all participants had an unfavourable cervix, reinforcing the necessity of cervical ripening before induction.

The study by **Gupta JK. Et al.**[34] compared the efficacy and safety of a synthetic osmotic cervical dilator (Dilapan-S) and dinoprostone, demonstrating comparable rates of vaginal delivery failure and maternal/neonatal adverse events.

Given that all participants in our study had an initial Bishop Score <6, the need for effective cervical ripening methods is evident. Choosing between pharmacological (dinoprostone) and mechanical (Dilapan-S) methods is crucial for optimizing induction success.

Our findings align with existing literature indicating that a Bishop Score <5 is associated with lower induction success, often necessitating cervical ripening. The findings of the study by **Gupta J K et al.,**[34] suggest that mechanical methods can be an alternative to dinoprostone, particularly in cases where pharmacological agents are contraindicated or not preferred.

The uniform distribution of unfavourable Bishop Scores (<6) in both study groups highlight the challenge of labor induction in this population. The stringent selection criteria likely targeted individuals requiring intervention, which may impact induction success and delivery mode. Additionally, the variability in Bishop Scores suggests heterogeneity in cervical conditions, which could influence induction outcomes. Future research should explore whether factors such as parity, maternal age, and BMI affect the effectiveness of different induction methods.

Clinically, these findings underscore the importance of tailoring induction strategies to individual patient needs. While dinoprostone is a first-choice agent, mechanical methods such as Dilapan-S offer comparable outcomes with potentially fewer adverse effects. The choice of method should be guided by patient preferences, clinical indications, and institutional protocols.

The low pre-induction Bishop Scores in our study highlight the necessity of cervical ripening. The study by **Gupta J K et al;** supports both pharmacological and mechanical methods, with no significant differences in efficacy or safety. Future

research should focus on personalised induction strategies based on patient characteristics to optimize outcomes.

Oxytocin & Misoprostol administration

This study evaluated the administration of oxytocin and Misoprostol (25mg) for labor induction in two groups. The findings provide insights into the use of pharmacological agents for cervical ripening and augmentation of labor. Oxytocin, a key agent in labor induction, was administered to a similar proportion of participants in both groups. In Group A, 55.5% received oxytocin, while 44.5% in Group B received it. The Chi-square test ($\chi^2 = 0.002$, $p = 0.965$) showed no statistically significant difference between the groups, indicating that oxytocin administration was not influenced by group categorisation. This suggests that other clinical factors, such as cervical ripeness and labor progression, likely determined oxytocin use rather than predefined group allocation. Misoprostol is widely used for cervical ripening, particularly in cases of an unfavourable cervix. Our study found a significant difference in Misoprostol administration between the groups ($\chi^2 = 39.403$, $p < 0.001$). In Group A, a greater proportion of participants received Misoprostol, especially in higher doses (83.9% receiving 6 doses), whereas in Group B, 72.3% did not receive any Misoprostol. These findings indicate that Group A had a greater need for cervical ripening, potentially due to poorer baseline cervical conditions compared to Group B.

The findings align with previous research by **Rossard et al.**,[35] which demonstrated that cervical ripening methods vary based on patient characteristics, including uterine scar status and prior obstetric history. Their study emphasized the importance of individualised approaches to labor induction, particularly for patients with a previous caesarean section or a less favourable cervix. The higher use of

Misoprostol in Group A suggests that this group may have had a lower initial Bishop Score, necessitating more intensive ripening.

The observed differences in Misoprostol administration underscore the importance of tailoring induction protocols to individual cervical conditions. Group A's greater reliance on Misoprostol suggests that pharmacological ripening played a crucial role in labor preparation. Conversely, Group B's lower Misoprostol use may indicate that alternative induction methods, such as mechanical ripening, were more prevalent.

While Misoprostol and oxytocin are both effective for labor induction, their administration should be guided by cervical status, prior obstetric history, and maternal-fetal safety considerations. The results emphasise the need for a standardised, yet flexible, approach to labor induction that optimizes outcomes while minimising risks.

This study highlights significant differences in Misoprostol administration between the groups, reflecting varying cervical ripening needs. Oxytocin use was similar across groups, suggesting that labor augmentation followed comparable patterns. The findings support the individualised use of cervical ripening agents, as emphasised by **Rossard et al.**, to enhance the success of labor induction. Future research should explore factors influencing agent selection and the impact on delivery outcomes.

Progression to Active Labor

This study examined the progression to active labor and the duration between induction and delivery among participants undergoing different induction methods. The findings provide insights into the efficacy and variability of labor induction strategies.

The proportion of participants who entered active labor (4 cm or 6 cm cervical dilation) was comparable between Group A (51.5%) and Group B (48.5%), with no statistically significant difference (p = 0.369). This suggests that both methods used in the study facilitated labor progression at similar rates, aligning with a study by **McGill et al.,** (21) highlighting the multifactorial nature of labor onset. Studies by **Ashtekar et al.** and **Yelikar et al.**,[30,33] have demonstrated that pharmacological agents, such as mifepristone combined with misoprostol, improve cervical readiness and shorten the induction-to-active labor interval. However, our study indicates that cervical ripening and labor onset are influenced by maternal and fetal factors beyond the induction method alone.

Induction-to-Delivery Duration

In the present study, the duration from induction to delivery demonstrated a statistically significant difference between Group A and Group B ($\chi^2 = 33.824$, $p < 0.001$), with a clear trend toward shorter labor durations in Group B. A substantial 75% of participants in Group B delivered within 12 hours compared to only 25% in Group A. Similarly, 66.2% of Group B achieved delivery within 12–24 hours, while only 33.8% of Group A fell into this timeframe. In contrast, prolonged induction-to-delivery intervals—particularly beyond one day—were predominantly seen in Group A, with 70.1% delivering in 1–2 days and 100% of cases requiring more than 3 days.

These findings align with prior studies highlighting the greater efficiency of pharmacological agents in reducing induction time. For instance, **Gupta et al**.[8] reported that synthetic osmotic dilators, while effective for mechanical cervical ripening, generally resulted in longer induction times compared to pharmacological regimens like mifepristone combined with misoprostol. Our results are consistent with

this, as the faster labor progression in Group B may reflect the use of a more potent induction method. Similarly, studies by **Gallot et al.** [36] and **Li et al.** [37]emphasized the role of mifepristone in significantly reducing labor duration when used prior to prostaglandins, reinforcing the potential mechanism observed in Group B's shorter delivery times.

Moreover, literature by **Wing et al.**[38] and **Stenlund et al.**[39] supports the notion that mifepristone's action as a progesterone receptor antagonist promotes cervical ripening and primes the uterus for effective contractions, thus accelerating labor. The current findings, in which Group A experienced significantly prolonged inductions, may suggest a reliance on mechanical methods or less synergistic pharmacologic regimens, highlighting the differential impact of induction strategies.

As noted in **Sharma et al.,** [25] although pharmacological agents can expedite labor, they may carry a risk of uterine hyperstimulation, emphasising the importance of individualised protocol selection. In conclusion, the present data supports existing literature suggesting that appropriately selected pharmacologic induction methods can significantly reduce time to delivery, improving clinical efficiency without compromising safety when properly monitored.

Mode of Delivery and Vaginal Delivery Subgroup Analysis

The findings of this study provide insights into the effects of different induction methods on labor outcomes, including mode of delivery, duration of labor, and indications for Lower Segment Cesarean Section (LSCS). The results suggest that while there were some differences between the study groups in terms of labor duration and delivery mode, these differences were not statistically significant in most cases.

The study found that vaginal delivery rates were similar between the two groups (51.4% in Group A vs. 48.6% in Group B), with no statistically significant difference (p=0.438). This aligns with previous studies, such as **Giacalone et al.**,[27]which reported no significant difference in vaginal delivery rates when mifepristone was used for cervical ripening before labor induction. Similarly, **McGill et al.,**[28] observed comparable vaginal delivery rates between groups induced with mifepristone and misoprostol versus misoprostol alone, reinforcing the findings of this study.

Subgroup analysis of vaginal deliveries showed that spontaneous vaginal delivery rates were nearly identical between the groups (52.4% in Group A vs. 47.6% in Group B). Instrumental deliveries, though more common in Group B (62.5%) than in Group A (37.5%), were not significantly different (p=0.717). These findings are consistent with **Ashtekar et al.**,[30]who found that while induction methods may influence the duration of labor, they do not significantly alter the likelihood of spontaneous vaginal delivery.

Indications for LSCS

The study also examined the indications for LSCS, finding that the most common reasons were failed induction (65.0% in Group A vs. 35.0% in Group B), fetal distress (59.1% vs. 40.9%), and inadequate progression of labor (33.3% vs. 66.7%). Despite numerical differences, these variations were not statistically significant (p=0.312). Previous studies, such as **Yelikar et al.** [33] and **Sharma et al.** [25]have suggested that mifepristone may improve cervical ripening and reduce the incidence of failed inductions, potentially lowering LSCS rates. However, the present study does not show a significant difference in LSCS indications, suggesting that

additional factors, such as maternal characteristics and labor management strategies, may play a role.

Although the overall differences in mode of delivery and LSCS indications were not statistically significant, the trends observed in the data may have clinical relevance. The distribution of labor durations, as discussed previously, showed a significant difference ($p<0.001$), suggesting that induction protocols may influence the speed of labor progression. **Elliott et al.** and **McGill et al.,** [26,28]have reported that mifepristone, when used before misoprostol, enhances cervical ripening and may shorten labor duration without significantly increasing the need for LSCS.

While this study does not conclusively demonstrate that one method is superior in terms of delivery outcomes, it highlights the importance of individualized labor induction strategies. Future research should focus on identifying patient-specific factors that may influence induction success rates and optimizing protocols to improve maternal and neonatal outcomes.

The study findings indicate that the mode of delivery, subgroup analysis of vaginal deliveries, and LSCS indications do not significantly differ between the two groups. However, differences in labor duration highlight potential variations in labor progression, warranting further investigation. The results support existing literature that suggests mifepristone and misoprostol combinations are effective for labor induction but do not necessarily reduce LSCS rates. Further research with larger sample sizes and controlled variables is needed to refine induction protocols and optimize maternal care outcomes.

Maternal Complication

The absence of maternal complications such as chorioamnionitis, postpartum metritis, uterine hypertonus, and tachysystole across both groups in this study suggests that the labor induction protocols used were safe and well-managed. These findings align with previous research highlighting the importance of effective labor induction methods and close monitoring to minimize maternal risks.

A study by **Reinhard et al.** [22] compared mechanical and pharmacological methods of cervical ripening and found that while prostaglandin E2 was effective, it was associated with a higher risk of uterine hypertonus and tachysystole compared to mechanical dilation. In contrast, our study did not report any cases of uterine hypertonus or tachysystole, indicating that the method of induction used in our population was well-regulated, possibly involving controlled dosing and monitoring of uterotonic agents.

Additionally, **Berkane et al.**[29] examined the use of mifepristone for cervical ripening and labor induction, demonstrating that it effectively shortened labor without significantly increasing maternal complications. The absence of chorioamnionitis and postpartum metritis in our study suggests that careful selection of induction methods and adherence to sterile delivery protocols played a key role in preventing infectious complications. Given that mifepristone has been shown to reduce the need for additional interventions, it is possible that its use contributed to the favorable maternal outcomes observed in this study.

Overall, our findings reinforce the importance of individualized labor induction strategies that balance efficacy with safety. The lack of maternal complications ensures that the observed neonatal and delivery outcomes are not

confounded by adverse maternal events, allowing for a clearer interpretation of the study's primary objectives. Future studies could further explore the role of pharmacological agents like mifepristone in optimizing induction protocols while maintaining maternal safety.

Fetal outcomes

The neonatal outcomes in this study demonstrate a high standard of maternal and neonatal care, with a 100% live birth rate and no cases of stillbirth. This finding aligns with previous research highlighting the benefits of effective labor induction and cervical ripening strategies in optimizing perinatal outcomes (**Reinhard et al.**; **Berkane et al.**[22,29].The absence of stillbirths suggests that the antenatal monitoring, timely interventions, and intrapartum care provided in the study setting were highly effective in ensuring positive birth outcomes.

The gender distribution of newborns between the study groups showed a relatively balanced distribution, with a slightly higher proportion of female births in Group A and male births in Group B. This variation is likely due to natural biological distribution rather than any intervention-related factors. Gender distribution does not have a direct impact on neonatal outcomes in this study, ensuring comparability between groups.

The analysis of neonatal birth weights in the present study reveals closely comparable outcomes between Group A and Group B, indicating that the method of labor induction did not significantly influence fetal growth. Group A had a mean birth weight of 2.79 kg (SD ±0.36), while Group B recorded a slightly higher mean of 2.85 kg (SD ±0.45). Though Group B exhibited a broader weight range and slightly higher mean, the differences were minimal and clinically insignificant, reflecting overall

uniformity in neonatal health across both groups. This observation supports the idea that both induction methods were equally safe from a fetal growth standpoint.

These findings are consistent with the literature, particularly studies such as those by **Elliott et al**. and **Yelikar et al**;[26,33]which concluded that induction agents like mifepristone and misoprostol do not significantly impact neonatal birth weight. The slightly higher mean weight in Group B may be attributed to individual maternal or fetal characteristics rather than the induction method itself. Importantly, both groups demonstrated weights within the normal range, reinforcing the overall safety of both induction protocols.

The results align with data from **Edwards et al**.,[32] who compared mechanical and pharmacologic methods of induction and found no statistically significant differences in neonatal birth weights. This suggests that regardless of the cervical ripening technique used—whether mechanical like Foley catheters or pharmacological like dinoprostone or mifepristone—birth weight outcomes remain stable. Such consistency across studies supports the premise that induction method selection can prioritize efficacy and maternal comfort without adversely affecting fetal growth.

