COMPARISON OF THE EFFECTS OF LIDOCAINE-PRILOCAINE CREAM AND LIDOCAINE INJECTION FOR PAIN RELIEF DURING PERINEAL REPAIR FOLLOWING VAGINAL DELIVERY: A RANDOMIZED CLINICAL TRIAL

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(OBSTETRICS & GYNAECOLOGY)

JULY, 2020 **DR. MATTE SIBA**

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(DECLARATION BY THE CANDIDATE)

DECLARATION

I hereby declare that the thesis titled **"Comparison of the effects of lidocaine-prilocaine cream and lidocaine injection for pain relief during perineal repair following vaginal delivery: a randomized clinical trial"** embodies the original work carried out by the undersigned in All India Institute of Medical Sciences, Jodhpur.

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CERTIFICATE

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Dedicated to

My Father, H Siba Veimy

And

My Mother, Bernice.

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LIST OF ABBREVIATIONS

Short Form	**Full Form**
WHO	World health organization
C-section	Caesarean section
L-P	Lidocaine-prilocaine cream
CIN	Cervical Intraepithelial Neoplasia
PNS	Peripheral Nervous System
VGSCs	Voltage Gated Sodium channels
VAS	Visual analogue scale
ACOG	American College of Obstetricians and Gynecologists
EMLA	Eutectic mixture of local anaesthetics
CTRI	Clinical Trial Registry of India
SD	Standard Deviation
NS	Non significant
S	Significant
IQR	Interquartile range
SPSS	Statistical Package for Social Sciences

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SUMMARY OF THE PROJECT

Background:

Episiotomy is given during delivery mainly to prevent serious tears to the perineum but one has to go through a lot of pain when episiotomy is given and also while it is repaired. So in order to reduce the pain caused by episiotomy, various methods have been applied, of which topical ointments is one of them because of its low systemic absorption and ease of use

(*) The purpose of this study is to compare the effects of lidocaine-prilocaine cream with lidocaine injection on the basis of reduction of pain while doing and repairing episiotomy. We plan to do a randomised controlled trial to compare the effect of these two drugs in women planned for vaginal delivery in labour room.

Primary objective:

To compare the effects of lidocaine-prilocaine cream and lidocaine injection for pain relief during perineal repair following vaginal birth by VAS score.

Secondary objectives:

1. To study the satisfaction level of patient with lidocaine-prilocaine cream and lidocaine injection use during perineal repair following vaginal birth using Likerts scale.
2. To compare the ease of use of lidocaine-prilocaine cream and lidocaine injection during perineal repair following vaginal birth by the Obstetrician using Likert scale.
3. To compare the requirement of extra analgesia in both the groups.
4. To study the side effects of both the drug in the study population

Methods:

It was a randomized clinical trial in which pregnant women who participated were randomly divided into two groups, Intervention group (lidocaine-prilocaine cream) and control group (lidocaine infiltration). Before leaving the delivery room, about two hours of delivery, the patients were asked to rate their pain during perineal repair on a

VAS score (10 cm horizontal linear scale in which zero indicates no pain and 10 indicates maximum pain). The rate of patient's satisfaction with repair method was determined using a Likert scale question with five options (very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, very dissatisfied).

The ease of use of analgesic agent was rated by the Obstetrician using another Likert scale. (very easy, easy, neither easy nor difficult, difficult, very difficult).

Results: Two fifty two recruited to participate in the trial of which ten were drop outs. Out of 242, 121(50%) women were randomized to lidocaine-prilocaine cream (intervention group I), whereas 121 (50%) were randomized to lidocaine infiltration (Intervention group II).

In terms of the patients VAS (Visual Analog Scale), the L-P group experienced statistically significantly more pain than the lidocaine infiltration group did during the repair of the episiotomy. According to the results, patient satisfaction in groups receiving L-P cream and lidocaine injection was comparable. The study also reported that lidocaine cream was easier to use than lidocaine injection. The participants in the L-P group requested for more extra analgesia than those in the lidocaine infiltration group, which was statistically significant with a p value of 0.0001.

Conclusions: This study has found that lidocaine cream is simpler to apply, but lidocaine injection is more effective at relieving pain during repair of episiotomy. In both the groups, the patient's satisfaction with the repair technique was comparable. Additional analgesia is required for the patient if L-P Cream is used for episiotomy repair.

INTRODUCTION

According to World Health Organization (WHO), Caesarean section rates have increased steadily worldwide over the last few decades. However, this trend has not been accompanied by significant maternal or perinatal benefits. (1) As per the National Family health Survey-4, the rate of C-sections has doubled, from 9 percent in 2005-06 to 17 percent in 2015-16. Caesarean section (C-section) is indicated in certain conditions. However, a caesarean section without a medical need can put a woman at risk of short and long-term health problems. (2) Therefore, WHO advises that caesarean sections should only be done when medically necessary. Considering the maternal and foetal risk associated with caesarean section, it is important to promote natural vaginal delivery.

Episiotomy is the most common operative procedure applied in vaginal delivery worldwide. The majority of primigravida women are given episiotomies. The episiotomy is a surgical procedure that was developed to minimize the incidence of severe perineal tears (third and fourth degree) during labour. (3) An episiotomy is a surgically planned incision made on the perineum and posterior vaginal wall during the second stage of labour. The delivery of the foetus is made easier and safer by enlarging the vaginal introitus. Additionally, it decreases perineal muscle and fascia rupture and overstretching.

The two most common techniques are midline and mediolateral. (3) The mediolateral incision should be given at the time of crowning. Because of the distortion of the anatomy at the crowning of the head, the incision should be made at an angle of at least 60° from the midline to ensure a post-delivery angle of 45°. (4) Although mediolateral episiotomy may be preferred, it may also result in more perineal pain and dyspareunia, according to the American College of Obstetricians and Gynecologists practice guidelines. (5)

There are various advantages of episiotomy. It reduces trauma to the foetal head, which is especially beneficial in vulnerable premature infants. Another benefit that has been put forth is shortening the second stage of labour, which would spare mother and child from the strenuous labour and delivery process and also reduce newborn hypoxia, sepsis, and maternal infection. In the case of foetal distress and shoulder

dystocia, episiotomy is frequently recommended in order to deliver the infant more quickly. (6)

Several non-pharmaceutical techniques, including hot packs, cold compression, and perineal massage, are used to lessen pain during an episiotomy. (7) Aside from that, local anaesthetics such as lidocaine spray or gel, lidocaine injection with or without vasoconstrictors are being used. (8) Despite being painful and having the potential to distort the nature of the tissue and making repair difficult, the approach that is most frequently employed is topical anaesthesia injection. Analgesia is provided prior to episiotomy by infiltration of local anaesthetics or by providing labor regional analgesia or bilateral pudendal nerve blockade. (9) A needle can sometimes cause trauma to the foetus if used with unskilled hands. The application of topical anaesthetics such as lidocaine is continuing to increase due to its low cost, availability, low systemic absorption, ease of use and the possibility of application by patients. Also it can be applied easily by novice and trainee doctors and birth attendants.

Lidocaine-Prilocaine cream

One of the local anaesthetics used is an eutectic mixture of local anaesthetics. An emulsion with a eutectic mixture of two analgesics, lidocaine 2.5% and prilocaine 2.5%, in the oil phase is the most commonly used topical agent. Using a skin patch as a cover, the cream is spread to an intact skin. It works by releasing lidocaine and prilocaine into the epidermis and dermis layers of the skin. Lidocaine and prilocaine stabilise the neuronal membrane and numb the skin by blocking the ionic influx required for the initiation and conduction of impulses. The duration of application of the cream determines the onset, depth, and length of time of dermal analgesia. The time period required to achieve the desired effect is around an hour, maximum effect can be achieved in two to three hours after the application of cream and it can last for one to two hours after its removal from the skin. (10) The systemic absorption after topical application of lidocaine-prilocaine is determined by the duration of exposure to the cream and the area of application. Topical cream however can lead to certain side effects which include tingling, coldness and burning sensation of skin, paleness or redness of the skin, and swelling. It can also cause allergic or systemic reactions of the skin like rash or hives rarely.

Such topical anaesthetics are widely used in minor dermatological procedures, paediatric and plastic surgeries. (7,10) It is also utilized in minor gynaecological surgeries such as minor surgery of genital mucosa, genital warts, vulvar biopsy, laser therapy for cervical intraepithelial neoplasia (CIN) and hysteroscopy. (7,10)

There are several studies on applications of topical anaesthetics which focuses on management of pain during the second stage of labor or postpartum period while very few studies have specifically mentioned on the pain during episiotomy repair. Hence, in this study we aim to compare the effects of lidocaine-prilocaine cream and lidocaine injection in terms of reduction of pain during perineal repair following vaginal deliveries, which will include the episiotomies and spontaneous lacerations of second degree.

Lignocaine ®

Lidocaine, commonly referred to as lignocaine, was first created as an anaesthetic agent in 1943 and has since been used to treat a range of pain disorders. Nils Löfgren and Bengt Lundquist first synthesized it between 1943 and1946. (11) It is a tertiary amine derived from xylidine. Lidocaine was unique in that it had a rapid onset of action as a local anaesthetic and had superior safety profile compared to earlier local anaesthetic agents, such as cocaine, procaine and tetracaine. As a result, lignocaine became widely used. (11,12)

Lidocaine acts at sodium ion channels on the internal surface of nerve cell membranes. As a consequence of the local anaesthetic's binding to the ion channel, the sodium channel's inactive states are favoured, which prevents action potentials from travelling along the affected nerve fibres. Pain is transmitted in the peripheral nervous system (PNS) via action potential activation of voltage gated sodium channels (VGSCs). (13) In the region of the body where it is used, lidocaine creates a temporary loss of sensation. In addition to its role of pain control, lidocaine can be used as an antiarrhythmic agent and also has anti-inflammatory properties.

Lidocaine is almost entirely metabolised in the liver by cytochrome P450 enzymes and excreted by kidneys. Its oral bioavailability is highly variable due to rapid, presystemic metabolism to inactive metabolites. As a result, no oral lidocaine has been developed, and only parenteral methods of lidocaine administration are available. (13)

When local anaesthetics are administered, their plasma levels can rise and result in neurotoxicity and cardiotoxicity. Visual hallucinations, tachycardia, tremors, hypotension, light-headedness, hypertension, thrombophlebitis and deep vein thrombosis are some of the observed side effects. (11,12)

Different formulations of lidocaine are used with various routes. Lidocaine is available in various forms like injection, topical forms like spray, gel and cream and in various concentrations -

- Very dilute concentrations, in the order of 0.05 to 0.1%, can be infiltrated subcutaneously in large volumes to provide tumescent local anaesthesia, resulting in swelling and firmness of the site, which may be beneficial for certain surgical procedures.
- Dilute solutions of 0.25 to 0.5% are used for intravenous regional anaesthesia (Bier's block) or infiltration into subcutaneous tissue.
- 1 to 2% solutions are used for regional nerve blocks, including epidural anaesthesia, and are also available in intravenous preparations for antiarrhythmic use.
- 1 to 2% aqueous gels, typically including an antiseptic such as chlorhexidine, are used to topicalize and lubricate the urethra prior to procedures like foley catheterization.
- 4% solution is used for topical anaesthesia of the mucous membranes of the airway, including the mouth, pharynx, and respiratory tract, either by gargling, spraying, or using an atomizer.
- 5% ointment, typically mixed with hydrocortisone, is employed topically on other mucous membranes such as the skin or in the rectum.
- 10% solution is also used topically for airway anaesthesia and cutaneous applications, typically by spraying from a metered-dose atomizer. (11)

Visual Analogue Scale

A Visual Analogue Scale (VAS) is one of the pain rating scales that Hayes and Patterson used for the first time in 1921. It is a subjective, validated measure of acute and chronic pain. The VAS is a one-dimensional measure of pain intensity that can be used to track a patient's pain progression or to compare pain severity between patients with similar conditions. It is composed of a 10 cm horizontal straight line, with the endpoints designating extreme limits, "no pain" on the left end (0 cm) of the scale and "pain as severe as it could be" on the right end of the scale (10 cm). (14) Patient is asked to mark a point between the endpoints based on how much pain they are experiencing. The pain score is then determined by the distance between the 0 cm (no pain at all) and the mark.

Likert Scale

A variety of rating scales have been developed to directly measure attitudes (i.e. the person knows their attitude is being studied).The most widely used is the Likert Scale.

Rensis Likert developed the Likert scale in 1932. In order to measure people's attitude, Likert invented a method that involved asking individuals to rate how much they agree with a series of statements about a certain subject. Likert-type or frequency scales are used to measure attitudes or views and use fixed choice response formats (Bowling, 1997; Burns, & Grove, 1997). The respondent expresses their degree of agreement and disagreement. A Likert-type scale makes the assumption that attitudes can be quantified and that the strength or intensity of experience is linear, that is, on a continuum from strongly agree to strongly disagree. Respondents may be given a set of five, seven, or even nine precoded responses, with the neutral point being neither agree nor disagree. Likert scale has the benefit of allowing for a range of opinions, including none at all, rather than expecting a straightforward yes/no response from the respondent. (15,16) As a result, quantitative data is obtained, which makes it relatively simple to analyze the data.

This study was planned with the aim to compare the effects of lidocaine-prilocaine cream and lidocaine injection for pain relief during perineal repair following vaginal delivery.