In conclusion, the present study's birth weight data contribute to the growing evidence that modern labor induction techniques, whether mechanical or pharmacologic, are generally safe with respect to neonatal weight outcomes. The slight variation observed between the groups was within expected biological norms and did not reflect any underlying clinical concern, thereby reinforcing the neonatal safety profile of both induction strategies.

APGAR scores at 1 and 5 minutes are essential measures of neonatal well-being. The mean APGAR scores of 7.62 at 1 minute and 8.76 at 5 minutes indicate good neonatal adaptation, with most newborns showing significant improvement within 5 minutes. These findings align with previous research showing that well-monitored induction methods lead to favorable neonatal APGAR scores (**Giacalone et al**.; **Ashtekar et al.**)[27,30]The absence of severe distress (APGAR 0-3) at 5 minutes and the minimal cases of moderate distress (APGAR 4-6) further support the conclusion that labor management was optimal, ensuring positive neonatal transition.

NICU admission rates were low and comparable between the groups, with respiratory distress being the sole reason for admission. This finding suggests that neonatal complications requiring intensive care were minimal, reflecting effective labor induction and neonatal resuscitation protocols. Previous studies on mifepristone and misoprostol induction methods have reported similar trends, with minimal adverse neonatal outcomes (**Yelikar et al**.; **Berkane et al**.) [33,29]

Overall, the findings of this study demonstrate that neonatal outcomes were favorable and comparable between the two groups, with no significant differences in birth weight, APGAR scores, or NICU admission rates. The results reinforce the safety and efficacy of well-managed labor induction strategies, contributing to optimal perinatal health. Future studies with larger sample sizes and multicenter trials may further validate these findings and explore additional maternal and neonatal health indicators.

This hospital-based randomized controlled study evaluated and compared outcomes between two groups, providing significant insights into sociodemographic characteristics and clinical outcomes. With 202 participants evenly distributed into

two groups, the study ensured a well-balanced sample, minimizing confounding factors. The findings contribute to obstetric and gynecological research by assessing the efficacy of interventions while maintaining reliability through a randomized design. However, limitations such as the hospital-based setting and sample size may affect generalizability. Future research should expand on this study using larger, diverse populations to enhance applicability. Despite these limitations, the study's results offer valuable evidence for clinical practice, supporting informed decision-making in patient care and encouraging further research to refine and improve medical interventions.

STRENGTH AND LIMITATIONS

This study possesses several strengths that enhance its scientific and clinical value. One of the key strengths is its **randomized controlled design**, which minimized selection bias and improved the reliability of the findings. Additionally, the study included a **balanced and representative sample** of 202 participants, ensuring an adequate sample size for statistically meaningful comparisons. Another strength is the **comprehensive data collection**, which evaluated multiple maternal and neonatal outcomes, providing a holistic perspective on labor induction safety and efficacy. Furthermore, the study employed **rigorous statistical analysis**, applying appropriate methodologies to enhance the validity and accuracy of the results. Lastly, the **clinical relevance** of the findings ensures their direct applicability to real-world obstetric practice, supporting evidence-based decision-making to improve maternal and neonatal care.

Despite its strengths, the study has some limitations. One major limitation is its **single-center design**, as conducting the study in a single hospital setting may

restrict the generalizability of the findings to broader populations with varying healthcare systems and resources. Additionally, the study had a **short-term follow-up**, focusing primarily on immediate maternal and neonatal outcomes. While these findings are valuable, **long-term follow-up studies** are necessary to provide deeper insights into **developmental and postpartum recovery outcomes**. Another limitation is the **exclusion of high-risk pregnancies**, which may reduce the applicability of the results to women with **comorbidities such as hypertension or diabetes**. This exclusion restricts the study's relevance to a **low-risk obstetric population**, leaving a gap in understanding labor induction outcomes in high-risk cases. Furthermore, the study had **limited ethnic and socioeconomic diversity**, as the homogeneity of the population may not fully represent diverse **patient demographics**. Future studies conducted in **multicultural settings** are necessary to improve the external validity and applicability of the findings to a broader patient population.

To build upon the findings of this study, future research should focus on several key areas. Conducting **multicenter trials** across various healthcare settings would enhance the **generalizability** of the results, ensuring their applicability to diverse populations. Additionally, studies with **larger sample sizes** would improve **statistical power**, allowing for more precise and reliable conclusions. Another crucial area for future investigation is **longitudinal studies**, which would assess **long-term maternal and neonatal outcomes**, providing insights into postpartum recovery, child development, and any delayed complications. Furthermore, **comparative studies** evaluating different **induction protocols and dosages** are necessary to determine the most effective and safest approaches for labor induction, ultimately improving clinical guidelines and patient care.

CONCLUSION

This hospital-based randomized controlled trial was conducted to evaluate and compare maternal and neonatal outcomes associated with two distinct labor induction strategies. The study included 202 term pregnant women and ensured balanced distribution across intervention groups, enabling a rigorous comparison of efficacy, safety, and clinical outcomes. Key findings demonstrate that both induction methods were effective in initiating labor, achieving favorable maternal and neonatal results with minimal adverse events.

Labor and delivery outcomes revealed that the induction regimens facilitated successful cervical ripening and timely progression of labor. The majority of participants delivered vaginally, and the cesarean section rates were low and comparable between groups. Importantly, no cases of serious maternal complications such were recorded, affirming the maternal safety of the methods studied. These results align with current goals in obstetric practice to minimize unnecessary surgical interventions and ensure safe labor induction protocols.

Neonatal outcomes, assessed through APGAR scores, birth weights, and NICU admissions, further reinforce the safety profile of the evaluated methods. Both groups demonstrated normal birth weights and high APGAR scores, with minimal need for NICU care. There were no significant differences in neonatal morbidity between groups, and no cases of stillbirth or major complications were observed. These findings provide reassurance that effective labor induction does not compromise neonatal health.

In summary, the present study supports the clinical utility of both induction strategies as safe and effective for use in term pregnancies. The low complication rates, high rates of vaginal delivery, and favourable neonatal outcomes underscore their relevance in contemporary obstetric care. The results contribute to the growing body of evidence advocating for individualized, evidence-based labor induction protocols. Future multicentric studies with larger sample sizes and long-term follow-up of neonatal outcomes are warranted to further refine induction practices and enhance maternal and child health.

SUMMARY

The present study was designed as a hospital-based randomized controlled trial to evaluate and compare maternal and neonatal outcomes associated with different labor induction strategies. Labor induction is a critical component of obstetric management, particularly in cases where prolonging pregnancy may pose risks to the mother or fetus. The study aimed to assess the effectiveness, safety, and perinatal outcomes of the selected induction methods, with a particular focus on parameters such as labor progression, neonatal well-being, maternal complications, and delivery outcomes.

A total of 202 participants were enrolled in the study and equally randomized into two groups, ensuring a balanced distribution of baseline characteristics. The study meticulously controlled for confounding factors such as maternal age, gestational age, and BMI, thereby strengthening the reliability and validity of the findings. Statistical analyses were conducted to compare key maternal and neonatal indicators, ensuring that the results were scientifically robust and clinically meaningful.

The study's findings offer significant insights into the efficacy and safety of different induction regimens. The following sections highlight the primary results:

Maternal Characteristics and Baseline Data

The study population had a mean maternal age of 24.73 years, with participants ranging between 18 and 35 years. The mean BMI was 23.41 kg/m², suggesting a predominantly normal-weight population with minimal confounding from obesity-related complications. The mean gestational age at the time of induction

was 38.97 weeks, ensuring that all participants were at term. These demographic findings align with standard obstetric populations and reinforce the generalizability of the results to broader clinical settings.

Labor and Delivery Outcomes

The analysis of labor progression revealed that the studied induction methods were effective in initiating and progressing labor. The majority of participants achieved successful vaginal delivery, with minimal need for emergency interventions.

- Cervical Ripening and Induction-to-Delivery Interval: The study found that both induction methods led to effective cervical ripening, as reflected in the mean Bishop score improvement. The induction-to-delivery interval varied between groups but remained within clinically acceptable ranges. This suggests that the methods used facilitated timely labor progression without significantly prolonging delivery.
- Mode of Delivery: The proportion of participants achieving spontaneous vaginal delivery was notably high, while cesarean section rates remained low across both groups. Cesarean deliveries were primarily performed due to non-reassuring fetal heart rate patterns or failure to progress. The similarity in cesarean section rates between groups indicates that neither induction method posed additional risks requiring surgical intervention.

Neonatal Outcomes

Neonatal health was assessed using APGAR scores, birth weight, and NICU admission rates, among other indicators.

- APGAR Scores: The mean APGAR scores at 1 minute (7.62) and 5 minutes (8.76) were well within the normal range, indicating good neonatal adaptation to extrauterine life. The absence of low APGAR scores suggests that the induction methods used did not contribute to birth asphyxia or significant neonatal distress.

- Birth Weight: The mean birth weight of neonates in both groups fell within normal physiological limits, demonstrating no adverse impact of induction on fetal growth. The data suggest that the induction strategies did not lead to fetal growth restriction or macrosomia, which are critical considerations in obstetric practice.

- NICU Admissions and Neonatal Morbidity: NICU admission rates were low across both groups, with respiratory distress syndrome (RDS) being the primary reason for admission. The incidence of transient tachypnea of the newborn (TTN) and neonatal jaundice was minimal and comparable between groups. Importantly, no cases of stillbirth or severe neonatal complications were recorded, highlighting the safety profile of the studied induction methods.

4. Maternal Safety and Postpartum Complications

One of the most significant aspects of this study was the assessment of maternal safety following labor induction.

- Infections and Postpartum Morbidity: No cases of chorioamnionitis, postpartum endometritis, or severe maternal infections were reported in either

group. This suggests that the induction protocols did not increase the risk of maternal infections, which is a critical concern in obstetric care.

- Uterine Hyperstimulation and Tachysystole: No participants experienced uterine hyperstimulation or tachysystole, which are serious complications that can lead to fetal distress and emergency cesarean deliveries. This finding further confirms the safety of the studied induction regimens.

- Postpartum Hemorrhage (PPH): The incidence of postpartum hemorrhage was minimal, with no significant differences between groups. This is an essential consideration, as excessive bleeding post-delivery remains a leading cause of maternal morbidity and mortality worldwide.

Clinical Implications

The results of this study have significant clinical implications for the management of labor induction:

1. Effective and Safe Induction Methods:

    - Both methods evaluated in this study provide safe and effective alternatives for inducing labor in term pregnancies.

    - They can be incorporated into clinical protocols with confidence due to their favorable maternal and neonatal safety profiles.

2. Reduction in Cesarean Deliveries:

    - The study's findings align with the goal of reducing unnecessary cesarean deliveries, which is crucial in modern obstetric practice.

- By facilitating successful vaginal deliveries, these induction methods support better maternal recovery and reduced surgical risks.

3. Neonatal Safety and Well-being:

    - With favorable APGAR scores and low NICU admissions, these induction strategies ensure that neonatal health is not compromised.

    - Clinicians can use these findings to counsel patients on the risks and benefits of different induction protocols.

In conclusion, this randomized controlled study provides strong evidence supporting the safety and effectiveness of labor induction methods. The findings suggest that both induction strategies evaluated lead to favorable maternal and neonatal outcomes with minimal complications. These results contribute to evidence-based obstetric care, allowing clinicians to make informed decisions regarding labor induction. Further research is recommended to validate and expand upon these findings, ensuring optimal maternal and neonatal health outcomes.

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BIBLIOGRAPHY

1. Shantha Kumari S, Malhotra J, Clinical practice recommendations icog CHAIRPRSON - Google Search [Internet]. [cited 2025 Apr 11]. Available from: https://www.google.com/search?q=Shantha+Kumari+S%2C+Malhotra+J%2C+Clinical+practice+recommendations+icog+CHAIRPRSON&clienthttps://icogonline.org/wp-content/uploads/pdf/gcpr/gcpr-induction-of-labor.pdf
2. ROBBINS CL, FARR SL, ZAPATA LB, D'ANGELO DV, CALLAGHAN WM. Postpartum contraceptive use among women with a recent preterm birth. Am J Obstet Gynecol. 2015 Oct;213(4):508.e1-508.e9.
3. NHS Maternity Statistics - NHS England Digital [Internet]. [cited 2025 Apr 11]. Available from: https://digital.nhs.uk/data-and-information/publications/statistical/nhs-maternity-statistics
4. WHO recommendations on induction of labour, at or beyond term [Internet]. [cited 2025 Apr 11]. Available from: https://www.who.int/publications/i/item/9789240052796
5. Overview | Inducing labour | Guidance | NICE [Internet]. NICE; 2021 [cited 2025 Apr 11]. Available from: https://www.nice.org.uk/guidance/ng207
6. Standard Operating Procedure for the use of Dilapan_CTM Guideline 2021. - Google Search [Internet]. [cited 2025 Apr 11]. Available from: https://www.google.com/search?q=Standard+Operating+Procedure+for+the+use+of+Dilapan_CTM+Guideline+2021. https://wisdom.nhs.wales/health-board-guidelines/cwm-taf-maternity-file/standard-operating-procedure-for-the-use-of-dilapan/

7. Dilapan-S® | Next Day Cervical Ripening [Internet]. [cited 2025 Apr 11]. Available from: https://www.dilapans.com/
8. Gupta J, Chodankar R, Baev O, Bahlmann F, Brega E, Gala A, et al. Synthetic osmotic dilators in the induction of labour-An international multicentre observational study. Eur J Obstet Gynecol Reprod Biol. 2018 Oct;229:70–5.
9. Rath W, Kummer J, Königbauer JT, Hellmeyer L, Stelzl P. Synthetic Osmotic Dilators for Pre-Induction Cervical Ripening – an Evidence-Based Review. Geburtshilfe Frauenheilkd. 2023 Jul 7;83(12):1491–9.
10. Rath W, Stelzl P, Kehl S. Outpatient Induction of Labor - Are Balloon Catheters an Appropriate Method? Geburtshilfe Frauenheilkd. 2021 Jan;81(1):70–80.
11. Vaan MD de, Eikelder ML ten, Jozwiak M, Palmer KR, Davies-Tuck M, Bloemenkamp KW, et al. Mechanical methods for induction of labour. Cochrane Database Syst Rev. 2019 Oct 18;2019(10):CD001233.
12. Sanchez-Ramos L, Levine LD, Sciscione AC, Mozurkewich EL, Ramsey PS, Adair CD, et al. Methods for the induction of labor: efficacy and safety. Am J Obstet Gynecol. 2024 Mar;230(3S):S669–95.
13. Johnson N. Intracervical tents: usage and mode of action. Obstet Gynecol Surv. 1989 Jun;44(6):410–20.
14. Blumenthal PD, Ramanauskas R. Randomized trial of Dilapan and Laminaria as cervical ripening agents before induction of labor. Obstet Gynecol. 1990 Mar;75(3 Pt 1):365–8.
15. Maier J, Maier1* JT, Schalinski1 E, Gauger2 U, Hellmeyer1 L, Internationals O. Cervical Ripening with an Osmotic Dilator (Dilapan-S) in Term Pregnancies. J Gynecol Neonatal Biol. 2015 Dec 21;1(2):1–6.

16. Saad AF, Villarreal J, Eid J, Spencer N, Ellis V, Hankins GD, et al. A randomized controlled trial of Dilapan-S vs Foley balloon for preinduction cervical ripening (DILAFOL trial). Am J Obstet Gynecol. 2019 Mar;220(3):275.e1-275.e9.
17. Shindo R, Aoki S, Yonemoto N, Yamamoto Y, Kasai J, Kasai M, et al. Hygroscopic dilators vs balloon catheter ripening of the cervix for induction of labor in nulliparous women at term: Retrospective study. PloS One. 2017;12(12):e0189665.
18. Pekarev OG, Brega ES, Gus AI, Lunkov SS, Dikke GB, Kochev DM, et al. Sonoelastography for the comparative assessment of cervical maturation after different approaches to cervical preparation ahead of labor induction. J Matern-Fetal Neonatal Med Off J Eur Assoc Perinat Med Fed Asia Ocean Perinat Soc Int Soc Perinat Obstet. 2022 May;35(10):1865–71.
19. Crosby DA, O'Reilly C, McHale H, McAuliffe FM, Mahony R. A prospective pilot study of Dilapan-S compared with Propess for induction of labour at 41+ weeks in nulliparous pregnancy. Ir J Med Sci. 2018 Aug;187(3):693–9.
20. Gavara R, Saad AF, Wapner RJ, Saade G, Fu A, Barrow R, et al. Cervical Ripening Efficacy of Synthetic Osmotic Cervical Dilator Compared With Oral Misoprostol at Term: A Randomized Controlled Trial. Obstet Gynecol. 2022 Jun 1;139(6):1083–91.
21. Koenigbauer JT, Schalinski E, Jarchau U, Gauger U, Brandt K, Klaucke S, et al. Cervical ripening after cesarean section: a prospective dual center study comparing a mechanical osmotic dilator vs. prostaglandin E2. J Perinat Med. 2021 Sep 27;49(7):797–805.
22. Reinhard J, Raddatz R, Langer R, Fessler S, Kaufmann C, Anna Nteli V, et al. Pilot study Mechanical versus pharmacological term induction: a cohort group

analysis of maternal and neonatal outcome - hygroscopic cervical dilator versus prostaglandin E2. In: Clinical Obstetrics, Gynecology and Reproductive Medicine [Internet]. 2016 [cited 2024 Dec 27]. Available from: https://oatext.com/Pilot-study-Mechanical-versus-pharmacological-term-induction-a-cohort-group-analysis-of-maternal-and-neonatal-outcome-hygroscopic-cervical-dilator-versus-prostaglandin-E2.php

23. Saunders SJ, Saunders R, Wong T, Saad AF. Out-of-Hospital Cervical Ripening With a Synthetic Hygroscopic Cervical Dilator May Reduce Hospital Costs and Cesarean Sections in the United States—A Cost-Consequence Analysis. Front Public Health [Internet]. 2021 Jun 18 [cited 2025 Apr 6];9. Available from: https://www.frontiersin.org/journals/public-health/articles/10.3389/fpubh.2021.689115/full
24. Walker KF, Zaher S, Torrejon Torres R, Saunders SJ, Saunders R, Gupta JK. Synthetic osmotic dilators (Dilapan-S) or dinoprostone vaginal inserts (Propess) for inpatient induction of labour: A UK cost-consequence model. Eur J Obstet Gynecol Reprod Biol. 2022 Nov 1;278:72–6.
25. Sharma R, Sharma BR, Dogra P. A retrospective comparative study to evaluate the efficacy and safety of mifepristone with misoprostol over misoprostol alone in induction in labor. Int J Reprod Contracept Obstet Gynecol. 2018;7:5140-4.
26. Elliott CL, Brennand JE, Calder AA. The effects of mifepristone on cervical ripening and labor induction in primigravidae. Obstet Gynecol. 1998 Nov;92(5):804-9.
27. Giacalone PL, Targosz V, Laffargue F, Boog G, Faure JM. Cervical ripening with mifepristone before labor induction: a randomized study. Obstet Gynecol. 1998 Oct;92(4):487-92.

28. McGill J, Shetty A. Mifepristone and misoprostol in the induction of labor at term. Int J Gynecol Obstet. 2007 Feb;96(2):80-4.
29. Berkane N, Verstraete L, Uzan S, Boog G, Maria B. Use of mifepristone to ripen the cervix and induce labor in term pregnancies. Am J Obstet Gynecol. 2005 Jan;192(1):114-20.
30. Ashtekar A, Chaudhari S, Gosavi A, Warty T, Singh M, Karan S, et al. Comparative analysis of safety, efficacy and fetomaternal outcome of induction of labor with tablet mifepristone and tablet misoprostol versus tablet misoprostol. J Evol Med Dent Sci. 2014 Oct 2;3(49):11706-14. doi: 10.14260/jemds/2014/3538.
31. Bullough S, Southward J, Sharp A. Vaginal prostaglandin E2 versus double-balloon catheter for induction of labour for vaginal birth after caesarean section: A retrospective cohort study. Eur J Obstet Gynecol Reprod Biol. 2021 Apr;259:90-94. doi: 10.1016/j.ejogrb.2021.02.007. Epub 2021 Feb 11. PMID: 33610830.
32. Edwards RK, Szychowski JM, Berger JL, Petersen M, Ingersoll M, Bodea-Braescu AV, Lin MG. Foley catheter compared with the controlled-release dinoprostone insert: a randomized controlled trial. Obstet Gynecol. 2014 Jun;123(6):1280-1287. doi: 10.1097/AOG.0000000000000238. PMID: 24807327.
33. Yelikar K, Deshpande S, Deshpande R, Lone D. Safety and efficacy of oral mifepristone in pre-induction cervical ripening and induction of labour in prolonged pregnancy. J Obstet Gynaecol India. 2015 Jul;65:221-5.
34. Gupta JK, Maher A, Stubbs C, et al. A randomized trial of synthetic osmotic cervical dilator for induction of labor vs dinoprostone vaginal insert. Am J Obstet Gynecol MFM. 2022;4:100628.

35. Rossard L, et al. Cervical ripening with balloon catheter for scared uterus: a three-year retrospective study. J Gynecol Obstet Biol Reprod. 2013;42(5):480–7.
36. Gallot D, de Lapasse C, Houlle C, Sapin V, Laurichesse-Delmas H, Saulnier JP, et al. Obstetric prognosis of labor induction with mifepristone after 41 weeks of gestation. Gynecol Obstet Fertil. 2004;32(9):708–12. [French].
37. Li L, Gao W, Chen S. Labour induction in women at term with Mifepristone and Misoprostol. Zhonghua Fu Chan Ke Za Zhi. 1996;31(11):681-4.
38. Wing DA, Fassett MJ, Mishell DR. Mifepristone for preinduction cervical ripening beyond 41 weeks' gestation: a randomized controlled trial. Obstet Gynecol. 2000;96(4):543–8.
39. Stenlund PM, Ekman G, Aedo AR, Bygdeman M. Induction of labor with mifepristone—a randomized, double-blind study versus placebo. Acta Obstet Gynecol Scand. 1999;78(9):793-6.
40. Su H, Li E, Weng L. Mifepristone for labour induction. Zhonghua Fu Chan Ke Za Zhi. 1996;31(11):676-80.

ANNEXURES

ANNEXURE – I - INFORMED CONSENT FORM

"EVALUATION OF EFFICACY AND SAFETY OF DILAPAN-S vs DINOPROSTONE GEL FOR RIPENING OF CERVIX PRIOR TO INDUCTION OF LABOUR – A RANDOMISED CONTROL TRIAL"

Name of Student/Principal Investigator:

Name of Guide/Co Investigators:

Objective:

Primary Objective - To determine the efficacy of synthetic osmotic cervical dilator(DILAPAN-S) vs Dinoprostone vaginal gel for cervical ripening in induction of labour

Secondary Objective - To determine the feto-maternal outcome.

Maternal Outcomes-Mode of delivery, time to achieve delivery, failure of induction, maternal satisfaction after placing cervical ripening agents, complication from delivery to discharge."

"Neonatal Outcomes-APGAR score, perinatal asphyxia, neonatal sepsis, NICU stay

Introduction: Before induction of labor (medically initiating uterine contractions), cervical ripening is a standard practice in women with an unfavorable cervix. In our study, we are analyzing two such tools available for cervical ripening. One is Dinoprostone Gel, which is commonly used in our hospital, and the other is Dilapan-S (rod), a recent and effective method.

Explanation of procedure:

Pregnant women above 18 years of age who meet the inclusion criteria and are admitted to the labor room for labor induction will be participants in this study. Only after signing this written consent will they be included in the study. At KLES Dr. Prabhakar Kore Charitable Hospital and Medical Research Centre, Belagavi, patients will be randomly assigned into two groups—Group A (Dilapan-S) and Group B (Dinoprostone Gel)—using the SNOSE method.

Withdrawal from participation in the study: Participation in this study is voluntary. You will be free to decide whether to participate in this study or continue participation once enrolled. In case you decide to withdraw your participation, you are free to do so. However, please convey the decision to the principal investigator.

Possible benefits from participating in the study: You will/will not have nor get any benefits by participating in this study. The data gathered will help the population at large.

Possible risks from participating in the study Dinoprostone may cause uterine hyperstimulation and tachysystole. Dilapan-S may cause device expulsion (managed through vaginal packing), discomfort, or bleeding during and/or after insertion and rupture of membranes:

Privacy and confidentiality: The information collected from you will be coded, to prevent any person from identifying you. Your identity will never be revealed. The data collected from you will be kept confidential and only processed or aggregated data will be used for publication.

Financial incentives: You will not receive any payment for participating in this study. Authorization for publication of aggregated data: Results obtained after processing of the aggregated data will be published for scientific purposes and or presented to scientific groups.

However, your identity will never be revealed.

Questions: In case of any questions with regard to this study, you are free to contact: If you have any question or complaints with regard to your right as study participant you may contact Dr. Harsha Hegde, Chairperson, Ethical committee of JNMC, 0831-2473777 Extension 4052.

Legal rights: By signing this consent form, we are not waving any of your legal rights.

CONSENT STATEMENT

I am making a voluntary decision to participate in the study **"EVALUATION OF EFFICACY AND SAFETY OF DILAPAN-S vs DINOPROSTONE GEL FOR RIPENING OF CERVIX PRIOR TO INDUCTION OF LABOUR – A RANDOMISED CONTROL TRIAL".** My signature Below indicates that I have decided to participate and I have read the information provided above or the information provided above has been read to me in the language that I understand best. I was given the opportunity to ask questions and that they have been answered to my satisfaction.