AIM AND OBJECTIVES

AIM:

To study the Effectiveness of Lidocaine-Prilocaine cream for pain relief during perineal repair following vaginal birth and to compare it with Lidocaine Injection.

OBJECTIVES:

PRIMARY OBJECTIVE

To compare the effects of lidocaine-prilocaine cream and lidocaine injection for pain relief during perineal repair following vaginal birth by VAS score.

SECONDARY OBJECTIVES

1. To study the satisfaction level of patient with lidocaine-prilocaine cream and lidocaine injection use during perineal repair following vaginal birth using Likert scale.
2. To compare the ease of use of lidocaine-prilocaine cream and lidocaine injection during perineal repair following vaginal birth by the Obstetrician using Likert scale.
3. To compare the requirement of extra analgesia in both the groups.
4. To study the side effects of both the drug in the study population.

REVIEW OF LITERATURE

Sir Fielding Ould, a midwife, described episiotomy for the first time in his Treatise of Midwifery in Three Parts in 1742. The operation was advised in situations where labour was dangerously prolonged due to a tight external vaginal opening. (17,18)

Episiotomy rates increased significantly over the world in the early half of twentieth century as it became a common practise during normal delivery, but in 1996, the World Health Organization (WHO) recommended an episiotomy rate of approximately 10 percent. (19)

In 2006 the American College of Obstetricians and Gynecologists (ACOG) made a recommendation against routine use of episiotomy, following which its rate have decreased steadily. Episiotomy still has a great beneficial role when used selectively, based on clinical judgment, to prevent severe maternal lacerations or to facilitate difficult births. (20) To this day, some countries still perform episiotomy routinely.

The frequency of episiotomy varies considerably in different countries (11.6% in the United States or 15.2% in England in 2012 compared with 75% in Cyprus, 67.5% in Poland in 2010, 68% in India in 2008 or 44.9% in Singapore in 2011). (19,21)

In a literature review on Socio-historical evolution of the episiotomy practice conducted by Christophe Clesse et al, there were four major specific periods in the history of episiotomy, each with a different perspective on episiotomy. Episiotomy became widely accepted as the last-resort surgical procedure during the first period (1742–1920). In the second, which lasted from 1920 to1980, preventive measures were established and then widely adopted, making episiotomy a common procedure. The systematic practice of episiotomy internationalised during the third phase (1980–1995), although the prevalence of episiotomies started to decline in Anglo-Saxon nations as a result of evidence-based medicine. Finally, the fourth era (1996–2018) saw a global decline in the use of episiotomies, with the exception of few East Asian nations and other less developed nations for whom data are yet unavailable. (22)

In 2018, the WHO advised against routine or liberal use of episiotomy for individuals undergoing spontaneous vaginal delivery, noted that an "acceptable" rate of

episiotomy was difficult to determine, and that the role of episiotomy in selective cases was to be identified. (22)

1. Vatche A. Minassian et al (2002) did a randomized trial of Lidocaine Ointment Versus Placebo to estimate the efficacy of lidocaine ointment in relieving pain after a vaginal delivery with an episiotomy or perineal laceration. (23) All pregnant patients who had delivered vaginally with either an episiotomy or a perineal laceration were eligible to participate in the study. It was conducted at the University Medical Center hospital affiliated with Texas Tech University Health Sciences Center. The study period extended from January 2000 to February 2002. Patients were randomized to receive either a 20-g jar of 5% lidocaine ointment or a 20-g placebo jar (with the same base, consistency and color). Of total 200 women, 108 received lidocaine and 92 received a placebo. Pain relief was assessed by the amount of ointment used (weight of jar before use and weight of jar after use), total number of pain pills used, and a pain questionnaire. There was no significant difference in the amount of lidocaine versus placebo used for postpartum day 1 (5.1 g versus 4.0 g, respectively [P=0.13]) or day 2 (3.7 g versus 2.6 g, respectively [P=0.18]). Patients receiving lidocaine instead of the placebo showed no significant difference in the total amount of postpartum pain medications (6.3 versus 6.8 tablets, respectively [P=0.53]), subjective pain parameters (P=0.36), or satisfaction from ointment (P=0.99). Patients with an episiotomy used more pain medications than those with a laceration (7.9 versus 5.6 tablets, respectively [P=0.003]). Those with minor versus major lacerations required fewer pain pills (6.1 versus 10.8 tablets, respectively [P= < .001]) and used less ointment (4.3 g versus 7.9 g, respectively [P=0.02]) on the first postpartum day. Topical application of 5% lidocaine ointment was not effective in relieving episiotomy or perineal laceration pain. (23)

2. Massimo Franchi et al (2009) conducted a study to compare the effectiveness of topically applied lidocaine-prilocaine (EMLA) cream with local anaesthetic infiltration in the reduction of pain during perineal suturing after chilbirth. During the study, women in the EMLA group had lower pain scores than those in the mepivacaine group (1.7±2.4 vs 3.9±2.4; P=0.0002). The proportion of women who needed additional anesthesia was similar in the 2 groups (3/30 vs 5/31; P=0 .71). A significantly higher proportion of women expressed satisfaction with anesthesia method in the EMLA group (83.8% vs 53.3%: P = .01). EMLA cream proved to be an

effective and satisfactory alternative to local anesthetic infiltration for the relief of pain during perineal repair. (24)

3. Nirmala Duhan et al (2013) worked to investigate the effect of the topical route of administration of the anaesthetic agent (lidocaine-prilocaine cream- EMLA) in comparison to the conventional perineal infiltration of lignocaine for episiotomy suturing. It was a randomized clinical trial, 100 primigravida women with singleton healthy pregnancies at term were randomly allocated into two groups. 50 women in Group 1 received 10 ml of 1% lignocaine for perineal infiltration at the time of crowning while 50 women in Group 2 had EMLA cream application on the perineum at 8-9 cm of cervical dilatation during labor.

It was concluded that EMLA cream may be less active on the perineal muscular layers than local infiltration of lignocaine due to limited penetration beneath the skin which could account for higher requirement of additional analgesia in group 2 of the study. The cream is a safe, highly satisfactory and easy-to-use agent with comparable efficacy to local lignocaine perineal infiltration for episiotomy repair and is better tolerated on account of reduced needle anxiety and painful injection. (25)

4. Manal Abuelkheir et al (2014) conducted a study to assess the effectiveness of a topical eutectic mixture of local anaesthetics (EMLA cream) in pain reduction associated with vaccination injections. The EMLA group considerably outperformed the placebo group in terms of the difference between pre- and post-vaccination MBPS scores (2.56 ± 1.96 vs 3.95 ± 2.20, respectively). Regular vaccination appointments can successfully include the application of EMLA cream as a routine pain-relieving measure. (26)

5. Hossam M Abdelnaby et al (2015) performed a study comparing the efficacy of lidocaine-prilocaine cream (EMLA cream) versus standard local infiltration anaesthetic mepivacaine in pain relief during mediolateral episiotomy repair. The study included 82 vaginally labouring women who were randomly assigned to one of two groups: Group A (mepivacaine 1% infiltration just before performing the episiotomy) and Group B (no infiltration) (lidocaine-prilocaine cream applied as a thick layer to perineum approximately one hour before the predictable time of childbirth). As determined by the VAS (Visual Analog Scale) of patients and doctors, the mepivacaine group had a statistically significant higher pain score during

episiotomy suture than the EMLA group. The results showed that the EMLA group had greater patient satisfaction than the mepivacaine group. The patients in the mepivacaine group required more intra-operative or post-operative anaesthetic than patients in the EMLA group. Lidocaine-prilocaine (EMLA) cream, in comparison to regular local infiltration anaesthetic mepivacaine, is therefore more efficient at reducing pain during perineal suturing, easier to use, and associated with improved patient satisfaction. (27)

6. Roxana Kargar et al (2016) did a study, aiming to compare the efficacy of EMLA cream and lidocaine injection to reduce pain during episiotomy repair. The mean ± SD of pain during repair of episiotomy on the VAS scale in all cases was 4.2 ± 2.3 cm. Most people (97%) were satisfied with their episiotomy repair.

Comparing the two groups of EMLA and lidocaine, there was no difference between the two groups in terms of the duration of episiotomy repair, need for further analgesia, pain on the VAS scale, and satisfaction with the repair method.

The findings of this study showed that the use of EMLA cream at the site of episiotomy incision in primiparous women can induce a level of analgesia equal to that of lidocaine and results in a similar level of satisfaction. (10)

7. Masoumeh Delaramet al (2016) did a study to compare the effects of lidocaine and mefenamic acid on post-episiotomy on pain relief on sixty women with singleton pregnancy who were given an episiotomy at 38 to 42 weeks of gestation. The Pain intensity was compared from the first complaint by the mother and at 6, 12, and 24 hours after the delivery after which the datas were analyzed.

The conclusion was that the effects of the lidocaine cream and mefenamic acid were similar in terms of the relief of post-episiotomy pain. Lidocaine cream therefore represents a good alternative to mefenamic acid, which is commonly used to reduce pain following an episiotomy, especially in women who are breastfeeding and who wish to avoid oral analgesic drugs being secreted in their milk. (28)

8. Eun Kyung Choi et al (2016) evaluated the efficacy of eutectic mixture of local anaesthetic (EMLA) cream for reducing needle insertion pain during caudal block in paediatric patients. The study concluded that applying EMLA cream to the sacral

hiatus prior to caudal block has a significant benefit in reducing procedure pain during caudal block in children. (29)

9. Tomomi Matsumoto et al (2018) conducted a study is to accurately evaluate the efficacy of EMLA cream for venipuncture pain relief compared with lidocaine tape in the same patients. The results strongly suggested that EMLA cream is more effective for venipuncture pain relief than lidocaine tape. (8)

10. Ahmed M Abbas et al (2018) did a systematic review and metanalysis to assess the evidence of utilizing EMLA cream in comparison to local perineal infiltration anesthesia for pain control during perineal repair after vaginal delivery. Fifteen studies were identified of which four studies deemed eligible for this review. Pain score and use of additional analgesia showed no significant difference between the two groups but regarding patient's satisfaction, three studies showed significant results favoring EMLA cream group users (WMD 4.65; 95% CI (1.96–11.03), p=0.0005). The study also showed that topical lidocaine-prilocaine cream gives comparable results in reducing pain during perineal repair after vaginal delivery. (30)

11. Shaneela Shahid et al (2018) did a meta-analysis to evaluate the efficacy and safety of EMLA cream for pain control due to venipuncture in Infants. EMLA cream was compared with non-pharmacological therapies in terms of pain relief, change in physiologic variables, and methemoglobinemia. Ten randomized controlled trials (907 infants) were included. EMLA revealed little or no effect in reduction of pain (standardized mean difference: 0.14; 95% confidence interval [CI]: −0.17 to 0.45; 6 trials, n=742; moderate-quality evidence) when compared with sucrose, breastfeeding, or placebo. EMLA shows negligible benefits in terms of pain reduction in venipuncture procedures when compared to placebo and no advantage as compared to sucrose and/or breastfeeding. (31)

12. Lijuan Yin et al (2018) performed a double-blinded study on 361 cancer patients with totally implantable venous access devices. They were randomly divided into three groups: Group 1—placebo, Group 2—30 minutes after application of EMLA, and group 3—60 minutes after application of EMLA. By comparing the level of discomfort felt by the patient as measured on a numeric rating scale both during and

after needle insertion, the effectiveness of EMLA cream was compared with a placebo cream. The study came to the conclusion that the use of EMLA cream for 30 minutes during needle insertion in cancer patients implanted with venous access devices is appropriate, acceptable, and practical. (32)

13. Zahra Moradi et al (2019) in a study aimed to compare the effects of lidocaine-prilocaine cream (XYLA cream) and lidocaine injection on the reduction of pain while doing and repairing episiotomy conducted a clinical trial on 98 pregnant women with the gestational age of > 37 weeks. It was concluded that XYLA cream had no specific complications and had an effect similar to lidocaine injection while doing the episiotomy. (7)

14. Amy Cruickshank et al (2019) in retrospective observational study aimed to compare the efficacy of EMLA cream to 1% lidocaine injection for LPs (Lumbar Puncture) in addition to fentanyl and propofol for LPs over 18 months. (34) The study examined 290 LPs in 49 children, 148 in the EMLA group and 142 in the lidocaine group. When compared to the lidocaine group, LPs in the EMLA group were completed in less time (7.5 minutes [CI7.0-8.1] vs 9.4 minutes [CI8.9-9.9]) with a faster recovery time (38.7 minutes [CI36.9-40.9] vs 43.9 minutes [CI 41.9-45.9]). Thus the inclusion of EMLA cream for procedural sedation for LPs in paediatric cancer patients considerably improves pain management. (33)

15. Kirti Chaudhry et al (2020) did a study to compare the efficacy of topical 2.5% EMLA application versus 2% lignocaine with adrenaline 1:80,000 infiltration in patients requiring small (maximum 1 cm in size) incisional or excisional biopsies. An open-label randomised comparative parallel group design with a 1:1 allocation ratio was used to conduct the study. The use of EMLA was found to be equally as effective as lignocaine infiltration and greater patient satisfaction for overall procedure comfort. The study recommended using EMLA, as the sole anaesthetic for small mucosal biopsies and shavings. (34)

16. Logan K. Williams et al (2020) conducted a randomized controlled trial to Compare Lidocaine–Prilocaine Cream against Lidocaine injection for Vulvar Biopsy. A 100 mm visual analogue scale was used to measure pain at three different time points: baseline, after anaesthesia was administered, and after the biopsy. The lidocaine-prilocaine group had a median highest pain score of 20.0 mm compared to

56.5 mm in the lidocaine injection group. In comparison to the lidocaine injection arm, the highest pain score in the lidocaine-prilocaine arm was 25.7 mm lower (95% CI [245.1 to 26.3]; P<0.01). Patients who received lidocaine-prilocaine had a considerably better experience than those who received injections of lidocaine injections (median experience score 2.0 mm vs. 17.0 mm; P=0.02). The study came to the conclusion that lidocaine-prilocaine cream before vulvar biopsy has a lower maximum pain score and considerably better patient ratings in terms of biopsy experience. Thus, it is reasonable to use lidocaine-prilocaine cream alone for vulvar biopsy. (35)

MATERIALS AND METHODS

Study Setting: The study was conducted in the Department of Obstetrics and Gynaecology AIIMS, Jodhpur after ethical committee approval.