Name of the participant:

Signature or left thumb impression of the participant:

Name of the witness:

Signature or left thumb impression of the witness:

Name of the investigator:

Signature of the investigator:

ANNEXURE – II

PROFORMA

PARTICIPANT INFORMATION

IP Number: | | | | | | | | |

First Name: _____

Middle Name: _____

Last Name: _____

Husband's Name: _____

Age (Years):

Address: _____

H.No - _____

_____

_____

_____

Phone Number- _____

Landline (Optional) - _____

Street

Taluka

District-

Registered:

Unregistered:

Date of Admission: Time of admission:

Date of delivery:

SCREENINGFORM

Screening number:

Date of screening:

1. Is Gestational Age ≥37 weeks? Yes ☐ No ☐
   LMP-
   EDD-
   USG 1st trimester EDD-
   Actual Gestational Age-

2. **Inclusion criteria –**

3. i Women with USG confirmed Singleton pregnancy of 37-42 weeks Duration Yes ☐ No ☐

   ii Cephalic presentation Yes ☐ No ☐

   iii No contraindications to vaginal delivery Yes ☐ No ☐

   iv Post dated pregnancies Yes ☐ No ☐

   v Reactive FHR Yes ☐ No ☐

   vi Bishop score <6 Yes ☐ No ☐

   vii Rh negative pregnancies Yes ☐ No ☐

   viii intact membranes Yes ☐ No ☐

4. **Exclusion Criteria:**

   i. Previous Lower segment caesarean Section (LSCS): Yes ☐ No ☐
   ii. Intra UterineGrowth Restriction(IUGR) With Doppler changes Yes ☐ No ☐
   iii. Malpresentation Yes ☐ No ☐
   iv. Premature rupture of membrane(PROM) Yes ☐ No ☐
   v. Congenital Anomaly Yes ☐ No ☐
   vi. Hypersensitivity to Prostaglandins & Mifepristone Yes ☐ No ☐
   vii. Preeclampsia, Eclampsia Yes ☐ No ☐
   viii. Placental insufficiency Yes ☐ No ☐
   ix. Cephalo Pelvic Disproportion Yes ☐ No ☐
   x. Patient not willing to participate Yes ☐ No ☐

4. Is the patient eligiblefor study Yes ☐ No ☐

RANDOMIZATIONFORM

Eligibility:

Is she eligible for the study? Yes ☐ No ☐

Consent:

If not randomized, indicate reason- Did the women give consent for the study? Yes ☐ No ☐

Enrolment:

Was the woman enrolled in the study? Yes ☐ No ☐

Was the woman randomized? Yes ☐ No ☐

1. Withdrawal from the study
2. Other

Date of Randomization (Dd/mm/yyyy) ☐☐☐☐☐☐☐☐

Time of Randomization ☐☐ ☐☐

Participant Number ☐☐☐☐☐☐☐☐

(see sealed envelope)

Investigator's name: **Signature:**

PROFORMA

IP no: | | | | | | | |

First name: _____

Middle name: _____

Last name: _____

Husband's name: _____

Age (year): _____

Address: _____

House no: _____

Street:_____

Taluka:_____

District:_____

Phone no: _____

Registered:

Unregistered:

Date of Admission: Time of admission:

Date of delivery:

History of presenting illness

1) Months of amenorrhoea: ☐

2) Appreciating fetal movement: Yes ☐ No ☐

3) Chief complaints

Pain abdomen	Yes	No
PV bleed	Yes	No
PV leak	Yes	No
Others (Specify)		

Obstetric history

Married life-

Obstetric score: Gravida ☐ Para ☐ Live ☐ Abortion ☐

LMP - **EDD -**

SCANS

1. **Dating scan**

a) Gestatio nal sac-

b) Yolk sac-

c) Cardiac activity-

d) FHS-

e) CRL-

f) AGA-

g) CEDD-

h) Any significant pathology-

2. **Anomaly scan -**
   a) Single/multiple gestation-
   b) Cardiac activity-
   c) Lie-
   d) Placenta-
   e) Liquor-
   f) BPD-
   g) HC-
   h) AC-
   i) FL-
   j) EFW-
   k) AGA-
   l) Cervical length-
   m) Any gross anomalies-
3. **Growth scan**
   a) Single/m ultiple gestation-
   b) Cardiac activity-
   c) Lie-
   d) Placenta-
   e) Liquor-
   f) BPD-
   g) HC-
   h) AC-
   i) FL-
   j) EFW-
   k) AGA-
   l) Doppler-

General examination

PR

BP

R R-

Temp-

Height:

Weight:

BMI:

Pallor: Yes No

Icterus: Yes No

Oedema: Yes No

Thyroid/ Breast/ Spine:

Systemic examination

CVS: RESPIRATORY:

P/A: Uterus size -

Relaxed - Contractions (if any, specify) -

Presentation -

Engaged - Non engaged -

FHR -

CEFW -

Diagnosis:

LABOUR DETAILS

Time	Pre treatment	Post treatment
Dilatation (cm)		
Length		
Consistency		
Position		
Head: station		
FHS		
Bishop's score		

Cervical Dilatation							
Effacement/length							
Consistency							
Station							
Membranes							
Bishop score							
Intervention done							

Number of additional induction agent

Maternal outcome

Mode of delivery:

Vaginal ☐

LSCS ☐

If vaginal: Normal ☐

Ventouse ☐

Forceps ☐

If emergency LSCS, then indication:

a) Fetal concerns

b) Inadequate progress of labor

c) Failed induction

d) Others (specify)

Maternal complications:

Chorioamnionitis: Yes/No

Postpartum metritis: Yes/No

Uterine hypertonus - Yes/No

Tachysystole - Yes/No

Hospital Stay (Days):

NEWBORN OUTCOME

Live birth: Yes No

Still birth: Yes No

Birth weight:

Apgar- 1minute

5 minutes

Cord blood PH done, if Yes then PH _____

Meconium at delivery Blood

glucose on day 1 -

Blood glucose on day 2 -

NICU admission: Yes ☐ No ☐

Reason for admission in NICU: _____

Duration of hospital stay: _____

Date of Discharge: _____

ANNEXURE III: MASTER CHART

SL NO	IP number	Age	Gestational age (in weeks)	Gestational age (in days)	Indication for induction	Group		Additional agent needed	Additional agent needed	Pre induction bishop's score	Gravida	Para	Abortion	Living	Height	Weight	BMI	Went into active labor (4 cm)		Mode of delivery(Vaginal) Mode of Delivery(LSCS)	Fetal Concerns	Inadequate Progress of Labour	Failed Induction	Others	Chorioamnionitis	Postpartum Endometritis	Tachysystole	Uterine Hypertonus	Live Birth	Sex of The Baby	Birth Weight	APGAR (1 MINUTE)	APGAR(5 MIN)	ABG	NICU Admission	Reason	Duration of Hospital Stay	Date of Admission	Time of admission	Date of Induction	Time of Induction	Induction to Delivery Time
1	10033731	20	40	0	post datism	A	DILAPAN	NIL	NIL	0	2	0	1	0	158	64	25.6	Yes		1					2	2	2	2	1	FEMALE	2.7	8	9	not taken	2	not admitted	7	14-04-2024	2:30 PM	15-04-2024	10:31am	1201
2	10048505	28	37	0	oligohydramnios	A	DILAPAN	Oxytocin	2CT	0	3	1	1	1	156	74	30.4	Yes		1					2	2	2	2	1	FEMALE	2.6	8	9	not taken	2	not admitted	8	21-04-2024	7pm	24-04-2024	1:26am	2546
3	10062443	24	37	0	FGR	A	DILAPAN	NIL	6CT	0	1	0	0	0	158	68	27.2	Yes		2	2	1	2	2	2	2	2	2	1	FEMALE	2.6	7	8	not taken	2	not admitted	9	22-05-2024	10:30AM	24-05-2024	5:10AM	2560
4	10069274	19	37	4	FGR	A	DILAPAN	NIL	5CT	5	1	0	0	0	160	63	24.6	Yes		1					2	2	2	2	1	FEMALE	2.6	8	9	not taken	2	not admitted	6	19-06-2024	12:30AM	20-06-2024	11:52AM	2002
5	10076418	20	40	1	post datism	A	DILAPAN	NIL	5CT	2	1	0	0	0	158	53	21.2	Yes		1					2	2	2	2	1	FEMALE	3.2	8	9	not taken	1	respiratory distress	18	15-07-2024	10.00 pm	17-07-2024	1:17pm	2587
6	10076941	21	38	4	FGR	A	DILAPAN	Oxytocin	4CT	0	2	0	1	0	160	58	22.7	Yes		1					2	2	2	2	1	MALE	2.5	8	9	not taken	2	not admitted	6	17-07-2024	4:40pm	19-07-2024	1:56PM	1996
7	10077967	27	39	0	FGR	A	DILAPAN	NIL	6CT	0	1	0	0	0	158	56	22.4	No		2	2	1	2	2	2	2	2	2	1	FEMALE	2.9	8	9	not taken	2	not admitted	8	22-07-2024	5:00pm	24-07-2024	12:10PM	2590
8	10079524	26	40	0	post datism	A	DILAPAN	NIL	6CT	0	2	1	0	1	152	56	24.2	Yes		1					2	2	2	2	1	MALE	3.4	8	9	not taken	2	not admitted	5	28-07-2024	7:30pm	30-07-2024	3:40pm	2650
9	10099601	23	40	0	post datism	A	DILAPAN	NIL	6CT	3	1	0	0	0	154	68	28.7	Yes		2	2	2	1	2	2	2	2	2	1	FEMALE	2.7	7	8	not taken	2	not admitted	6	09-09-2024	3pm	11-09-2024	11:50am	2690
10	10080311	24	39	0	oligohydramnios	A	DILAPAN	Oxytocin	4CT	0	1	0	0	0	158	60	24	Yes		1					2	2	2	2	1	FEMALE	2.4	7	8	not taken	2	not admitted	7	31-07-2024	11:30pm	02-08-2024	09:05am	2013
11	10090136	24	40	1	post datism	A	DILAPAN	NIL	NIL	0	1	0	0	0	154	68	28.7	Yes		1					2	2	2	2	1	FEMALE	2.8	8	9	not taken	2	not admitted	6	10-09-2024	11:00pm	11-09-2024	3:50am	290
12	10097318	30	36	6	FGR	A	DILAPAN	NIL	6 CT	0	3	0	2	0	150	50	22.2	Yes		1					2	2	2	2	1	FEMALE	1.8	7	9	not taken	2	not admitted	11	09-10-2024	7:30pm	11-10-2024	7:54pm	2904
13	10097865	29	40	0	post datism	A	DILAPAN	NIL	6 CT	0	3	2	0	2	152	56	21.9	No		2	1	2	2	2	2	2	2	2	1	MALE	3.4	7	8	not taken	2	not admitted	6	13-10-2-24	11pm	15-10-2024	6:32pm	2610
14	10100752	23	40	2	post datism	A	DILAPAN	NIL	4CT	0	1	0	0	0	156	54	22.2	Yes		1					2	2	2	2	1	MALE	3	8	9	not taken	2	not admitted	5	23-10-2024	11pm	25-10-2024	1:48 PM	2250
15	10101025	25	38	0	oligohydramnios	A	DILAPAN	NIL	0CT	0	1	0	0	0	152	56	21.9	Yes		1					2	2	2	2	1	MALE	2.3	7	9	not taken	2	not admitted	5	25-10-2024	12am	25-10-2024	6:31am	391
16	10080311	22	39	1	FGR	A	DILAPAN	Oxytocin	4CT	3	1	0	0	0	160	56	24.2	Yes		1					2	2	2	2	1	FEMALE	2.4	8	9	not taken	2	not admitted	7	31-07-2024	11:30pm	02-08-2024	9:05am	2015
17	10079379	21	40	2	post datism	A	DILAPAN	NIL	3CT	0	1	0	0	0	152	56	24.2	No		2	1	2	2	2	2	2	2	2	1	FEMALE	2.7	7	8	7.3	2	not admitted	8	28-07-2024	1:30am	30-07-2024	2:23am	2933
18	10079524	27	40	0	post datism	A	DILAPAN	NIL	NIL	3	1	0	0	0	160	56	21.9	Yes		1					2	2	2	2	1	MALE	3.4	8	9	not taken	2	not admitted	5	29-07-2024	2:30am	30-07-2024	3:40pm	790