Study Design: Randomized Clinical Trial.

Study Participants: All antenatal females with singleton term pregnancy presenting to the labor room for vaginal delivery.

Study Period: October 2021 – October 2022.

This study was undertaken after obtaining ethical clearance from the Institute's Ethics committee vide letter no. AIIMS/IEC/2021/3445. The study was registered under the Clinical Trial Registry of India vide number CTRI/2021/09/036668. Patients were enrolled after registering in the Clinical Trial Registry.

Inclusion criteria

All antenatal females presenting to the labor room for vaginal delivery and:

1. Period of gestational age > 37 weeks
2. Singleton pregnancy
3. Cephalic presentation

Exclusion criteria

1. Patients opting for epidural analgesia
2. Cervical tears
3. Any contraindications to use of any of these drugs
4. Known skin allergies
5. Patient refusal
6. Planned C-section

Sample size

Sample size formula for comparison of two independent means:

$$n = \frac{[Z_{(1-\alpha/2)} + Z_{(1-\beta)}]^2 \, 2\,Sp^2}{d^2}$$

Where, $Z_{(1-\alpha/2)}$ = Standard normal deviation

= 1.96 at 5% level of significance

$Z_{(1-\beta)}$ = Standard normal deviation

= 0.842 at 20% type II error or 80% power

$Sp = \frac{S_1 + S_2}{2}$ = Average standard deviation of the two samples

D = Mean Difference

Considering the Standard Deviation as 2.4 from the study of Franchi M et al in Italy, and assuming mean difference as 1, sample size comes out to be 121. So, we aimed to recruit 121 each in both the groups.

All subjects fulfilling the above-mentioned criteria and willing to participate were enrolled in the study. Patients were counseled and written informed consent was taken.

They were distributed into the two groups as per the randomization:

Intervention group = Lidocaine-prilocaine cream

Control group = lignocaine infiltration

Timing of Randomization: Randomization was done in advanced labor, when the patient was at 8-9 cm cervical dilatation.

Method of randomization:

Block randomization method in blocks of 10 was followed.

Computer-generated random sequences were generated by online software ***(https://www.sealedenvelope.com/simple-randomiser/v1/lists)*** by an individual not involved in enrolment, treatment and follow-up of the study.

Allocation Concealment:

Random sequences were used to make identical, opaque, sealed envelopes in a serial order.

Every time, the eligible patient gave consent for the study, one closed envelope from that particular block was picked by a person not involved in the study just before the procedure. It was handed over to the investigator. According to the code written in the letter, the patient was allocated in intervention group or control group. Episiotomy and second degree tears were included. First degree, third degree and complete perineal tear were not included.

Methodology:

All subjects fulfilling the above mentioned criteria and willing to participate were approached for enrolment into the study. Subjects were counselled and written informed consent was taken from patients in labor room planned for vaginal delivery. Their basic demographic information such as age, qualification, gestatrional age, parity, onset of labour were recorded in patient case record form.

Procedure:

Intervention group:

In intervention group, one hour before the estimated delivery time, i.e. at around 8-9 cm cervical dilatation, 5g of lidocaine-prilocaine cream was applied to the right mediolateral incision site over the perineum and covered by a patch. Right mediolateral episiotomy was given at the time of crowning after assessment for the requirement of episiotomy. Since sodium hydroxide which is a component of the cream may irritate the baby's eyes, to avoid coming into contact with the head of the newborn, the remaining of the cream was cleared just before delivery. After delivery

of the foetus and placenta, 5g of lidocaine-prilocaine cream was applied to the healthy skin surrounding the episiotomy site and repair was performed after 10 minutes. To prevent cream from being washed out by blood, vaginal packing was done. If additional analgesia was required, it was documented and administered in the form of a 5cc injection of 2% lidocaine.

Figure 1: Lidocaine prilocaine cream

Figure 2 : Lidocaine-prilocaine cream applied at 8-9 cm dilatation

Control group:

In control group, patients were administered 5cc of 2% lidocaine in the form of injection, 2–5 minutes prior to the procedure at the site of right mediolateral episiotomy incision. Episiotomy was given in the routine manner. Following the delivery of the foetus and placenta, 5cc of 2% lidocaine was injected into the line of the episiotomy incision, and the repair was then carried out after 10 minutes. If further analgesia was required, it was recorded and given in the form of a 5cc injection of 2% lidocaine.

Figure 3: 2 % Lignocaine

Before leaving the delivery room (about two hours after delivery), delivery characteristics of the patient (the duration of the first, second and third stages of labor and type of placental delivery) and those of the newborn (including birth weight, head circumference and Apgar score) was recorded. The duration of repair of episiotomy was noted and the patients were asked to rate their pain during perineal repair on a 10 cm horizontal linear Visual Analogue Scale (VAS) in which zero indicates no pain and 10 indicates maximum pain.

The rate of patient's satisfaction with repair method was determined using a Likert scale question with five options (very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, very dissatisfied).

The ease of use of analgesic agent was rated by the Obstetrician using Likert scale (very easy, easy, neither easy nor difficult, difficult, very difficult).

The side effects of the drug was also observed for initial 3 days following delivery.

The planned workflow

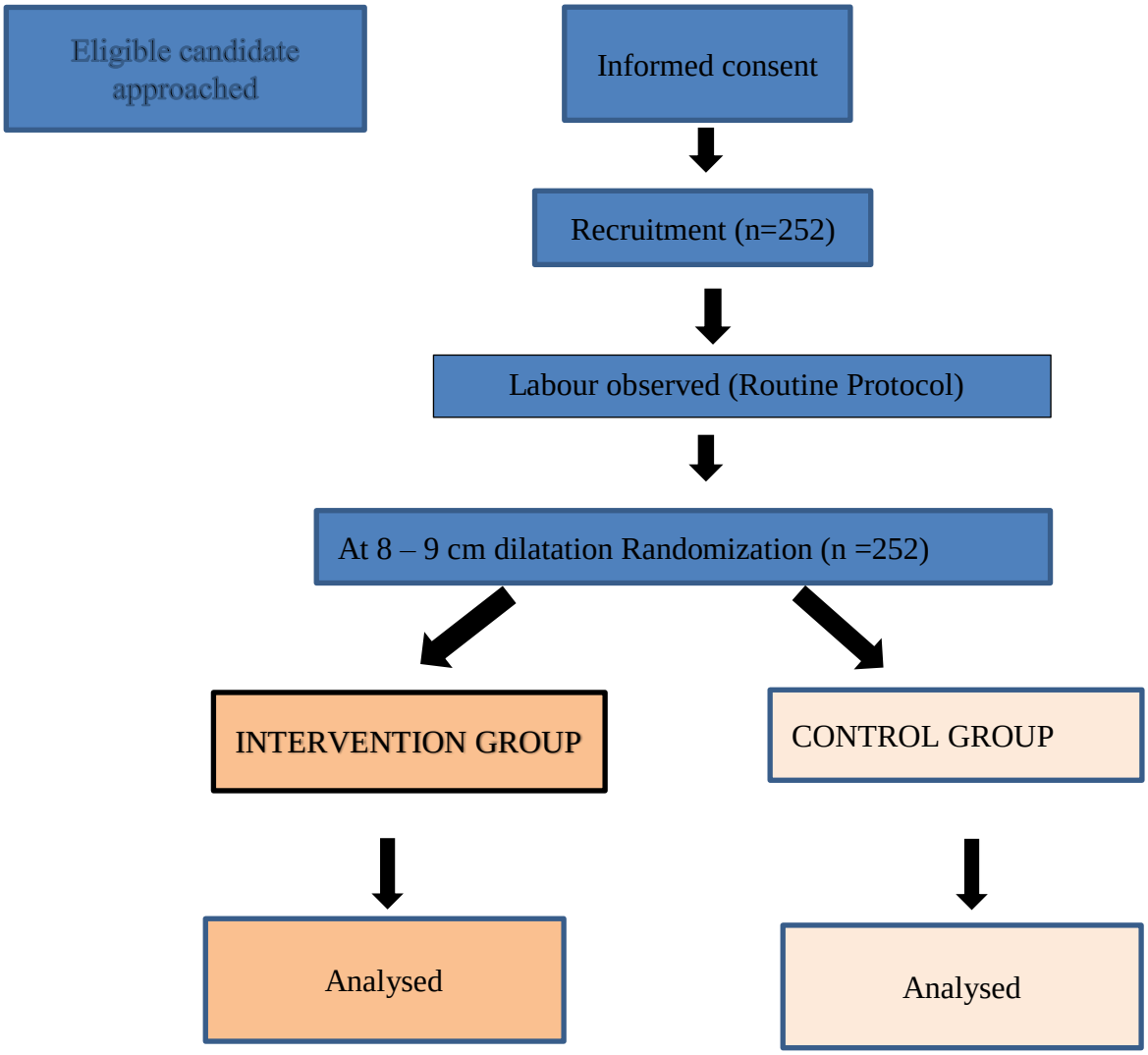

Figure 4: Workflow Diagram

Statistical Analysis

The data collected during the study was compiled using a Microsoft Excel spread sheet and analyzed statistically using the statistical package for the MedCalc statistical Software version 20.115 for window editions. Qualitative data were presented as number, percentage and Quantitative data were presented as mean±SD and median. Comparison between groups was done by $\chi 2$-test, unpaired t test and Mann whitney test. p value less than 0.05 was considered to be statistically significant.

OBSERVATIONS AND RESULTS

Two sixty women were screened for eligibility. Two fifty two patients participated in the trial, ten subjects were dropout from the study results. Out of 242, 121 (50%) women were randomized to lidocaine-prilocaine cream (intervention group), whereas 121 (50%) were randomized to lidocaine injection (Control group).

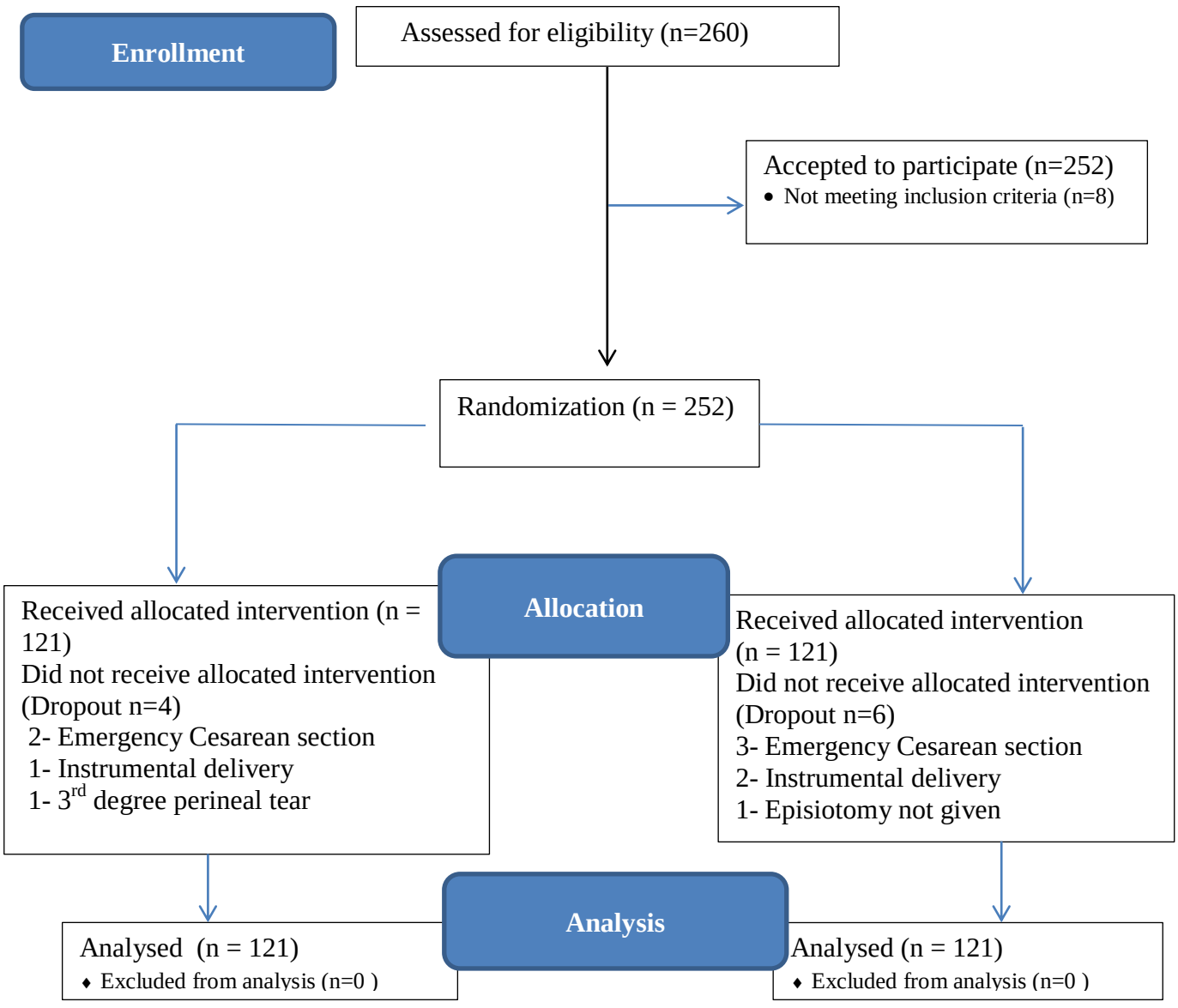

Figure 5: Consort Flow Chart

1. Demographic Variables

Intervention group consist of lidocaine-prilocaine cream and control group consist of lidocaine injection group.