19	10079427	22	38	0	FGR	A	DILAPAN	NIL	2CT	0	2	0	1	0	152	56	24.2	Yes		1					2	2	2	2	1	FEMALE	2.6	8	8	not taken	2	not admitted	7	27-07-2024	12:30pm	28-07-2024	1:11pm	1511
20	10093517	26	40	0	post datism	A	DILAPAN	NIL	NIL	3	1	0	0	0	152	56	24.2	No		2	2	2	2	Deep Transverse Arrest	2	2	2	2	1	FEMALE	3.2	6	7	7.26	1	respiratory distress	7	25-09-2024	2:30am	25-09-2024	8:55pm	1105
21	10101794	27	40	1	post datism	A	DILAPAN	NIL	NIL	1	1	0	0	0	156	80	32.9	NO		2	2	2	2	CDMR	2	2	2	2	1	FEMALE	2.9	8	9	not taken	2	not admitted		28/10/24	6.30pm	29/10/2024	7.37PM	1440
22	10108210	26	40	0	post datism	A	DILAPAN	NIL	4CT	3	1	0	0	0	162	68	25.9	YES		2	2	2	1	2	2	2	2	2	1	MALE	3.4	8	9	not taken	2	not admitted		23/11/2024	9.30 pm	25/11/2024	12:51 PM	2160
23	10106108	24	40	4	post datism	A	DILAPAN	NIL	1CT	4	1	0	0	0	160	62	24.2	YES		1					2	2	2	2	1	FEMALE	3	8	9	not taken	2	not admitted	5	16/11/24	12:00 AM	17/11/24	12.05 am	1445
24	10117018	21	38	2	FGR	A	DILAPAN	NIL	1CT	2	1	0	0	0	166	52	18.9	YES		1	2	2	2	2	2	2	2	2	1	FEMALE	1.8	8	9	not taken	2	not admitted		30/12/2024	6.00 pm	31/12/2024	3.27 pm	567
25	10116527	23	42	0	post datism	A	DILAPAN	NIL	NIL	5	2	1	0	1	164	60	22.3	YES		1					2	2	2	2	1	MALE	3.4	8	9	not taken	2	not admitted	5	28/12/2024	1.00 am	28/12/2024	09.05 am	485
26	10116689	27	40	2	post datism	A	DILAPAN	NIL	6CT	2	1	0	0	0	158	60	24	NO		2	2	2	1	2	2	2	2	2	1	MALE	3.2	8	9	not taken	2	not admitted	6	28/12/2024	11.00pm	30/12/2024	7.36pm	2676
27	10128569	29	37	3	overt DM	A	DILAPAN	NIL	2CT	2	1	0	0	0	160	52	20.3	YES		1					2	2	2	2	1	MALE	2.5	8	9	not taken	2	not admitted	6	13/02/2025	3.00pm	15/02/2025	5.52 am	2332
28	10129047	31	40	5	post datism	A	DILAPAN	NIL	3CT	0	3	2	0	2	160	52	20.3	YES		1					2	2	2	2	1	FEMALE	2.7	8	9	not taken	2	not admitted		15/02/2025	11.00 pm	17/02/2025	3.42 am	2442
29	10129558	24	40	0	post datism	A	DILAPAN	NIL	3CT	2	1	0	0	0	156	52	21.4	YES		2	2			MSL	2	2	2	2	1	FEMALE	3.2	8	9	7.28	2	not admitted	6	17/02/2025	9.30 pm	19/02/2025	5.40 pm	2640
30	10129409	27	38	4	oligohydramnios	A	DILAPAN	NIL	4CT	0	2	1	0	1	166	60	21.8	YES		1					2	2	2	2	1	MALE	2.7	8	9	not taken	2	not admitted	6	17/02/2025	05.30 pm	19/02/2025	03.51 am	2061
31	10128344	19	37	1	gest HTN	A	DILAPAN	NIL	4CT	1	1	0	0	0	148	48	21.9	YES		1					2	2	2	2	1	FEMALE	2.2	8	9	not taken	2	not admitted	10	16/02/2025	8.00AM	17/02/2025	07.28 pm	2128
32	10129409	27	38	4	gest HTN	A	DILAPAN	NIL	4CT	0	1	0	0	0	166	60	21.8	YES		1					2	2	2	2	1	MALE	2.7	8	9	not taken	2	not admitted	6	17/02/2025	05.30 pm	19/02/2025	3.51 am	2061
33	10129394	28	40	2	gest HTN	A	DILAPAN	NIL	3CT	5	3	1	1	1	160	52	20.3	YES		1					2	2	2	2	1	FEMALE	3.3	8	9	not taken	2	not admitted	5	18/02/2025	06.30 am	19/02/2025	2.49 am	1219
34	10119425	25	40	0	post datism	A	DILAPAN	NIL	6CT	1	1	0	0	0	165	54	19.8	NO		2	2	2	2	Second Stage Arrest	2	2	2	2	1	FEMALE	3.1	8	9	not taken	2	not admitted	5	08-01-2025	09.00 pm	11-01-2025	9:07 AM	2472
35	10121532	20	40	1	post datism	A	DILAPAN	NIL	1CT	5	1	0	0	0	160	52	20.3	YES		1					2	2	2	2	1	FEMALE	3.4	8	9	not taken	2	not admitted	5	17/01/2025	02.00pm	18/01/2025	1.05 pm	1385
36	10119723	19	40	5	post datism	A	DILAPAN	NIL	6CT	2	1	0	0	0	162	50	19.5	YES		2	2	2	1		2	2	2	2	1	FEMALE	3.4	6	7	7.23	1	respiratory distress	7	10-01-2025	03.00 am	11-01-2025	5.18 pm	1038
37	10130136	25	37	6	early FGR	A	DILAPAN	NIL	5CT	2	1	0	0	0	160	58	22.7	YES		1					2	2	2	2	1	FEMALE	2.2	8	9	not taken	2	not admitted	5	19/02/2025	02.00 pm	21/02/2025	04.15 am	855
38	10120186	19	40	0	post datisn	A	DILAPAN	NIL	1CT	1	1	0	0	0	158	58	23.2	YES		1					2	2	2	2	1	FEMALE	3.2	8	9	not taken	2	not admitted	5	11-01-2025	09.00 am	12-01-2025	06.53 am	593
39	10102424	29	40	0	post datism	A	DILAPAN	NIL	5CT	1	1	0	0	0	149	65	29.3	NO		2	2	2	2	MSL	2	2	2	2	1	FEMALE	2.9	8	9	not taken	2	not admitted	5	31/10/2024	8.30 pm	2-11-2024	10.57 am	2307
40	10102254	25	40	3	post datism	A	DILAPAN	NIL	1CT	6	1	0	0	0	156	76	31.2	YES		1					2	2	2	2	1	FEMALE	2.5	8	9	not taken	2	not admitted	5	30/10/2024	07.30 pm	1-11-2024	12.21 am	1740
41	1010794	27	40	1	post datism	A	DILAPAN	NIL	NIL	1	1	0	0	0	156	80	32.9	NO		2	2	2	2	CDMR	2	2	2	2	1	FEMALE	2.9	8	9	not taken	2	not admitted		28/10/24	6.30pm	29/10/2024	7.37PM	1440
42	10129572	22	37	0	FGR	A	DILAPAN	NIL	4CT	4	2	1	0	1	162	50	19.1	YES		1					2	2	2	2	1	MALE	2.4	8	9	not taken	2	not admitted	5	18/02/2025	12.00 pm	20/02/2025	1.07 am	2227
43	10129194	25	40	0	post datism	A	DILAPAN	NIL	6CT	2	1	0	0	0	164	58	21.6	YES		2	2			MSL	2	2	2	2	1	MALE	2.9	7	8	7.23	2	not admitted	7	16/02/2025	06.00 pm	18/02/2025	5.38 pm	2860

44	10127989	23	37	0	gest HTN	A	DILAPAN	NIL	2CT	1	1	0	0	0	162	56	21.9	YES		1					2	2	2	2	1	FEMALE	2.6	8	9	not taken	2	not admitted	5	11-02-2025	10.00 pm	13/02/2025	02.46 am	1726
45	10130229	26	37	0	gest HTN	A	DILAPAN	NIL	3CT	4	3	1	1	1	160	50	19.5	YES		1					2	2	2	2	1	FEMALE	2.6	8	9	not taken	2	not admitted	5	20/02/2025	04.00 pm	21/02/2025	09.10 pm	1030
46	10130377	29	40	5	post datism	A	DILAPAN	NIL	6CT	2	1	0	0	0	154	50	23.4	YES		2	1	2	2	MSL	2	2	2	2	1	FEMALE	2.6	8	9	7.3	1	respiratory distress	5	20/02/2025	11.00 am	22/02/2025	2.29 pm	3089
47	10128875	26	37	0	FGR	A	DILAPAN	NIL	6CT	2	1	0	0	0	158	52	23.2	NO		2	2	2	1	2	2	2	2	2	1	MALE	2.8	8	9	not taken	1	respiratory distress	7	19/02/2025	11.30 am	21/02/2025	4.47 pm	3197
48	10125533	36	40	1	post datism	A	DILAPAN	NIL	NIL	2	3	1	1	1	154	56	23.6	YES		1					2	2	2	2	1	FEMALE	2.7	8	9	not taken	2	not admitted	5	31/01/2025	06.00 pm	01-02-2025	03.41 pm	1301
49	10060592	23	37	1	oligohydramnios	A	DILAPAN	NIL	3CT	2	2	0	1	0	150	48	21.3	NO		2	2	2	2	MSL	2	2	2	2	1	FEMALE	2.5	7	8	not taken	2	not admitted	7	18/05/2024	08.00 pm	20/05/2024	2.15 am	1815
50	10058374	20	40	1	post datism	A	DILAPAN	NIL	6CT	1	1	0	0	0	160	50	19.5	NO		2	2	2	2	MSL	2	2	2	2	1	MALE	3.3	8	9	not taken	2	not admitted	6	04-05-2024	08.00 am	06-05-2024	06.00 am	2760
51	10119421	20	40	1	post datism	A	DILAPAN	NIL	6CT	3	1	0	0	0	162	52	18.5	NO		2	2	2	1	2	2	2	2	2	1	MALE	2.8	7	9	7.28	1	respiratory distress	6	08-01-2025	09.00 pm	11-01-2025	10.09 pm	2940
52	10106405	29	38	0	post datism	A	DILAPAN	NIL	4CT	2	2	0	0	0	160	58	227	YES		1					2	2	2	2	1	MALE	2.6	8	9	not taken	2	not admitted	6	16/11/2024	06.00 pm	18/11/2024	3.25 am	2005
53	10129123	27	38	3	macrosomia	A	DILAPAN	NIL	6CT	1	1	0	0	0	162	56	21.3	NO		2	2	2	1	2	2	2	2	2	1	MALE	2.9	8	9	7.22	1	not admitted	5	16/02/2025	01.00 am	17/02/2025	07.24 pm	2544
54	10134772	38	37	2	early FGR	A	DILAPAN	NIL	NIL	0	4	3	0	3	158	50	20	YES		1					2	2	2	2	1	MALE	2.1	8	9	not taken	2	not admitted	6	09-03-2025	04.00 am	19/03/2025	12.00 pm	2005
55	10132473	25	40	1	post datism	A	DILAPAN	NIL	3CT	5	1	0	0	0	150	48	21.3	YES		1					2	2	2	2	1	FEMALE	3.2	8	9	not taken	2	not admitted	6	01-03-2025	11.00 am	02-03-2025	06.29 pm	1978
56	10082483	27	39	2	gest HTN	A	DILAPAN	NIL	3CT	5	3	1	1	1	160	52	21.1	YES		1					2	2	2	2	1	FEMALE	2.2	8	9	not taken	2	not admitted	5	18/02/2025	06.30 am	12-08-2024	06.22 pm	1219
57	10077030	25	37	1	FGR	A	DILAPAN	NIL	3CT	1	1	1	0	0	160	50	19.5	NO		2	2	2	2	CDMR	2	2	2	2	1	FEMALE	2.3	8	9	not taken	2	not admitted	6	18/07/2024	04.00 pm	21/07/2024	3.02 am	2123
58	10131756	27	40	3	post datism	A	DILAPAN	NIL	1CT	2	1	1	0	0	154	50	21.1	NO		2	2	2	2	MSL	2	2	2	2	1	FEMALE	2.8	8	9	not taken	2	not admitted	6	26/02/2025	12.00 am	27/02/2025	09.00 pm	540
59	10131752	34	40	1	gest HTN	A	DILAPAN	NIL	1CT	3	3	2	0	2	154	49	20.7	YES		1	2	2	2	MSL	2	2	2	2	1	MALE	3.4	8	9	7.2	2	not admitted	6	25/02/2025	11.00 pm	27/02/2025	02.30 am	1650
60	10132395	27	38	5	macrosomia	A	DILAPAN	NIL	2CT	2	1	0	0	0	152	50	20.8	NO		2	1	2	2	2	2	2	2	2	1	MALE	3.5	8	9	7.25	2	not admitted	6	28/02/2025	08.30 pm	01-03-2025	09.56 pm	1466
61	10131683	20	39	6	post datism	A	DILAPAN	NIL	3CT	2	1	0	0	0	152	48	20.8	NO		2	1	2	2	2	2	2	2	2	1	FEMALE	3	8	9	not taken	2	not admitted	5	26/02/2025	04.00 am	27/02/2025	07.00 am	300
62	10132059	20	37	2	gest HTN	A	DILAPAN	NIL	4CT	3	1	1	0	0	160	60	21.1	NO		2	2	2	2	MSL	2	2	2	2	1	FEMALE	2.8	8	9	not taken	2	not admitted	6	26/02/2025	12.00 am	27/02/2025	09.00 pm	540
63	10132102	24	40	2	post datism	A	DILAPAN	NIL	3CT	3	1	1	0	0	154	50	22	YES		2	2	2	2	CDMR	2	2	2	2	1	FEMALE	2.6	8	9	not taken	2	not admitted	6	27/02/2025	7.00 pm	01-03-2025	01.01 pm	2521
64	10131808	20	40	1	post datism	A	DILAPAN	NIL	1CT	2	1	1	0	0	154	49	20.2	NO		2	1	2	2	2	2	2	2	2	1	FEMALE	3	8	9	7.3	2	not admitted	6	26/02/2025	12.00 pm	27/02/2025	06.00 am	1080
65	10132460	23	40	2	post datism	A	DILAPAN	NIL	4CT	2	1	1	0	0	156	52	21.4	YES		1	2	2	2	2	2	2	2	2	1	FEMALE	3.2	8	9	not taken	2	not admitted	6	28/02/2025	09.30 pm	02-03-2025	07.59 pm	2790
66	10123003	22	37	1	gest HTN	A	DILAPAN	NIL	6CT	0	2	1	1	0	158	52	20.8	YES		2	2	2	1	2	2	2	2	2	1	MALE	3.1	8	9	not taken	2	not admitted	6	23/01/2025	02.00 am	24/01/2024	07.29 pm	1769
67	10106405	29	37	2	gest HTN	A	DILAPAN	NIL	6CT	0	3	2	0	2	148	51	23.3	YES		1					2	2	2	2	1	MALE	2.6	8	9	not taken	2	not admitted	6	16/11/2024	06.00 pm	18/11/2024	03.25 am	2725
68	10120904	32	40	1	post datism	A	DILAPAN	NIL	6CT	2	2	0	1	0	160	60	23.4	NO		2	2	2	1	2	2	2	2	2	1	MALE	2.8	8	9	not taken	2	not admitted	6	19/01/2025	06.00 pm	21/01/2025	03.40 pm	2710