1.1 **Age Distribution**

In both the groups majority of women were in the age group between 20 – 30 years, 98 (80.99%) in intervention group and 97 (80.17 %) in control group. There was no statistically significant difference between the two groups. (p=0.557)

TABLE 1: Comparison of Age by categories between the two study groups

Age (Years)	Intervention group		Control group		Total		p value
	N	%	N	%	N	%	
< 20	8	6.61	5	4.13	13	5.37	0.392
20 – 30	98	80.99	97	80.17	195	80.58	0.870
> 30	15	12.40	19	15.70	34	14.05	0.459
Total	121	100.00	121	100.00	242	100.00	-

Chi square 1.168, p value 0.557 (NS)

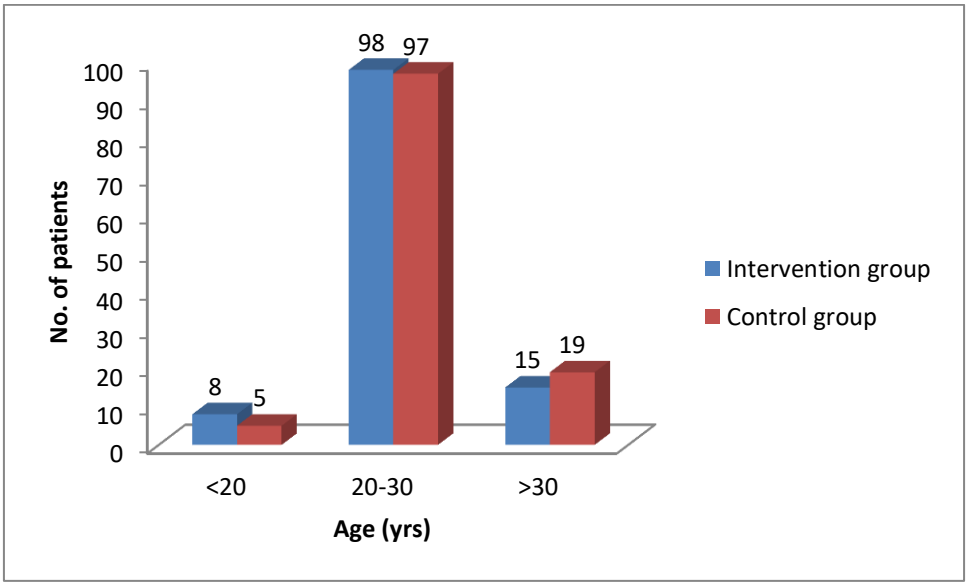

Figure 6: Comparison of Age by categories between the two study groups

Mean age in intervention group was 25.33±3.95 and in control group mean age was 25.48±3.99 years.

TABLE 2: Comparison of mean age between the two study groups

Variables	Intervention group (Mean±SD)	Control group (Mean±SD)	p value
Age (years)	25.33±3.95	25.48±3.99	0.771

1.2 Residential Status

As seen in Table 3 and figure 7, the majority of the subjects were from the urban background; 107 (88.43%) in intervention group and 113 (93.39%) in control group. This distribution was comparable in both the groups, however, not statistically significant (p=0.179).

TABLE 3: Distribution of study groups by Residential status

Residence	Intervention group		Control group		Total	
	N	%	N	%	N	%
Rural	14	11.57	8	6.61	22	9.09
Urban	107	88.43	113	93.39	220	90.91
Total	121	100.00	121	100.00	242	100.00

Chi square 1.800, p value 0.179 (NS)

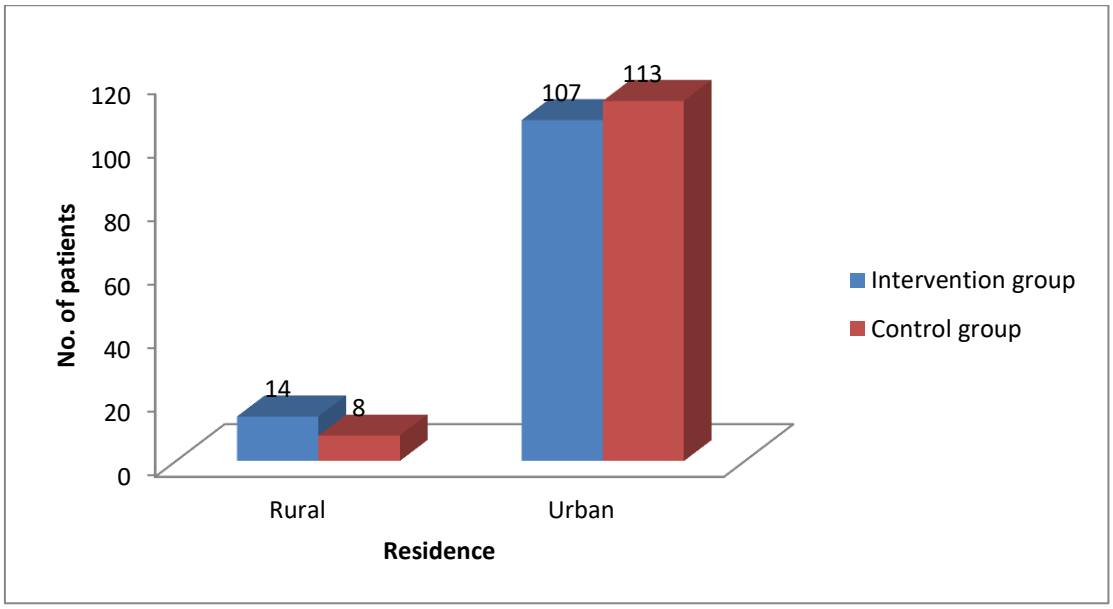

Figure 7: Distribution of study groups by Residence

1.3 Qualification

Table 4 and figure 8 show that the majority of the participants were graduates; 50 (41.32%) in both intervention group and control group. This difference is not statistically significant (p=0.716).

TABLE 4: Distribution of study groups by Qualification

Qualification	Intervention group		Control group		Total	
	N	%	N	%	N	%
Illiterate	2	1.65	3	2.48	5	2.07
Primary	1	0.83	0	0.00	1	0.41
Middle	6	4.96	11	9.09	17	7.02
Secondary	15	12.40	15	12.40	30	12.40
Senior secondary	17	14.05	19	15.70	36	14.88
Graduate	50	41.32	50	41.32	100	41.32
Postgraduate	30	24.79	23	19.01	53	21.90
Total	121	100.00	121	100.00	242	100.00

Chi square 3.706, p- value 0.716 (NS)

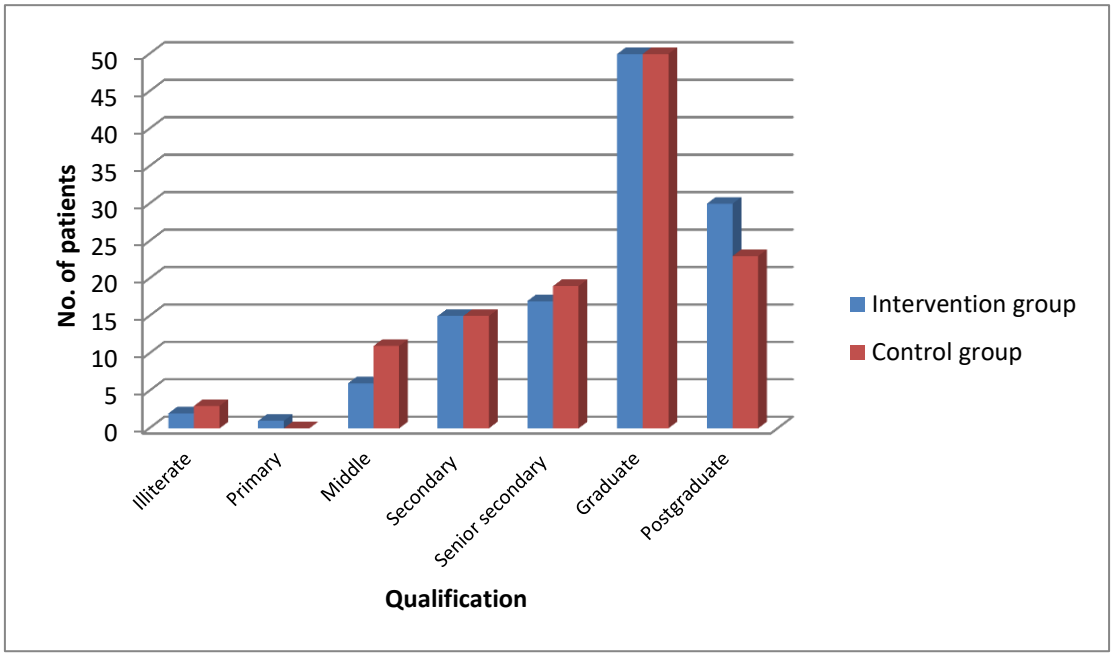

Figure 8: Distribution of study groups by Qualification

1.4 Parity

As seen in Table 5 and figure 9, 70.25% of the participants in intervention group were primigravida (i.e., n=85) and 66.94% in control group (i.e., n=81). This distribution was comparable in both the groups, however, not statistically significant (p=0.579).

TABLE 5: Distribution of study groups by Parity

Gravida	Intervention group		Control group		Total	
	N	%	N	%	N	%
Primigravida	85	70.25	81	66.94	166	68.60
Multigravida	36	29.75	40	33.06	76	31.40
Total	121	100.00	121	100.00	242	100.00

Chi square 0.306, p value 0.579 (NS)

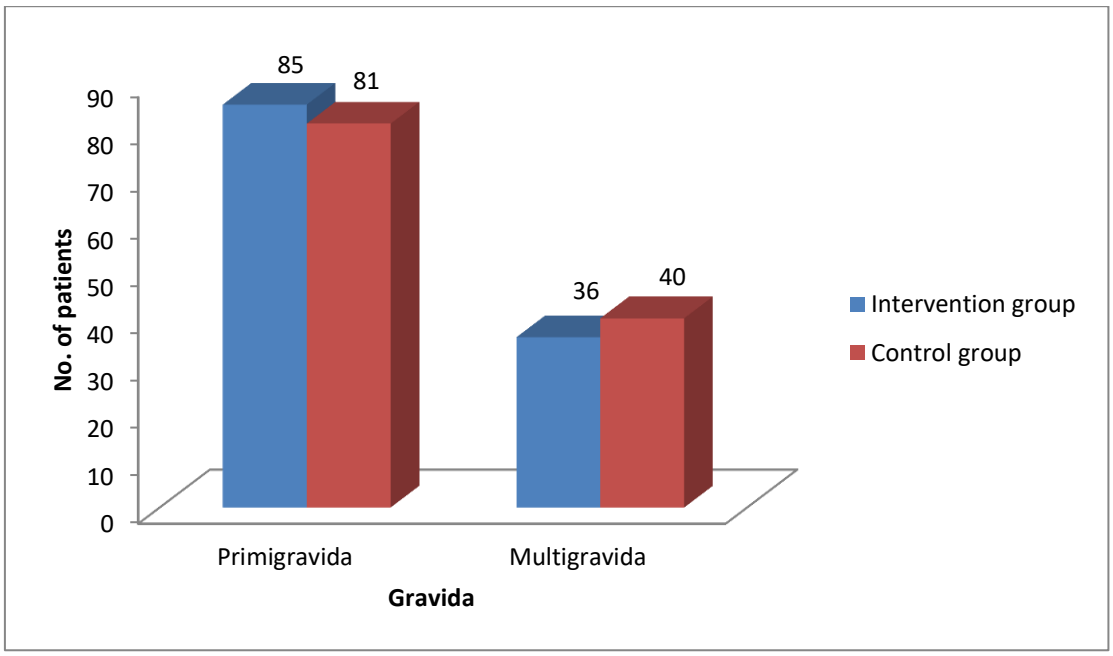

Figure 9: Distribution of study groups by Parity

1.5 Gestational age

In our study in intervention group mean age was 38.81±1.06 and in control group mean was 38.82±1.00 with a p value of 0.940 which is statistically non-significant

TABLE 6: Distribution of study groups by mean Gestational age

Study group	POG (weeks)		p value
	Mean	SD	
Intervention group	38.81	1.06	0.940
Control group	38.82	1.00	

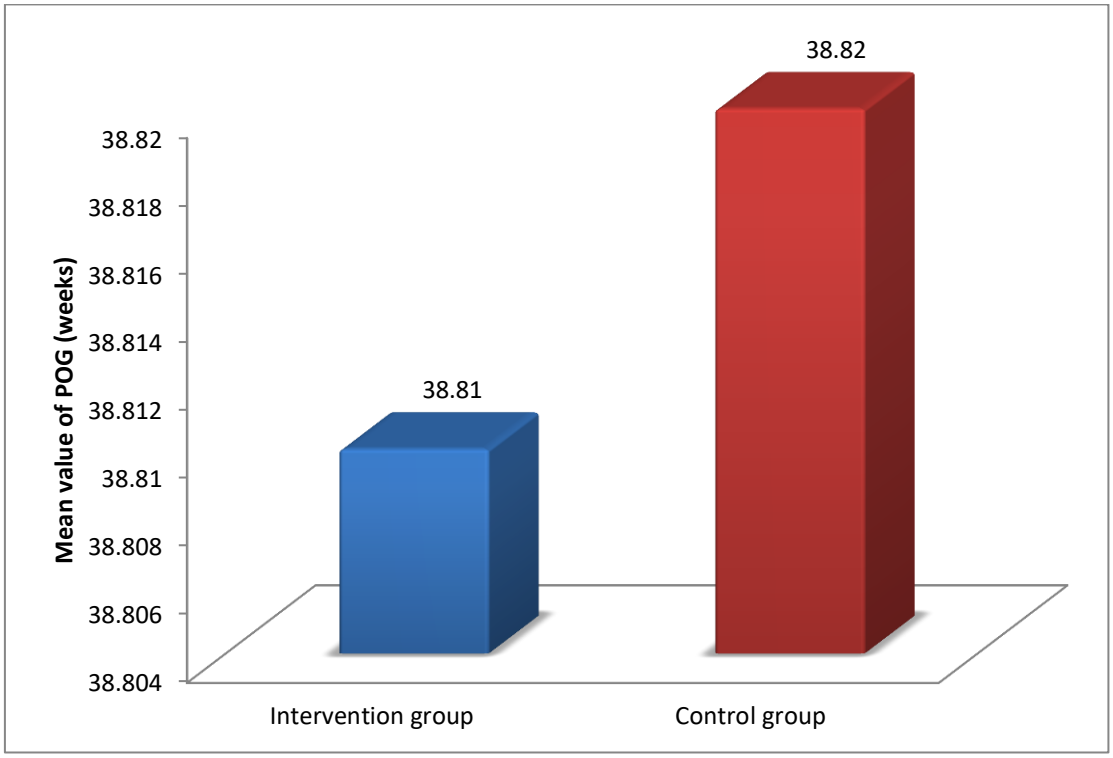

Figure 10: Distribution of study groups by mean Gestational age

1.6 Onset of labor

TABLE 7: Distribution of study groups by Onset of labor

Out of 242 patients, 149 had spontaneous labor with 71 (58.68%) in intervention group and 78 (64.46 %) in control group. Both the groups were comparable in terms of onset of labor (p=0.354).

Onset of labor	Intervention group		Control group		Total	
	N	%	N	%	N	%
Spontaneous	71	58.68	78	64.46	149	61.57
Induced	50	41.32	43	35.54	93	38.43
Total	121	100.00	121	100.00	242	100.00

Chi square 0.855, p value 0.354 (NS)

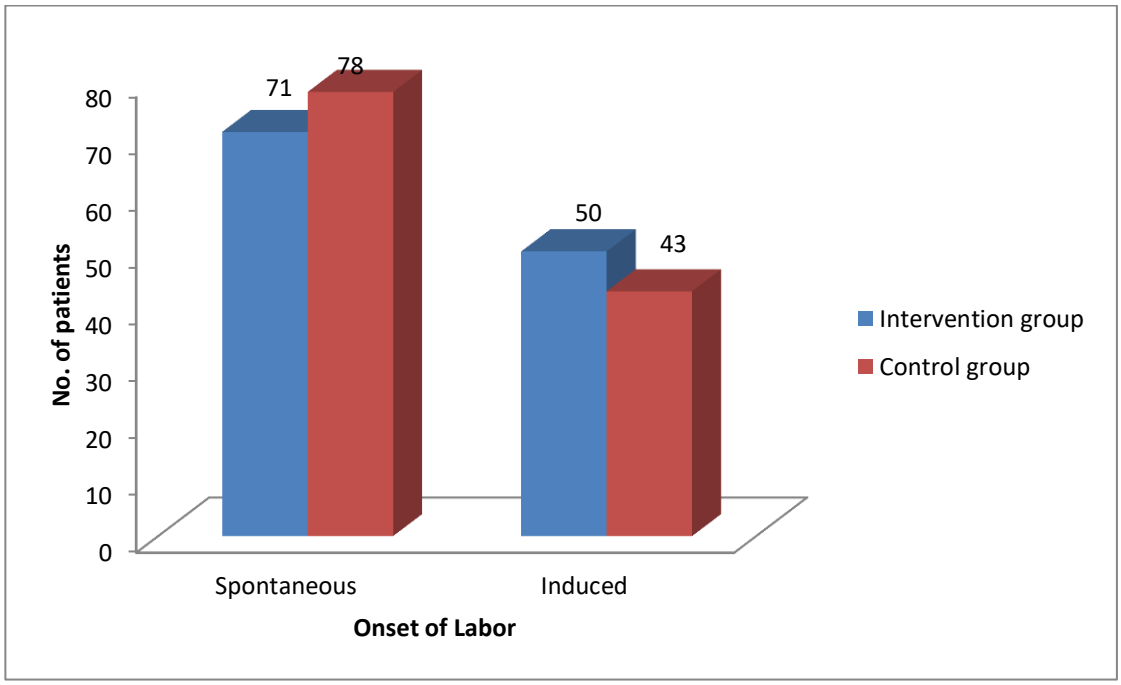

Figure 11: Distribution of study groups by Onset of labor

1.7 Gender

As shown in Table 8 and Figure 12, there were more baby girls in both the groups, intervention group 66 (54.55%) and control group 61 (50.41%). However, no statistical significant difference was seen. (p =0.519)

TABLE 8: Distribution of study groups on the basis of Gender of baby

Baby gender	Intervention group		Control group		Total	
	N	%	N	%	N	%
Boy	55	45.45	60	49.59	115	47.52
Girl	66	54.55	61	50.41	127	52.48
Total	121	100.00	121	100.00	242	100.00

Chi square 0.414, p value 0.519 (NS)

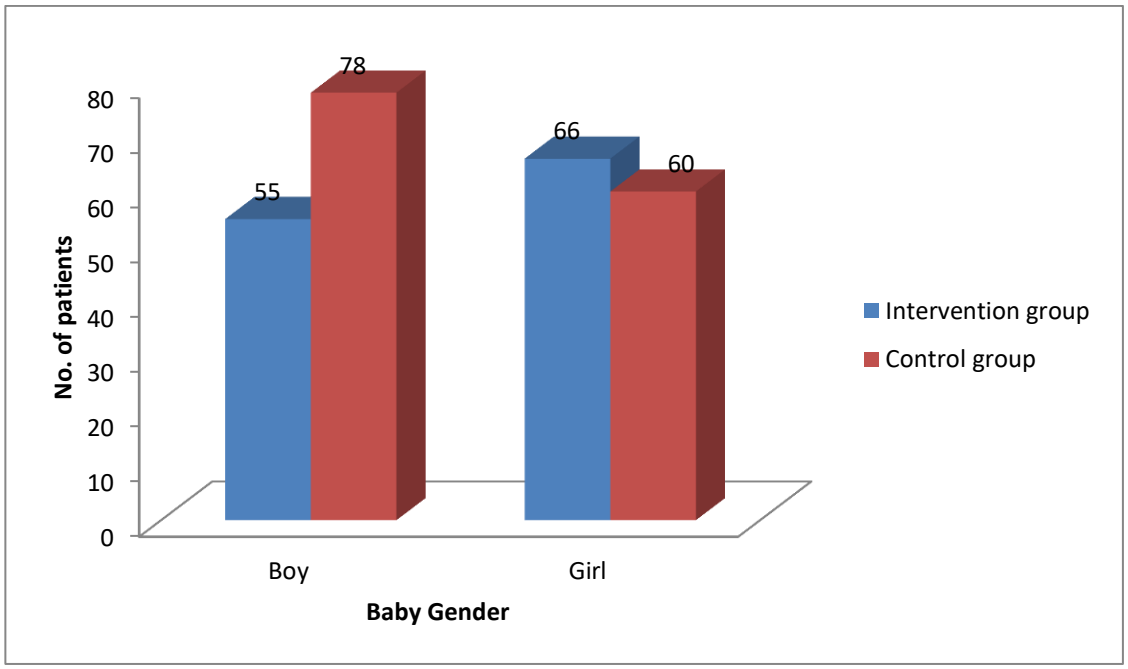

Figure 12: Distribution of study groups on the basis of Gender of baby

1.8 Birth weight

As shown in Table 9 and Figure 13, 198 babies were in the birth weight between 2500 and 3500 g, (81.82 %) in intervention group and 99 (81.82%) in control group. However, no statistical significant difference was seen. (p=0.519).

TABLE 9: Distribution of study groups on the basis of Birth weight of neonate

Birth weight (grams)	Intervention group		Control group		Total	
	N	%	N	%	N	%
<2500	5	4.13	10	8.26	15	6.20
2500 – 3500	99	81.82	99	81.82	198	81.82
>3500	17	14.05	12	9.92	29	11.98
Total	121	100.00	121	100.00	242	100.00

Chi square 2.529, p value 0.282 (NS)

Mean birth weight in intervention group was 3024.91±473.46 grams while in control group was 2965.99±392.69 grams with a p value of 0.293.

TABLE 10: Mean birth weight in both the study groups

Variables	Intervention group (Mean±SD)	Control group (Mean±SD)	p value
Birth weight (grams)	3024.91±473.46	2965.99±392.69	0.293

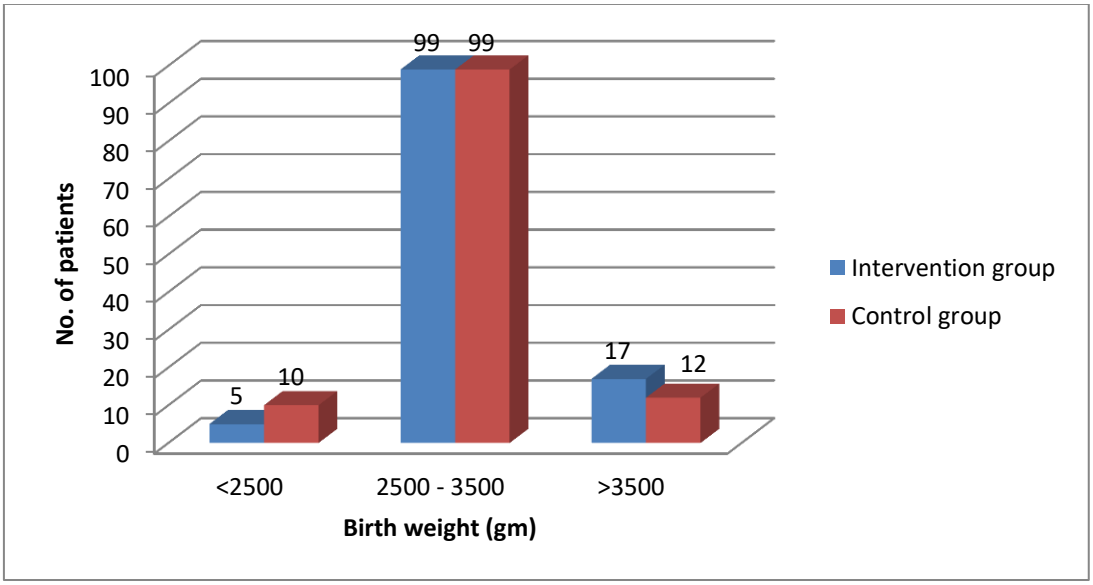

Figure 13: Distribution of study groups by Birth weight of neonate

1.9 Head Circumference

Mean head circumference in intervention group was 34.01±1.27 while in control group it was 33.95±1.35 with a p value of 0.697 which was not significant.