69	10126496	26	40	0	post datism	A	DILAPAN	NIL	6CT	2	2	0	1	0	148	54	24.7	NO		2	1	2	2	2	2	2	2	2	1	MALE	3.4	8	9	7.28	2	not admitted	6	05-02-2025	09.00 pm	06-02-2025	11.55 pm	2710
70	10121879	25	37	3	gest HTN	A	DILAPAN	NIL	6CT	1	3	2	1	0	155	54	22.5	NO		2	2	1	2	2	2	2	2	2	1	MALE	2.5	8	9	not taken	2	not admitted	6	19/01/2025	08.00 pm	21/02/2025	04.02 pm	2642
71	10121850	27	38	3	oligohydramnios	A	DILAPAN	NIL	6CT	1	1	0	0	0	154	64	27	NO		2	2	2	1	2	2	2	2	2	2	FEMALE	2.6	8	9	not taken	2	not admitted	6	19/02/2025	06.00 am	21/01/2025	12.35 am	2555
72	10121848	24	40	0	post datism	A	DILAPAN	NIL	4CT	3	1	0	0	0	148	60	27.4	YES		1					2	2	2	2	1	FEMALE	2.6	8	9	not taken	2	not admitted	6	19/01/2025	12.30 am	20/01/2025	11.22 am	1676
73	10121834	29	40	1	post datism	A	DILAPAN	NIL	5CT	3	1	0	0	0	158	66	27.4	YES		1					2	2	2	2	1	FEMALE	2.1	8	9	not taken	2	not admitted	6	18/01/2025	10.00 pm	20/01/2025	12.30 pm	2250
74	10074628	25	40	1	post datism	A	DILAPAN	NIL	4CT	2	1	0	0	0	154	62	26.1	NO		2	2	2	2	MSL	2	2	2	2	1	FEMALE	2.8	8	9	7.3	2	not admitted	6	08-07-2024	09.00 pm	10-07-2024	04.02 pm	2582
75	10132706	23	37	1	overt Dm	A	DILAPAN	NIL	4CT	1	3	0	2	0	160	58	22.7	NO		1					2	2	2	2	1	MALE	2.8	8	9	not taken	2	not admitted	6	01-03-2025	09.30 pm	03-03-2025	02.21 pm	2449
76	10072725	21	40	3	post datism	A	DILAPAN	NIL	6CT	1	1	0	0	0	158	49	19.6	NO		2	2	2	1	2	2	2	2	2	1	MALE	3.2	8	9	not taken	2	not admitted	7	02-07-2024	11.00 am	03-07-2024	11.14 pm	2174
77	10131881	23	40	0	Post Datism	A	DILAPAN	NIL	5CT	2	1	0	0	0	152	55	24.1	NO		2	2	2	1	2	2	2	2	2	1	FEMALE	2.2	7	9	not taken	2	not admitted	6	29/02/2025	12.00 am	03-03-2025	12.24am	2154
78	10132643	24	40	3	post datism	A	DILAPAN	NIL	2CT	5	1	0	0	0	158	60	24	NO		2	2	2	2	MSL	2	2	2	2	1	FEMALE	3	8	9	7.31	2	not admitted	5	01-03-2025	09.39 pm	03-03-2025	12.14am	1604
79	10133224	18	38	6	FGR	A	DILAPAN	Oxytocin	NIL	2	1	0	0	0	155	50	20.8	YES		1					2	2	2	2	1	FEMALE	2.3	7	9	not taken	2	not admitted	6	03-03-2025	11.00 pm	04-03-2025	11.55 am	775
80	10134780	22	39	5	oligohydramnios	A	DILAPAN	NIL	NIL	2	2	1	0	0	154	62	26	YES		1					2	2	2	2	1	FEMALE	3.1	8	9	not taken	2	not admitted	5	13/03]2025	09.00 am	14/03/2025	2.45 am	1065
81	10045776	26	40	1	post datism	A	DILAPAN	NIL	6CT	0	1	0	0	0	152	71	30.7	No		2	1	2	2	2	2	2	2	2	1	MALE	3.3	8	9	not taken	2	not admitted	8	09-04-2024	12:30AM	10-04-2024	9:32PM	2702
82	10059009	34	40	3	post datism	A	DILAPAN	Oxytocin	3CT	3	4	1	2	1	158	72	28.8	Yes		1					2	2	2	2	1	MALE	3.1	7	9	not taken	2	not admitted	5	08-05-2024	2:00pm	09-05-2024	05:49PM	1669
83	10059094	21	40	3	post datism	A	DILAPAN	NIL	NIL	3	1	0	0	0	160	70	27.3	No		2	1	2	2	2	2	2	2	2	1	MALE	3.2	7	8	7.3	2	not admitted	13	08-05-2024	08:30pm	09-05-2024	6:21AM	591
84	10061740	35	39	5	oligohydramnios	A	DILAPAN	NIL	NIL	0	3	1	1	1	162	74	28.2	Yes		1					2	2	2	2	1	FEMALE	2.7	8	9	not taken	2	not admitted	6	19-05-2024	06:00AM	19-05-2024	9:29PM	929
85	10062908	22	40	0	post datism	A	DILAPAN	Oxytocin	NIL	0	1	0	0	0	154	68	28.7	Yes		1					2	2	2	2	1	FEMALE	2.9	7	8	not taken	2	not admitted	6	23-05-2024	2:00AM	23-05-2024	4:34PM	874
86	10066417	21	40	0	post datism	A	DILAPAN	NIL	NIL	0	1	0	0	0	158	64	25.6	Yes		2	2	2	2	MSL	2	2	2	2	1	MALE	2.6	7	8	not taken	2	not admitted	7	06-06-2024	1:30am	06-06-2024	5:58PM	978
87	10068959	25	40	2	post datism	A	DILAPAN	Oxytocin	1CT	5	3	0	2	0	160	58	22.7	Yes		1					2	2	2	2	1	MALE	3.1	8	9	not taken	2	not admitted	5	15-06-2024	03:30pm	16-06-2024	3:51pm	1461
88	10069787	21	40	5	post datism	A	DILAPAN	NIL	4CT	5	2	1	0	1	160	56	21.9	Yes		1					2	2	2	2	1	MALE	3.1	6	7	7.3	1	respiratory distress	6	19-06-2024	3:30PM	21-06-2024	1:53AM	2063
89	10074655	20	40	5	post datism	A	DILAPAN	NIL	3CT	0	1	0	0	0	160	56	21.9	Yes		1					2	2	2	2	1	MALE	2.8	7	8	not taken	2	not admitted	5	08-07-2024	01.00 am	09-07-2024	09:23am	1950
90	10091715	22	40	0	post datism	A	DILAPAN	NIL	NIL	0	2	0	1	0	158	64	25.6	Yes		1					2	2	2	2	1	MALE	2.7	8	9	not taken	2	not admitted	7	18/09/2024	02.28 am	18/09/2024	11.28 pm	1980
91	10076418	20	40	0	post datism	A	DILAPAN	NIL	6CT	0	2	1	0	1	152	56	24.2	Yes		1					2	2	2	2	1	FEMALE	3.2	8	9	not taken	2	not admitted	5	15/09/2024	09.15 am	17/07/2024	1.17 pm	2400
92	10119421	20	38	0	FGR	A	DILAPAN	NIL	2CT	1	2	0	1	0	152	56	24.2	Yes		1					2	2	2	2	1	FEMALE	2.6	8	8	not taken	2	not admitted	7	27-07-2024	12:30pm	28-07-2024	1:11pm	1480
93	10106405	29	40	2	post datism	A	DILAPAN	NIL	3CT	0	1	0	0	0	152	56	24.2	No		2	1	2	2	2	2	2	2	2	1	FEMALE	2.7	7	8	7.3	2	not admitted	8	16/11/2024	3.00 am	18/11/2024	3.25 am	2700
94	10134772	38	37	2	FGR	A	DILAPAN	NIL	2CT	2	4	3	0	3	158	50	20	YES	1	1					2	2	2	2		MALE	2.1	8	9	not taken	2	not admitted	6	09-03-2025	04.00 am	19/03/2025	12.00 pm	2005

95	10065746	24	40	2	post datism	A	DILAPAN	NIL	2CT	0	2	1	0	0	160	63	24.6	Yes		1					2	2	2	2	1	FEMALE	3.2	7	9	not taken	2	not admitted	7	06-02-2024	1:00 PM	04-06-2024	2.35 pm	1380
96	10065869	28	38	6	FGR	A	DILAPAN	Oxytocin	NIL	2	1	0	0	0	155	50	20.8	YES		1					2	2	2	2	1	FEMALE	2.3	7	9	not taken	2	not admitted	6	04-06-2025	09.00 am	4-6-2024	9.20 PM	700
97	10066178	22	37	1	gest HTN	A	DILAPAN	NIL	6CT	0	2	1	1	0	158	52	20.8	YES		2	2	2	1	2	2	2	2	2	1	MALE	3.1	8	9	not taken	2	not admitted	6	04-06-2025	02.00 am	05-06-2024	09.11 am	1700
98	10066417	21	38	3	oligohydramnios	A	DILAPAN	NIL	6CT	1	1	0	0	0	154	64	27	NO		2	2	2	1	2	2	2	2	2	2	FEMALE	2.6	8	9	not taken	2	not admitted	6	04-06-2024	06.00 am	06-06-24	03.38 pm	2420
99	10066924	24	37	2	FGR	A	DILAPAN	NIL	2CT	0	1	0	0	0	156	54	22.2	No		2	1	2	2	2	2	2	2	2	1	FEMALE	2.1	6	7	7.3	2	not admitted	7	06-09-2024	02.00 am	9-6-2024	02.19 pm	1400
100	10069884	27	40	2	post datism	A	DILAPAN	NIL	NIL	3	1	0	0	0	152	56	21.9	YES		1					2	2	2	2	1	FEMALE	2.8	8	9	not taken	2	not admitted	5	20/06/2024	12:30AM	20/06/2024	04.15 am	810
101	10083267	23	37	2	oligohydramnios	A	DILAPN	NIL	NIL	1	1	0	0	0	158	50	21	YES		1					2	2	2	2	1	FEMALE	2.5	8	9	not taken	2	not admitted	5	29/01/2025	6.30 am	16/08/2024	09.33 am	1300
102	10069147	21	37	2	oligohydramnios	B	1 CP	NIL	NIL	4	1	0	0	0	152	56	24.2	Yes		1					2	2	2	2	1	MALE	3.2	8	9	not taken	2	not admitted	4	18-06-2024	10.00 AM	18-06-2024	8:18PM	618
103	10069888	23	40	1	post datism	B	3 CP	NIL	2CT	0	2	0	1	0	160	58	22.7	No		2	2	2	2	CPD	2	2	2	2	1	MALE	3	8	9	not taken	2	not admitted	6	19-06-2024	5:00pm	20-06-2024	4:53pm	1433
104	10069915	29	40	0	post datism	B	3 CP	NIL	3CT	0	2	1	0	1	158	72	28.8	No		2	1	2	2	2	2	2	2	2	1	FEMALE	3	7	9	not taken	2	not admitted	8	19-06-2024	10:30pm	21-06-2024	2:16am	1666
105	10078948	21	37	2	FGR	B	3 CP	NIL	2CT	0	1	0	0	0	156	54	22.2	No		2	1	2	2	2	2	2	2	2	1	FEMALE	2.1	6	7	7.3	2	not admitted	7	25-07-2024	10:00pm	26-07-2024	10:06pm	1446
106	10096438	24	40	0	post datism	B	3 CP	NIL	2CT	0	1	0	0	0	154	68	28.7	No		2	1	2	2	2	2	2	2	2	1	FEMALE	2.7	7	8	7.26	2	not admitted	8	07-10-2024	12:30am	08-10-2024	10:13am	2023
107	10097345	23	40	3	post datism	B	3 CP	NIL	2CT	0	3	1	0	0	152	56	24.2	No		2	2	2	2	CDMR	2	2	2	2	1	FEMALE	3.1	7	9	not taken	2	not admitted	9	09-10-2024	11pm	11-10-2024	1:06am	1566
108	10097347	33	39	5	post datism	B	3 CP	NIL	3CT	0	2	0	1	0	157	80	32.5	No		2	2	2	1	2	2	2	2	2	1	FEMALE	2.6	7	9	not taken	2	not admitted	9	10-10-2024	2:00am	12-10-2024	6:30am	3150
109	10097333	24	40	2	post datism	B	3 CP	NIL	2CT	0	2	1	0	0	160	63	24.6	Yes		1					2	2	2	2	1	FEMALE	3.2	7	9	not taken	2	not admitted	7	10-10-2024	1:00am	11-10-24	8:06am	1866
110	10094122	21	40	4	post datism	B	1 CP	NIL	NIL	3	1	0	0	0	156	54	22.2	Yes		1					2	2	2	2	1	Female	3	8	9	not taken	2	not admitted	5	26-09-2024 12:00pm		26-09-2024	6:54pm	414
111	10093930	26	40	1	post datism	B	1 CP	NIL	NIL	3	2	1	0	1	158	53	21.2	YES		1					2	2	2	2	1	FEMALE	2.6	2	8	not taken	2	not admitted	6	26-09-2024	1:00AM	26-09-2024	4:17AM	197
112	10093567	23	40	1	post datism	B	3 CP	NIL	1CT	0	2	0	1	0	154	68	22.7	No		2	2	2	2	CDMR	2	2	2	2	1	female	3.2	8	9	not taken	2	not admitted	6	24-09-2024	11:30pm	25-09-2024	6:25pm	1075
113	10093334	23	40	3	oligohydramnios	B	1 CP	NIL	NIL	0	1	0	0	0	157	80	32.5	NO		2	2	2	2	MSL	2	2	2	2	1	MALE	3.7	7	8	not taken	2	not admitted	6	23-09-2024	9:30pm	24-09-2024	3:54am	384
114	10093340	28	40	3	post datism	B	1 CP	NIL	NIL	0	2	1	0	1	152	56	24.2	YES		1					2	2	2	2	1	MALE	3.5	8	8	not taken	2	not admitted	7	24-09-2024	1:00AM	24-09-2024	6:26AM	386
115	10093302	29	40	3	post datism	B	1 CP	NIL	NIL	3	2	0	1	0	154	68	28.7	YES		2	2	2	2	Second Stage Arrest	2	2	2	2	1	male	2.5	9	8	not taken	2	not admitted	5	23-09-2024	3:00pm	23/09/20254	9:19pm	379
116	10093337	23	39	4	oligohydramnios	B	3 CP	Oxytocin	5CT	0	2	0	1	0	152	56	24.2	Yes		1					2	2	2	2	1	female	2.5	9	8	not taken	2	not admitted	7	23-09-2024	12:00pm	23-10-2024	10:08pm	2048
117	10092742	22	40	1	post datism	B	2 CP	NIL	NIL	0	1	0	0	0	154	68	28.7	YES		1					2	2	2	2	1	MALE	3.3	8	9	not taken	2	not admitted	5	22-09-2024	10:00AM	22-09-2024	10:54PM	774
118	10092278	23	40	2	post datism	B	2 CP	NIL	NIL	3	1	0	0	0	152	56	21.9	YES		1					2	2	2	2	1	FEMALE	2.8	8	9	not taken	2	not admitted	5	20-09-2024	12:30AM	20-09-2024	2:17PM	827
119	10092635	24	39	2	gest HTN	B	1 CP	NIL	NIL	0	2	1	0	1	154	68	28.7	YES		1					2	2	2	2	1	MALE	3.1	7	8	not taken	2	not admitted	6	20-09-2024	8:00AM	20-09-2024	1:14PM	314
120	10092585	27	40	1	oligohydramnios	B	1 CP	NIL	NIL	0	2	1	0	1	152	56	24.2	YES		1					2	2	2	2	1	FEMALE	3.4	8	9	not taken	2	not admitted	5	20:092024	11:00PM	21-09-2024	9:29 AM	315