TABLE 11: Mean Head circumference in the study groups

Variables	**Intervention group (Mean±SD)**	**Control group (Mean±SD)**	p-value
Head circumference	34.01±1.27	33.95±1.35	0.697

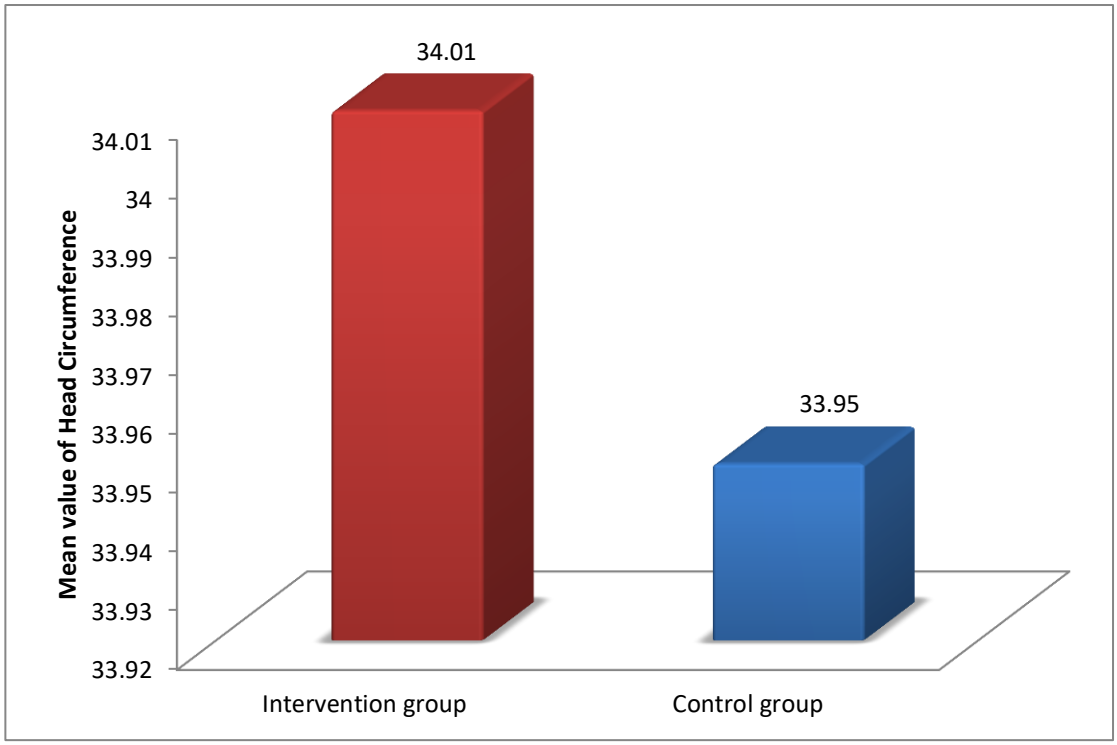

Figure 14: Distribution of study groups by mean Head circumference

1.10 Composite Baseline characteristics of subjects in the lidocaine-prilocaine cream and lidocaine infiltration.

As shown in Table 12, there was no statistically significant differences between the groups in terms of maternal age, residential status, level of education, gestational age, parity and onset of labor. Both the groups were comparable.

Table 12: Baseline characteristics of subjects in the lignocaine-prilocaine cream and lidocaine infiltration.

Baseline Characteristics	Intervention group (Lidocaine - prilocaine cream)	Control group (Lidocaine infiltration)	Significance
Age (years)			
< 20	8 (6.61)	5 (4.13)	*χ2 = 1.168*
20 – 30	98 (80.99)	97 (80.17)	p= *0.557* ^{NS}
> 30	15 (12.40)	19 (15.70)	
Mean age ± SD	25.33+3.95	25.48+3.99	p= *0.771* ^{NS}
Residential status			
Rural	14 (11.57)	8 (6.61) 113(93.39)	*χ2 = 1.800,*
Urban	107 (88.43)		p=*0.179* ^{NS}
Qualification			
Illiterate	2 (1.65)	3 (2.48)	
Primary	1 (0.83)	0 (0.00)	
Middle school	6 (4.96)	11 (9.09)	
Secondary	15 (12.40)	15 (12.4)	*χ2 =3.706,*
Senior Secondary	17 (14.05)	19 (15.7)	p=*0.716* ^{NS}
Graduate	50 (41.32)	50 (41.32)	
Post graduate	30 (24.79)	23 (19.01)	
Gestational age			
Mean±SD	38.81 ±1.06	38.82 ± 1	p=0.940 ^{NS}
Parity			
Primigravida	85 (70.25)	81 (66.94)	*χ2 =0.306,*
Multigravida	36 (29.75)	40 (33.06)	p=*0.579* ^{NS}
Onset of labor			
Spontaneous	71 (58.68)	78 (64.46)	*χ2 =0.855,*
Induced	50 (41.32)	43 (35.54)	p=*0.354* ^{NS}

2. Duration of repair of episiotomy

As shown in table 13 and Figure 15, 163 obstetricians repaired episiotomy within 20 – 30 minutes, 79 (65.29 %) in intervention group and 84 (69.42%) in control group. However, no statistical significant difference was seen. (p=0.142)

TABLE 13: Distribution of study groups by duration of repair of episiotomy

Duration of repair of episiotomy (minutes)	Intervention group		Control group		Total		p value
	N	%	N	%	N	%	
< 20	14	11.57	20	16.53	34	14.05	0.267
20 - 30	79	65.29	84	69.42	163	67.36	0.493
> 30	28	23.14	17	14.05	45	18.60	0.069
Total	121	100.00	121	100.00	242	100.00	-

Chi square 3.901, p value 0.142 (NS)

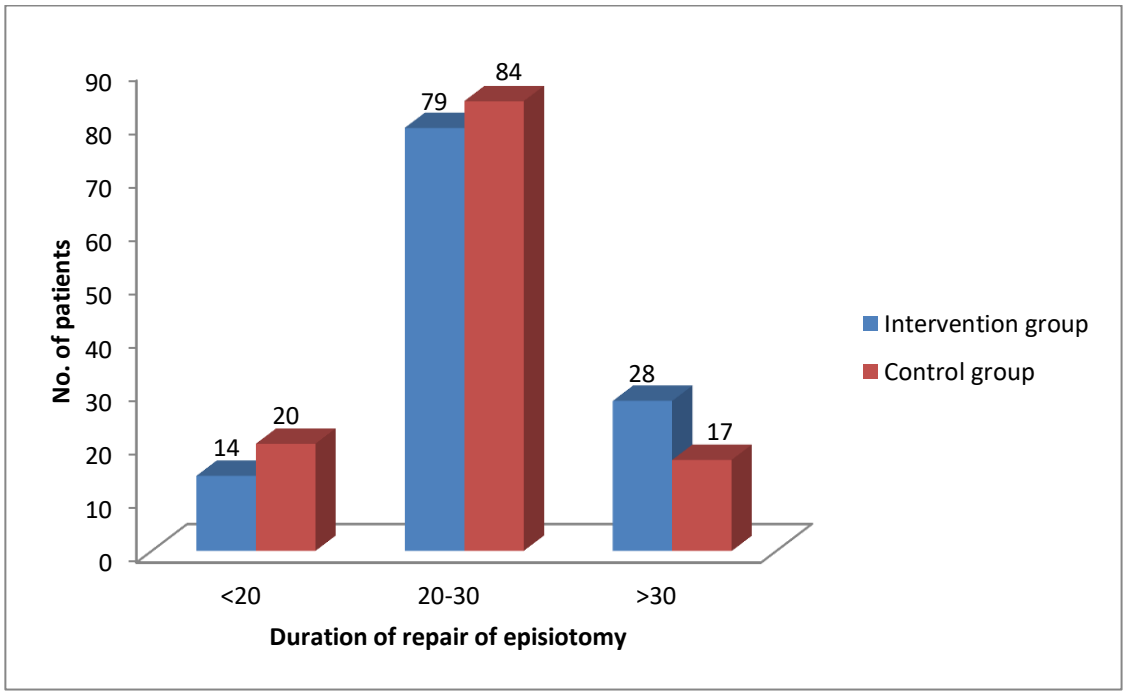

Figure 15: Distribution of study groups by duration of repair of episiotomy

In intervention group, mean duration of repair of episiotomy is 26.03±6.27 whereas in control group it is 24.73±6.28.

TABLE 14: Mean duration of repair of episiotomy in the study groups

Variables	Intervention group (Mean±SD)	Control group (Mean±SD)	p value
Duration of repair of episiotomy (minutes)	26.03±6.27	24.73±6.28	0.110

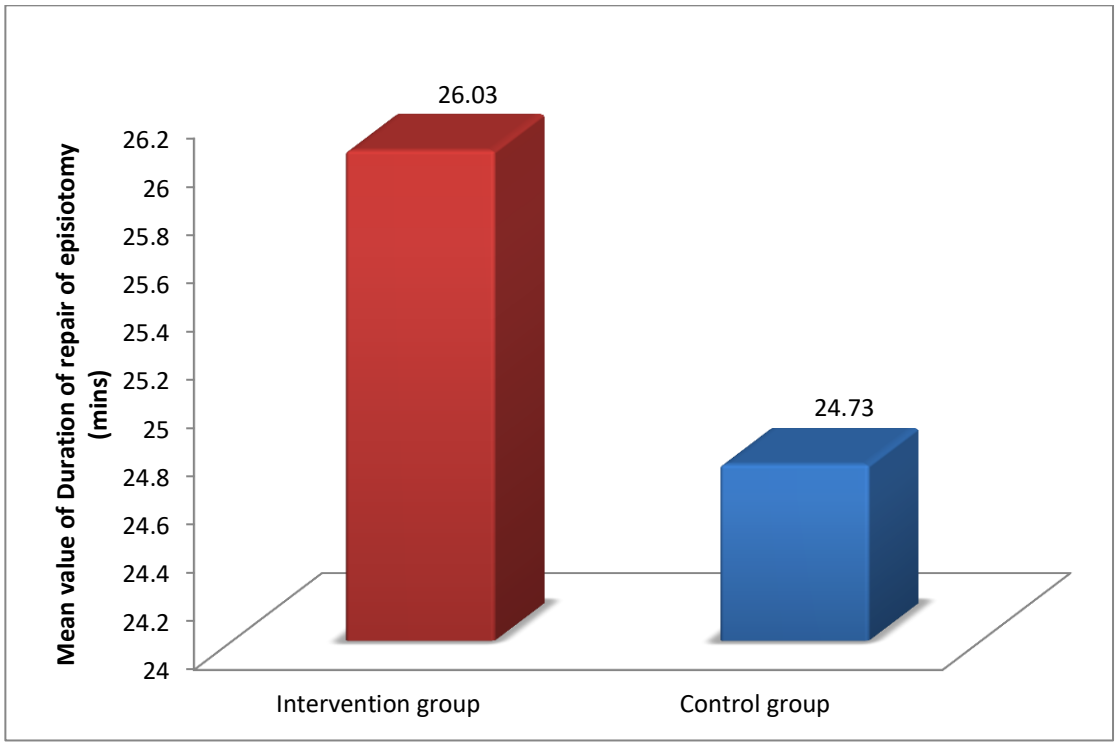

Figure 16: Distribution of study groups by mean duration of repair of episiotomy

Primary Outcome-

3. Pain score on Visual Analogue Scale (VAS)

In our study, 4 (3.31%) subjects had VAS score ≤ 3 in intervention group while control group had 19 (15.70%) subjects with VAS score ≤ 3 giving a p value of 0.001 which is statistically significant. Intervention group 1 had 65 (53.72%) while control group had 98 (40.50%) with VAS score ≥ 7 giving a p value of <0.0001 which is statistically significant.

TABLE 15: Pain score on Visual Analogue Scale (VAS)

Pain during repair of episiotomy	Intervention Group		Control Group		Total		p value
	N	%	N	%	N	%	
≤ 3 (mild)	4	3.31	19	15.70	23	9.50	**0.001**
4 – 6 (moderate)	52	42.98	69	57.02	121	50.00	0.695
≥ 7 (severe)	65	53.72	33	27.27	98	40.50	**<0.0001**
Total	121	100.00	121	100.00	242	100.00	-

Chi square 22.62, p value <0.0001 (S)

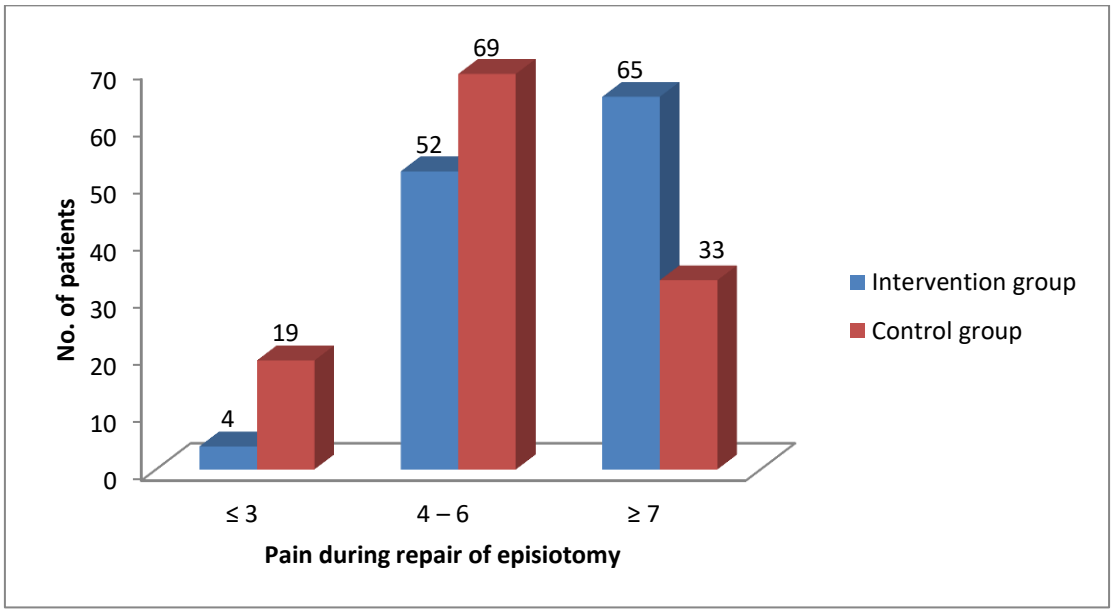

Figure 17: Distribution of study groups by pain score on VAS during repair of episiotomy

In intervention group, mean VAS score is 6.50 ± 1.49 whereas in control group it is 5.25±1.73 with a p-value <0.0001 which is statistically significant.

TABLE 16: Mean VAS score in the study groups

Variables	Intervention group (Mean±SD)	Control group (Mean±SD)	p value
Pain during repair of episiotomy (VAS)	6.50±1.49	5.25±1.73	**<0.0001**

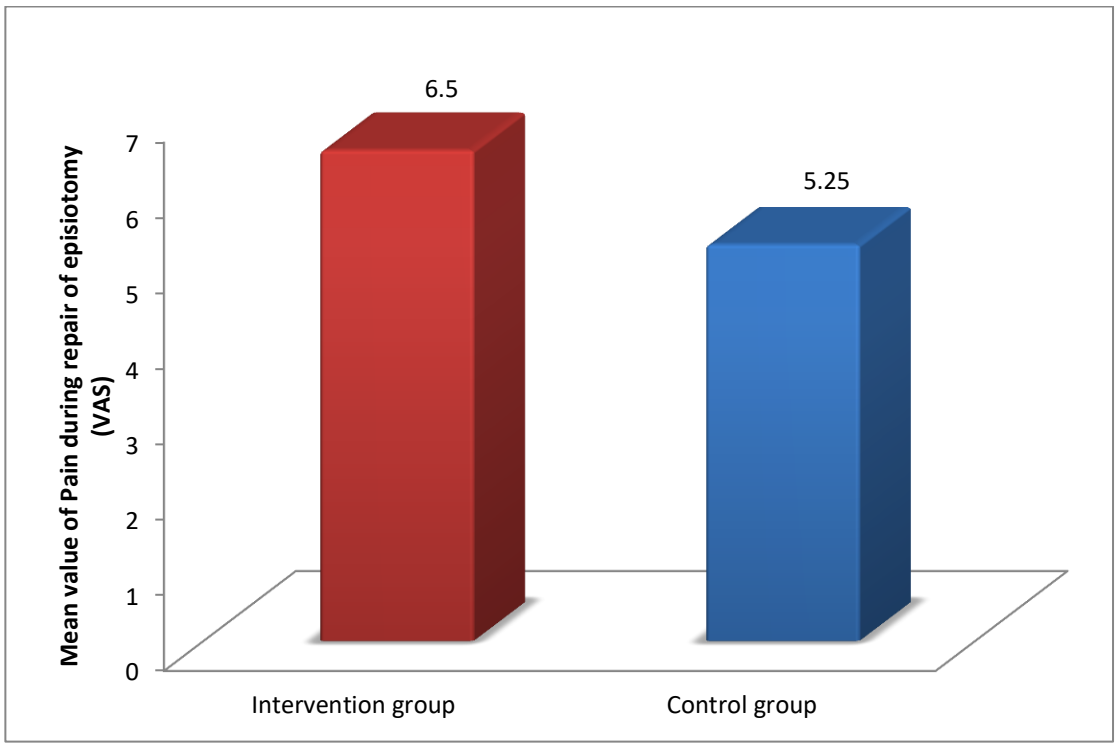

Figure 18: Distribution of study groups by mean pain score on VAS during repair of episiotomy

4. Patient's satisfaction with L-P cream or lidocaine injection use (Likert scale)

As shown in Table 17 and Figure 19, most of the participants were partially to fully satisfied, 110 (90.91 %) in intervention group and 109 (90.08 %) in control group, with p-value of 0.050 which is non-significant.

TABLE 17: Patient's satisfaction with L-P cream or lidocaine injection use (Likert scale)

Satisfaction with L-P cream or lidocaine injection use (Likert scale)	Intervention group		Control group		Total	
	N	%	N	%	N	%
Very dissatisfied	1	0.83	0	0.00	1	0.41
Dissatisfied	3	2.48	3	2.48	6	2.48
Neither satisfied nor dissatisfied	7	5.79	9	7.44	16	6.61
Satisfied	101	83.47	85	70.25	186	76.86
Very satisfied	9	7.44	24	19.83	33	13.64
Total	121	100.00	121	100.00	242	100.00

Chi square 9.445, p value 0.050 (NS)

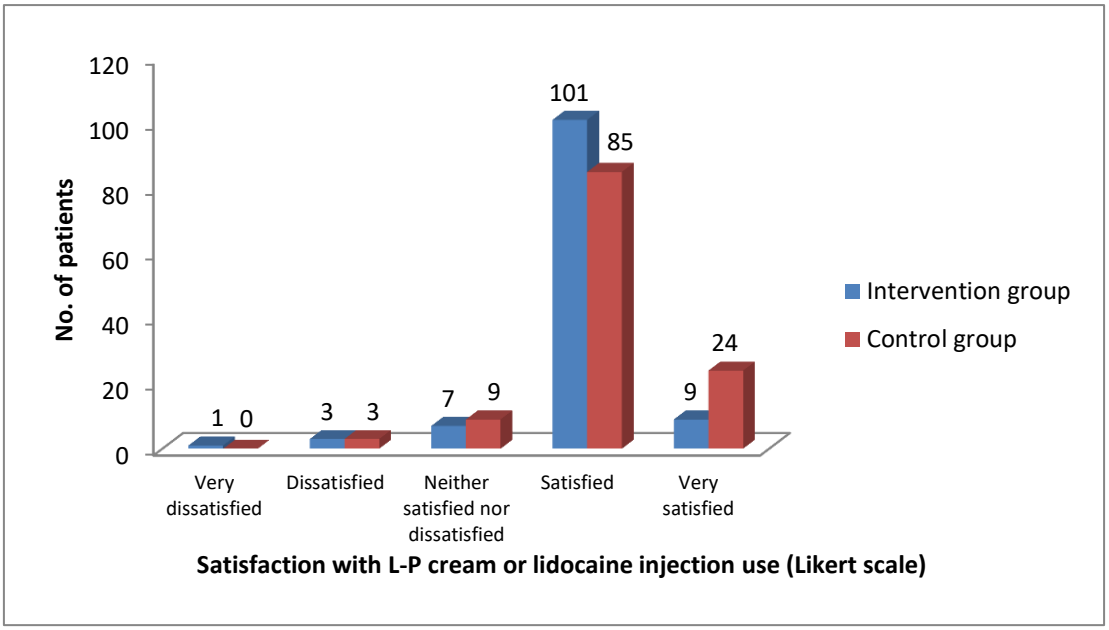

Figure 19: Patient's satisfaction with L-P cream or lidocaine injection use

5. Ease of use of lidocaine-prilocaine cream and lidocaine injection

Use of lidocaine-prilocaine cream was described as easy and very easy by 73 (60.32%) obstetrician while use of lidocaine injection was described as easy to very easy by 32 (26.44%) obstetricians, with a p value <0.0001 which is statistically significant.

TABLE 18: Ease of use of lidocaine-prilocaine cream and lidocaine injection

Ease of use Likert Scale	lidocaine-prilocaine cream		lidocaine injection		Total	
	N	%	N	%	N	%
Very easy	13	10.74	7	5.79	20	8.26
Easy	60	49.59	25	20.66	85	35.12
Neither easy nor difficult	42	34.71	74	61.16	116	47.93
Difficult	6	4.96	10	8.26	16	6.61
Very difficult	0	0.00	5	4.13	5	2.07
Total	121	100.00	121	100.00	242	100.00

Chi square 31.03, p value <0.0001 (S)

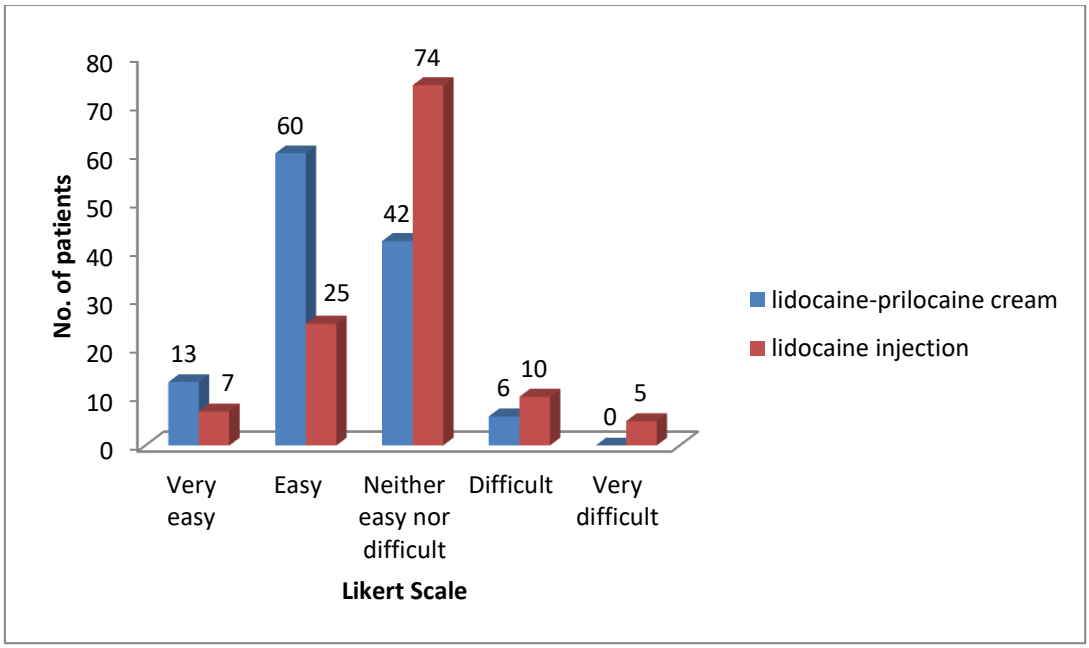

Figure 20: Distribution of study groups by ease of use of L-P cream and lidocaine injection

6. Need for further analgesia

Total 72 patients needed extra analgesia, 59 (48.76 %) in intervention group and 13 (10.74%) in control group, giving a p-value of <0.0001 which is statistically significant. This may be because the duration of application of L-P cream may not have been long enough to produce the desirable effect.

TABLE 19: Distribution of study groups by need for further analgesia

Need for further analgesia	Intervention group		Control group		Total		p value
	N	%	N	%	N	%	
Yes	59	48.76	13	10.74	72	29.75	**<0.0001**
No	62	51.24	108	89.26	170	70.25	**<0.0001**
Total	121	100.00	121	100.00	242	100.00	-

Chi square 41.83, p value <0.0001 (S)

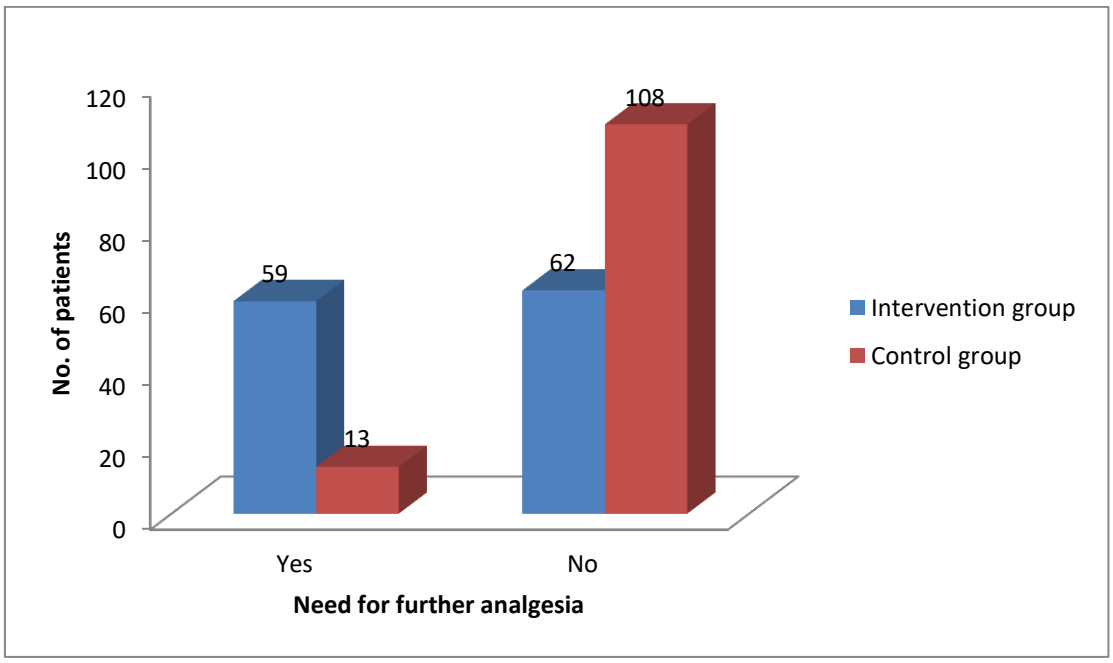

Figure 21: Distribution of study groups by need for further analgesia

7. Side effects of lidocaine-prilocaine cream and lidocaine injection.

Total 121 received lidocaine-prilocaine cream of which 23 (19. 01%) experienced side effects like tingling and numbness while no side effects was reported in any of the patients who received lidocaine injection.