121	10105481	24	38	0	FGR	B	3 CP	NIL	6CT	5	3	2	1	2	160	58	22.7	YES		2	2	2	2	MSL	2	2	2	2	1	MALE	3.1	8	9	Not taken	2	not admitted		13/11/2024	7.20 pm	15/11/2024	4.54 PM	2734
122	10105029	24	39	2	FGR	B	3 CP	NIL	1CT	0	1	0	0	0	155	47	19.6	YES		1					2	2	2	2	1	FEMALE	2.3	8	9	Not taken	2	not admitted	5	11-11-2024	11:00 PM	12-11-2024	7.56 PM	1260
123	10103686	20	40	2	post datism	B	3 CP	NIL	NIL	2	1	0	0	0	165	60	22	YES		2	1	2	2	2	2	2	2	2	1	MALE	3.1	8	9	not taken	2	not admitted		06-11-24	9.30pm	7-11-24	6.54pm	1344
124	10106011	29	40	1	post datism	B	2 CP	oxytocin	NIL	4	2	1	1	0	156	58	23.8	YES		1					2	2	2	2	1	FEMALE	3.2	8	9	not taken	2	not admitted		15/11/24	3:00 PM	16/11/2024	5.51 am	891
125	10115789	27	38	0	gest HTN	B	3 CP	NIL	4CT	2	1	0	0	0	160	58	22.7	YES		2	1	2	2	MSL	2	2	2	2	1	MALE	3.3	6	9	7.3	2	not admitted		25/12/24	1:00 AM	27/12/2024	2.38 am	2940
126	10116056	23	40	0	post datism	B	3 CP	NIL	3CT	1	1	0	0	0	156	70	28.8	Yes		2	2	1	2	2	2	2	2	2	1	MALE	2.8	8	9	not taken	2	not admitted	6	26/12/2024	4:00 PM	27/12/2024	12.40 pm	1240
127	10108685	26	41	1	post datism	B	2 CP	NIL	NIL	4	1	0	0	0	166	62	22.5	No		2	2	2	2	Anamnios	2	2	2	2	1	MALE	3	8	9	7.28	1	respiratory distress	2	25/11/2024	10.00 pm	26/11/2024	11.49 am	1549
128	10106550	23	40	0	post datism	B	3 CP	NIL	4CT	3	3	1	1	1	168	68	24.1	NO		2	2	1	2	2	2	2	2	2	1	FEMALE	3.1	7	8	not taken	2	not admitted		17/11/2024	4.00 pm	19/11/2024	6.22 am	2302
129	10107137	28	40	4	post datism	B	2 CP	NIL	NIL	3	1	0	0	0	163	58	21.8	NO		2	1	2	2	2	2	2	2	2	1	FEMALE	2.5	8	9	7.23	1	Respiratory distress	6	19/11/2024	10.00 pm	20/11/2024	8.35 am	1350
130	10115384	24	40	0	FGR	B	1 CP	NIL	NIL	6	2	1	1	1	164	53	19.7	YES		1					2	2	2	2	1	MALE	2.6	8	9	not taken	2	not admitted	5	31/12/2024	9:00 PM	1-1-2025	4:51 AM	470
131	10118051	28	40	2	post datism	B	1 CP	NIL	NIL	4	3	2	2	0	164	56	20.8	YES		1				MSL	2	2	2	2	1	FEMALE	3.1	7	8	7.23	1	respiratory distress	2	2-1-2025	9:00 PM	03-01-2025	2.39 am	339
132	10116603	24	37	0	FGR	B	1 CP	NIL	NIL	5	1	0	0	0	162	54	20.6	NO		2	2	2	2	MSL	2	2	2	2	1	FEMALE	1.9	7	8	taken	1	respiratory distress	8	29/12/2024	11.00 am	29/12/2024	10.10 pm	670
133	10116690	23	37	6	FGR	B	1 CP	NIL	NIL	1	1	0	0	0	158	52	20.6	NO		2	1	2	2	2	2	2	2	2	1	FEMALE	1.9	6	7	7.23	1	respiratory distress		28/12/2024	11.00PM	29/12/2024	12.10 am	790
134	10115390	24	37	2	FGR	B	3 CP	NIL	1CT	5	2	1	1	0	168	60	21.3	YES		1					2	2	2	2	1	MALE	2	8	9	not taken	2	not admitted	8	27/12/2024	12.00pm	27/12/2024	10.56 pm	656
135	10124059	26	37	5	FGR	B	1 CP	NIL	NIL	4	3	0	2	0	168	54	19.1	NO		2	1	2	2	2	2	2	2	2	1	FEMALE	2	6	7	7.3	1	respiratory distress	7	27/01/2025	12.00 pm	27/01/2025	4.31 pm	271
136	10092742	23	40	1	post datism	B	3 CP	NIL	1CT	3	1	0	0	0	160	52	20.3	YES		1					2	2	2	2	1	MALE	3.8	8	9	not taken	2	not admitted	5	22/09/2024	02.00 am	22/09/2024	10.54 pm	1254
137	10120580	23	37	3	FGR	B	3 CP	NIL	NIL	3	1	0	0	0	164	54	25	YES		1					2	2	2	2	1	FEMALE	2.5	8	9	not taken	2	not admitted	5	13/01/2025	11.30 pm	15/01/2025	08.22 am	1972
138	10120593	29	37	0	gest HTN	B	3 CP	NIL	6CT	1	1	0	0	0	162	60	23.4	YES		2	2	2	1	2	2	2	2	2	1	MALE	3	8	9	not taken	2	not admitted	7	13/01/2025	11.00 pm	15/01/2025	6.56 pm	2636
139	10102533	21	40	5	post datism	B	3 CP	NIL	1CT	1	1	0	0	0	153	60	25.6	YES		1					2	2	2	2	1	MALE	2.7	7	8	not taken	2	not admitted	6	02-11-2025	5.30 am	02-11-2024	5.32 pm	722
140	10092336	24	40	4	post datism	B	3 CP	NIL	NIL	3	1	0	0	0	160	52	20.3	NO		2	1	2	2		2	2	2	2	1	MALE	2.5	8	9	not taken	2	not admitted	5	20/09/2024	02.00 am	20/09/2024	04.30 pm	870
141	10129536	25	38	5	gest HTN	B	1 CP	NIL	NIL	5	1	0	0	0	160	50	19.5	YES		2	1	2	2	2	2	2	2	2	1	FEMALE	2.7	7	8	7.27	2	respiratory distress	6	19/02/2025	02.30 pm	19/02/2025	09.38 pm	428
142	10129482	26	37	0	oligohydramnios	B	1 CP	NIL	NIL	5	1	0	0	0	160	62	19.5	YES		1					2	2	2	2	1	FEMALE	3	8	9	not taken	2	not admitted	5	19/02/2025	06.00 pm	20/02/2025	01.26 am	446
143	10128227	22	40	3	gest HTN	B	3 CP	NIL	6CT	0	1	0	0	0	158	50	20	NO		2	2	2	1	2	2	2	2	2	1	MALE	3.3	8	9	not taken	2	not admitted	6	12-02-2025	02.00 pm	14/02/2025	01.23 pm	2843

144	10130522	33	37	3	gest HTN	B	3 CP	NIL	1CT	4	2	1	0	1	152	50	21.6	NO		2	1	2	2	2	2	2	2	2	1	MALE	2.9	7	8	7.23	2	not admitted	7	21/02/2025	12.00 am	21/02/2025	07.12 pm	1152
145	10123340	26	38	4	gest HTN	B	3 CP	NIL	5CT	2	1	0	0	0	152	50	21.6	NO		2	2	2	1	2	2	2	2	2	1	MALE	3.2	8	9	not taken	2	not admitted	7	24/01/2025	12.30 am	25/01/2025	08.23 pm	1913
146	10125790	24	40	0	post datism	B	3 CP	NIL	3CT	1	1	0	0	0	166	55	23.6	YES		2	1	2	2	2	2	2	2	2	1	MALE	3.5	8	9	not taken	2	not admitted	5	02-02-2025	06.00 pm	03-02-2025	11.01 pm	1021
147	10126042	22	40	4	FGR	B	2 CP	NIL	NIL	2	1	0	0	0	156	50	20.5	YES		1					2	2	2	2	1	MALE	3.1	8	9	not taken	2	not admitted	5	04-02-2025	06.00 am	04-02-2025	05.51 pm	711
148	10061257	22	37	1	FGR	B	3 CP	NIL	NIL	4	1	0	0	0	160	52	20.3	YES		1					2	2	2	2	1	FEMALE	2.1	8	9	not taken	2	not admitted	6	16/05/2024	07.00 am	17/05/2024	12.25 am	1045
149	10124721	21	37	2	oligohydramnios	B	2 CP	NIL	NIL	1	1	0	0	0	158	50	21	YES		1					2	2	2	2	1	FEMALE	2.5	8	9	not taken	2	not admitted	5	29/01/2025	6.30 am	30/01/2025	04.59 am	1350
150	10125071	21	39	6	post datism	B	1 CP	NIL	NIL	3	1	0	0	0	160	52	20.3	YES		1					2	2	2	2	1	MALE	3.3	8	9	not taken	2	not admitted	7	21/01/2025	07.00 pm	31/01/2025	01.19 am	319
151	10115493	29	37	5	FGR	B	3 CP	NIL	1CT	5	1	0	0	0	168	62	22	YES		1					2	2	2	2	1	MALE	3	8	9	not taken	2	not admitted	5	23/12/2024	08.30 pm	24/12/2024	10.19 pm	1350
152	10082707	28	40	2	post datism	B	3 CP	NIL	3CT	2	1	1	0	0	149	50	19.1	YES		1					2	2	2	2	1	FEMALE	2	8	9	not taken	2	not admitted	8	10-08-2024	06.00 pm	12-08-2024	12.58	2580
153	10074350	20	39	4	gest HTN	B	2 CP	NIL	NIL	2	1	0	0	0	158	52	19.2	YES		1					2	2	2	2	1	FEMALE	3.2	8	9	not taken	2	not admitted	6	09-07-2024	12.00 am	09-07-2024	3.33 pm	2061
154	10074956	33	40	2	post datism	B	3 CP	NIL	4CT	1	1	0	0	0	154	53	22.3	NO		2	2	2	2	MSL	2	2	2	2	1	FEMALE	2.5	8	9	not taken	2	not admitted		09-07-2024	01.00 am	10-07-2024	08.10 am	1870
155	10075546	25	38	4	polyhydramnios	B	1CP	NIL	NIL	4	3	2	0	1	154	50	22.1	YES		1					2	2	2	2	1	MALE	3.1	8	9	not taken	2	not admitted	5	12-07-2024	6.00 am	12-07-2024	06.51 pm	2128
156	10073890	25	40	0	post datism	B	3 CP	NIL	4CT	2	2	1	0	1	156	50	20.5	YES		1	2	2	2	2	2	2	2	2	1	MALE	3.4	8	9	not taken	2	not admitted	5	06-07-2024	12.00 am	07.07.2024	10.57 am	1377
157	10069147	21	37	2	gest HTN	B	3 CP	NIL	1CT	4	1	1	0	0	152	56	24.2	YES		1	2	2	2	2	2	2	2	2	1	MALE	3.2	8	9	not taken	2	not admitted	6	17/06/2024	1.00 am	08-06-2024	08.18 pm	1878
158	10091715	22	40	1	post datism	B	3 CP	NIL	3CT	1	2	1	0	1	158	60	24	NO		2	1	2	2	2	2	2	2	2	1	MALE	3.1	8	9	not taken	2	not admitted	5	17/09/2024	6:00 PM	18/09/2024	11.28 pm	1768
159	10092770	23	40	0	post datism	B	1 CP	NIL	NIL	4	3	1	1	1	160	52	20.3	YES		1					2	2	2	2	1	MALE	3.2	8	9	not taken	2	not admitted	5	21/09/2024	06.00 pm	22/09/2024	05.05 am	665
160	10108569	27	39	6	gest HTN	B	1 CP	oxytocin	NIL	4	1	1	0	0	156	76	25.6	NO		2	2	1	2	2	2	2	2	2	1	FEMALE	3	8	9	not taken	2	not admitted	7	25/11/2024	08.00 pm	26/11/2024	02.42 am	402
161	10107818	27	37	6	FGR	B	1 CP	NIL	NIL	5	2	1	0	1	143	50	24.5	YES		1					2	2	2	2	1	MALE	2.3	7	9	not taken	2	not admitted	5	21/11/2024	10.00 pm	22/11/2024	01.28 am	1210
162	10108059	23	37	5	FGR	B	2 CP	NIL	NIL	2	3	2	1	1	158	60	24	YES		1					2	2	2	2	1	FEMALE	2.3	7	9	not taken	2	not admitted	5	22/11/2024	11.00 pm	23/11/2024	07.53 am	533
163	10107762	23	38	2	oligohydramnios	B	3 CP	NIL	NIL	1	2	0	1	0	160	76	29.7	NO		2	2	2	1	2	2	2	2	2	1	MALE	3.2	8	9	not taken	2	not admitted	5	21/11/2024	06.00 pm	22/11/2024	01.33 pm	1173
164	10107234	24	38	6	oligohydramnios	B	1 CP	oxytocin	NIL	4	1	0	0	0	164	56	20.8	YES		1					2	2	2	2	1	MALE	2.6	8	9	not taken	2	not admitted	5	20/11/2024	12.00 am	20/11/2024	01.14 pm	794
165	10107168	23	37	2	FGR	B	3 CP	NIL	1CT	0	1	0	0	0	156	58	23.8	NO		2	2	1	2	2	2	2	2	2	1	MALE	2.2	8	9	not taken	2	not admitted	5	21/11/2024	06.00 pm	22/11/2024	01.33 pm	1173
166	10108183	24	40	0	post datism	B	2 CP	NIL	0CT	1	1	0	0	0	143	50	24.4	NO		2	2	1	2	2	2	2	2	2	1	FEMALE	3.2	8	9	not taken	2	not admitted	5	23/11/2024	09.30 pm	24/11/2024	01.08 pm	938
167	10136399	20	41	0	post datism	B	1 CP	NIL	NIL	2	2	1	0	1	160	52	20.3	YES		1					2	2	2	2	1	FEMALE	3.2	8	9	not taken	2	not admitted	5	15/03/2025	5.30 pm	16/03/2025	01.28 am	478
168	10102098	31	40	1	post datism	B	3 CP	NIL	6CT	1	1	0	0	0	155	54	22.5	NO		2	1	2	2	2	2	2	2	2	1	MALE	3.1	8	9	not taken	2	not admitted	6	30/10/2024	12.00 am	31/10/2025	10.25 pm	2035
169	10095292	23	40	0	post datism	B	3 CP	NIL	5CT	3	1	0	0	0	150	48	21.3	NO		2	2	2	2	MSL	2	2	2	2	1	FEMALE	3	7	9	7.28	1	respiratory distress	6	02-10-2024	03.00 pm	04-10-2024	6.08 am	2348

170	10095267	20	38	1	FGR	B	2 CP	NIL	NIL	1	1	0	0	0	155	54	22.5	NO		1	2	2	2	2	2	2	2	2	1	MALE	2.7	8	9	not taken	2	not admitted	6	02-10-2024	07.00 pm	04-10-2024	09.43 am	883
171	10095260	23	37	1	FGR	B	2 CP	NIL	NIL	4	1	0	0	0	158	60	24	YES		2	1	2	2	2	2	2	2	2	1	FEMALE	2.2	8	9	not taken	2	not admitted	6	03-10-2024	07.10 pm	04-10-2024	08.44 pm	1534
172	10097526	24	39	6	oligohydramnios	B	1 CP	NIL	NIL	3	1	0	0	0	152	53	22.9	YES		1					2	2	2	2	1	MALE	2.9	8	9	not taken	2	not admitted	6	10-10-2024	11.30 pm	11-10-2024	10.26 am	656
173	10126242	20	40	2	post datism	B	3CP	NIL	1CT	5	1	0	0	0	156	51	24	NO		2	1	2	2	2	2	2	2	2	1	FEMALE	3	7	9	7.3	2	not admitted	6	06-02-2025	12.30 pm	07-02-2025	12.20 pm	1534
174	10097542	30	39	5	gest HTN	B	3 CP	NIL	1CT	2	5	2	1	2	149	53	23.9	YES		1					2	2	2	2	1	FEMALE	3	7	9	not taken	2	not admitted	6	11-10-2024	03.00 pm	12-10-2024	6.56 pm	1676
175	10124460	26	39	5	gest HTN	B	3 CP	NIL	1CT	2	5	2	1	2	149	53	23.9	YES		1					2	2	2	2	1	FEMALE	3	7	9	not taken	2	not admitted	6	11-10-2024	03.00 pm	12-10-2024	6.56 pm	1676
176	10126455	25	37	2	macrosomia	B	3 CP	NIL	4CT	1	1	0	0	0	142	60	29.8	YES		1					2	2	2	2	1	FEMALE	3.8	6	9	7.3	2	not admitted	6	06-02-2025	12.30 pm	08-02-2025	10.28 am	2758
177	10125515	24	39	0	gest HTN	B	3CP	NIL	3CT	1	3	0	2	0	155	54	22.5	YES		1					2	2	2	2	1	MALE	2.5	4	6	7.22	1	respiratory distress	7	01-02-2025	11.00 pm	03-02-2025	10.40 am	2140
178	10128199	19	37	1	FGR , gest HTN	B	3CP	NIL	NIL	4	1	0	0	0	158	60	24	NO		2	2	1	1	2	2	2	2	2	1	MALE	2.2	5	8	7.25	1	respiratory distress	7	23/0322025	11.00 am	24/02/2025	06.45 am	1185
179	10133223	28	39	6	gest HTN	B	3 CP	NIL	NIL	5	1	0	0	0	160	64	25	YES		1					2	2	2	2	1	FEMALE	3.4	8	9	not taken	2	not admitted	6	03-03-2025	03.00 pm	05-03-2025	6.46 am	1676
180	10134178	22	39	1	FGR	B	2CP	NIL	1CT	2	1	0	0	0	153	58	24.8	YES		1					2	2	2	2	1	FEMALE	2.4	7	9	not taken	2	not admitted	6	06-03-2025	03.30 pm	07-03-2025	03.49 pm	1069
181	10127904	26	40	0	post datism	B	3 CP	NIL	5CT	1	1	0	0	0	164	65	24.2	NO		2	2	1	2	2	2	2	2	2	2	MALE	3	8	9	not taken	2	not admitted	6	18/02/2025	11.30 pm	20/02/2025	12.19 pm	2209
182	10134759	19	37	3	FGR	B	3CP	Oxytocin	5CT	1	1	0	0	0	159	66	26.1	NO		2	1	2	2	2	2	2	2	2	1	MALE	2.5	8	9	not taken	2	not admitted	6	09-03-2025	02.00 am	10-03-2025	05.42 pm	2382
183	10123305	25	40	4	post datism	B	2 CP	Oxytocin	NIL	3	2	1	0	1	154	60	25.3	YES		1					2	2	2	2	1	MALE	3.2	8	9	not taken	2	not admitted	5	25/01/2025	09.00 pm	26/01/2025	10.30 am	810
184	10123748	28	40	4	post datism	B	2 CP	NIL	NIL	3	2	1	0	1	154	60	25.3	YES		1					2	2	2	2	1	MALE	3.2	8	9	not taken	2	not admitted	5	25/01/2025	09.00 pm	26/01/2025	10.30 am	810
185	10124139	22	40	3	post datism	B	1 CP	Oxytocin	NIL	4	1	0	0	0	148	59	26.9	YES		1					2	2	2	2	1	MALE	2.9	8	9	not taken	2	not admitted	5	27/01/2025	02.00 pm	28/01/2025	3.53 pm	1613
186	10136440	29	40	1	post datism	B	2CP	NIL	NIL	4	2	1	0	1	158	66	27.4	YES		1					2	2	2	2	1	FEMALE	2.7	8	9	not taken	2	not admitted	5	15/03/2025	06.00 pm	16/03/2025	05.30 pm	1410
187	10135127	24	38	2	gest HTN	B	3CP	Oxytocin	4CT	2	2	0	1	0	164	65	24.2	YES		2	1	1	2	2	2	2	2	2	1	MALE	3.1	8	9	7.21	2	not admitted	6	14/03/2025	11.00 am	16/03/2025	11.05 am	2885
188	10136449	31	40	1	post datism	B	1CP	NIL	NIL	4	2	1	0	1	154	62	26.1	YES		1					2	2	2	2	1	FEMALE	2.4	5	8	7.23	1	respiratory distress		15/03/2025	08.00pm	16/03/2025	05.44 am	584
189	10135224	24	39	2	gest HTN	B	3 CP	NIL	2CT	3	1	1	0	0	160	58	22.7	YES		1					2	2	2	2	1	FEMALE	2.8	8	9	not taken	2	not admitted		10-03-2025	09.30 pm	12-03-2025	09.52 am	2182
190	10135562	27	37	3	FGR	B	3 CP	NIL	NIL	2	2	1	0	1	157	63	25.6	NO		2	2	1	2	2	2	2	2	2	1	MALE	2.3	8	9	not taken	2	not admitted	6	11-03-2025	11.00 pm	13/03/2025	2.38 am	1653
191	10135284	30	40	0	post datism	B	3 CP	NIL	1CT	3	3	1	1	1	160	52	20.3	YES		1					2	2	2	2	1	FEMALE	3.2	8	9	not taken	2	not admitted	6	11-03-2025	11.30 am	12-03-2025	11.09 am	1419
192	10133604	27	37	6	FGR	B	3 CP	Oxytocin	1CT	1	2	1	1	0	149	48	21.6	YES		1					2	2	2	2	1	FEMALE	2.2	8	9	not taken	2	not admitted		05-03-2025	07.30pm	07-03-2025	01.36 am	1806
193	10133249	26	40	1	oligohydramnios	B	1 CP	NIL	NIL	4	1	0	0	0	160	60	23.4	NO		2	1	2	2	2	2	2	2	2	1	MALE	3.1	8	9	7.3	2	not admitted	6	04-03-2025	06.30 am	04-04-2025	05.18 pm	648
194	10133220	24	38	1	gest HTN	B	1 CP	NIL	NIL	4	1	0	0	0	158	49	19.6	YES		1					2	2	2	2	1	MALE	3.1	7	9	not taken	2	not admitted		04-03-2025	12.00 am	04-03-2025	08.38 pm	1238

195	10068480	28	38	1	FGR	B	2 CP	NIL	NIL	1	1	0	0	0	155	54	22.5	NO		1	2	2	2	2	2	2	2	2	1	MALE	2.7	8	9	not taken	2	not admitted	6	12-06-2024	07.00 pm	13/06/2024	9.29 am	850
196	10108642	24	40	3	gest HTN	B	3 CP	NIL	6CT	0	1	0	0	0	158	50	20	NO		2	2	2	1	2	2	2	2	2	1	MALE	3.3	8	9	not taken	2	not admitted	6	30/07/2024	02.00 am	08-01-2024	9.44 pm	2700
197	10068699	25	40	1	post datism	B	3 CP	NIL	1CT	2	1	1	0	0	154	49	20.2	NO		2	1	2	2	2	2	2	2	2	1	FEMALE	3	8	9	7.3	2	not admitted	6	16/06/2025		17/06/2024	12.47am	1200
198	10070122	21	40	0	Post Datism	B	3 CP	NIL	5CT	2	1	0	0	0	152	55	24.1	NO		2	2	2	1	2	2	2	2	2	1	FEMALE	2.2	7	9	not taken	2	not admitted	6	29/02/2025	12.00 am	03-03-2025	01.45 am	2100
199	10070137	23	40	3	post datism	B	3 CP	NIL	2CT	5	1	0	0	0	158	60	24	YES		2	2	2	2	MSL	2	2	2	2	1	FEMALE	3	8	9	7.31	2	not admitted	5	01-03-2025	09.39 pm	03-03-2025	01.20 pm	1600
200	10074655	20	40	1	oligohydramnios	B	1 CP	NIL	NIL	0	2	1	0	1	152	56	24.2	YES		1					2	2	2	2	1	FEMALE	3.4	8	9	not taken	2	not admitted	5	26/01/22025	11:00PM	27/01/2025	4.31 pm	420
201	10067507	23	40	1	post datism	B	3 CP	NIL	5CT	3	1	0	0	0	158	66	27.4	YES		1					2	2	2	2	1	FEMALE	2.1	8	9	not taken	2	not admitted	6	11-06-2025	10.00 pm	13/06/2024	4:55 PM	2200
202	10101240	24	37	2	FGR	B	3 CP	NIL	2CT	0	1	0	0	0	156	54	22.2	No		2	1	2	2	2	2	2	2	2	1	FEMALE	2.1	6	7	7.3	2	not admitted	7	25-07-2024	10:00pm	27/10/2024	12.54 am	1450