TABLE 20: Side effect of drugs

Side effect of L-P cream	**No. of patients**	**Percentage**
Tingling	12	9.92
Numbness	11	9.09
None	98	80.99
Total	121	100.00
Side effect of lidocaine injection	**No of patients**	**Percentage**
None	121	100

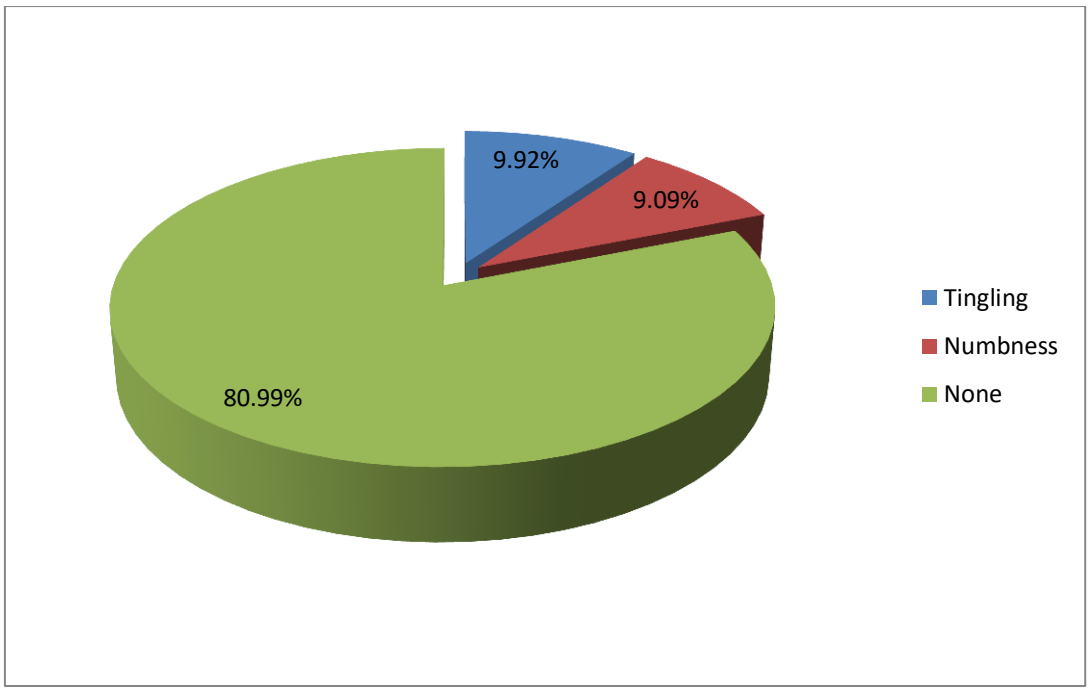

Figure 22 : Side effect of lidocaine-prilocaine cream

8.0 Association of VAS with Residence

Our presumption is that patients from rural areas are likely to be more pain-tolerant as compared to those from urban areas.

In the intervention group median VAS score was 7 in rural population and 8 in urban population with a p value of 0.505 which is statistically non-significant.

In the control group VAS score was 7.5 in rural populations and 5 in urban population with a p value of 0.016 which is statistically significant.

TABLE 21: Association of VAS with Residence

Variables	Residence	Intervention group		p value	Control group		p value
		Median	IQR (Q1, Q3)		Median	IQR (Q1, Q3)	
VAS score (cm)	Rural	7	6,8	0.505	7.5	5,8	**0.016**
	Urban	8	5,8		5	4,6	

*Mann-Whitney U test

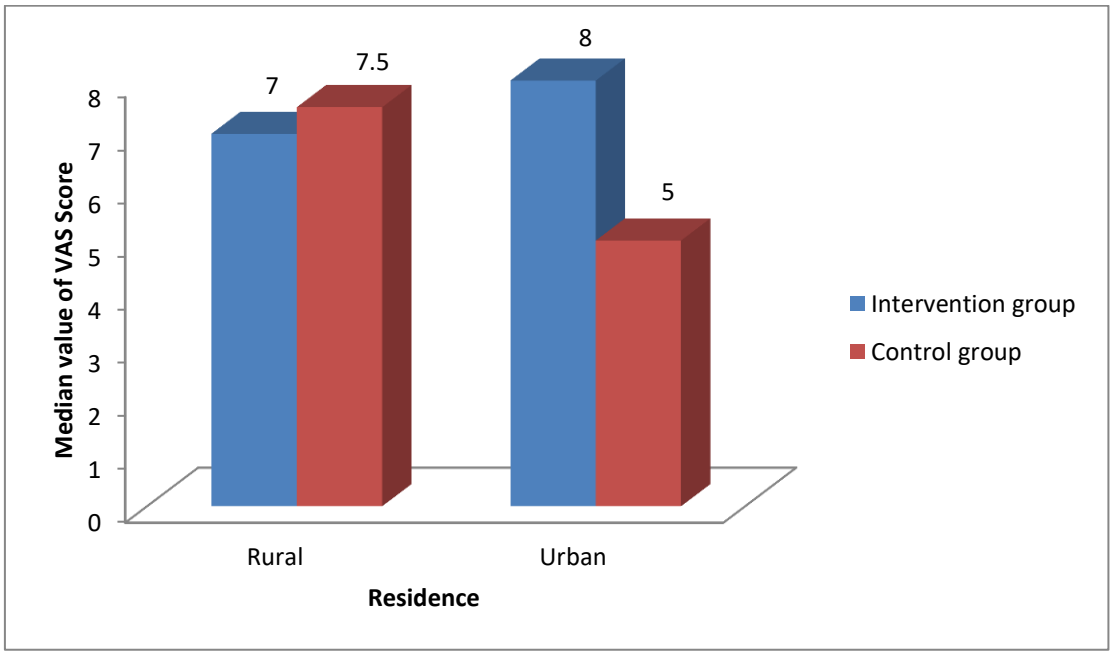

Figure 23: Association of VAS with Residence

8.1 Association of VAS with Qualification

We believe an educated person may understand better the labor pain that pregnant women has to endure thereby increasing comfort and pain tolerance.

In the intervention group, median VAS score was 6 in illiterate, 5 in patients educated up to primary, 7 in both middle and secondary school, 6 in patients educated upto senior secondary, 7 in patients educated up to graduate and postgraduate with a p value of 0.773 which is statistically non-significant.

In the control group, median VAS score of 5 was noted in illiterate, patients educated upto secondary school, graduate as well as postgraduate. Median VAS score of 7 was noted in patients educated upto middle school, and a score of 6 in patients educated upto senior secondary, with a p value of 0.433 which is statistically non-significant.

TABLE 22: Association of VAS with Qualification

Qualification	Intervention group		p value	Control group		p value
	VAS Median	IQR (Q1, Q2)		VAS Median	IQR (Q1, Q2)	
Illiterate	6	5.5,6.5	0.773	5	4,6.5	0.433
Primary	5	5,5		-	-	
Middle school	7	5.25,7		7	6,8	
Secondary	7	5,8		5	3.5,6.5	
Senior Secondary	6	5,8		6	5,6.5	
Graduate	7	6,8		5	4,6	
Postgraduate	7	5,7		5	3.5,6	

*Mann-Whitney U test

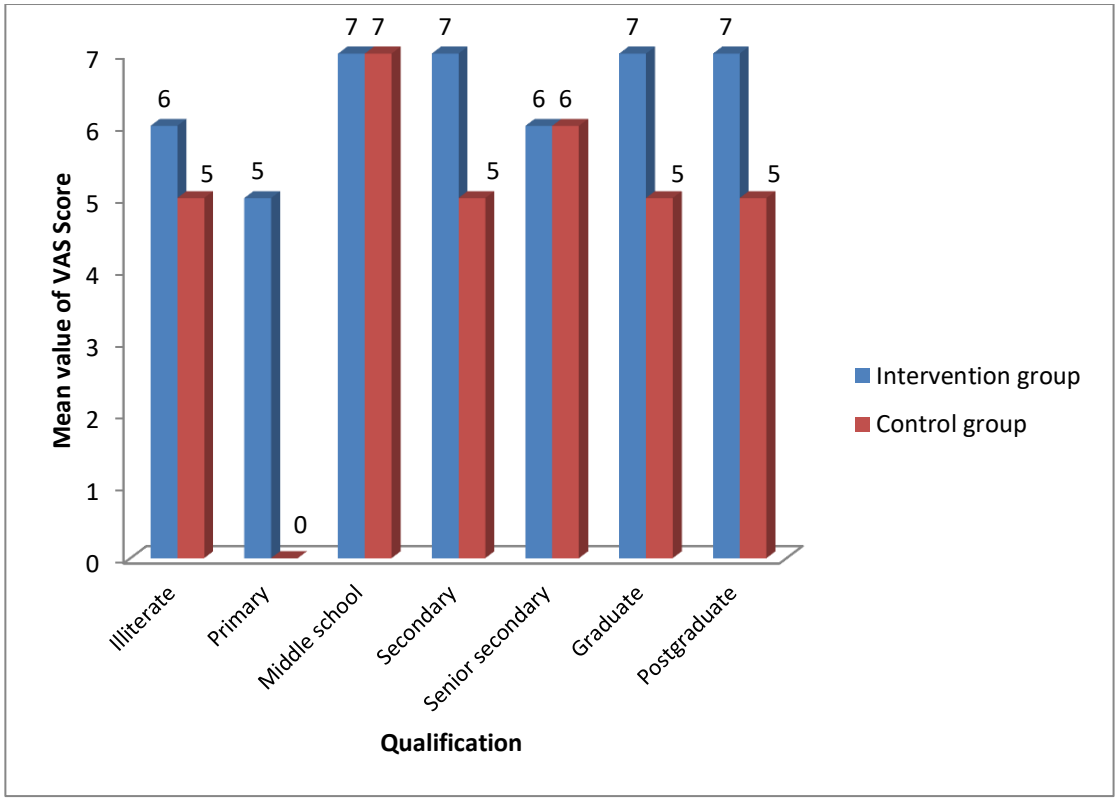

Figure 24: Association of VAS with Qualification

8.3 Association of VAS with Parity

Multigravida may be able to tolerate labor pain better because they have more experience and are more aware of the labor process.

Median VAS score in intervention group was 7 in both primigravida and multigravida with a p value of 0.900 which is not significant statistically.

Median VAS score in control was 5 in both primigravida and multigravida with a p value of 0.067 which is not significant statistically.

TABLE 23: Association of VAS with Parity

Parity	Intervention group		p value	Control group		p value
	VAS Median	IQR (Q1, Q2)		VAS Median	IQR (Q1, Q2)	
Primigravida	7	5,8	0.900	5	4,7	0.067
Multigravida	7	5,8		5	4,6	

*Mann-Whitney U test

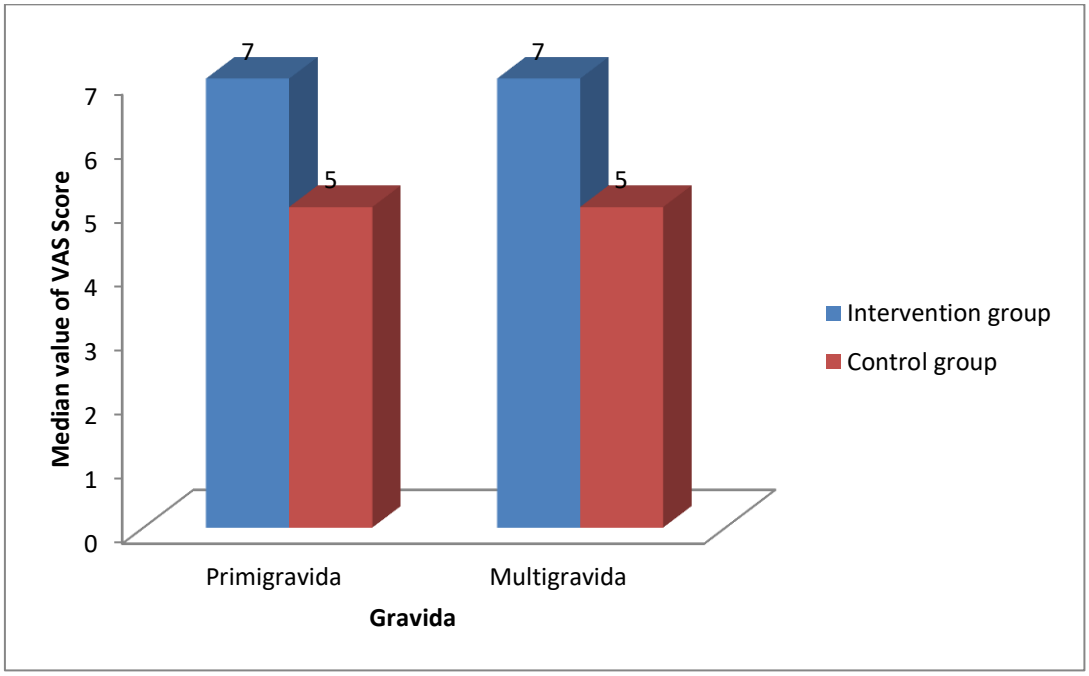

Figure 25: Association of VAS with Qualification

8.4 Association of VAS with Onset of labor

We made the assumption that a patient who goes into labor spontaneously will have a better labor progression and pain tolerance.

In the intervention group, the VAS score median in patient who had spontaneous onset of labor was 6 while in induced patient it was 7, with a p value of 0.909 which was not significant statistically.

In the control group, in patient who had spontaneous onset of labor ,the VAS median was 5 whereas in patients who were induced, the VAS median was 6, giving a p value of 0.008 which was statistically significant.

TABLE 24: Association of VAS with Onset of labor

Onset of labour	Intervention group		p value	Control group		p value
	VAS Median	IQR (Q1, Q2)		VAS Median	IQR (Q1, Q2)	
Spontaneous	6	5,8	0.909	5	4,6	**0.008**
Induced	7	5,8		6	5,7	

*Mann-Whitney U test

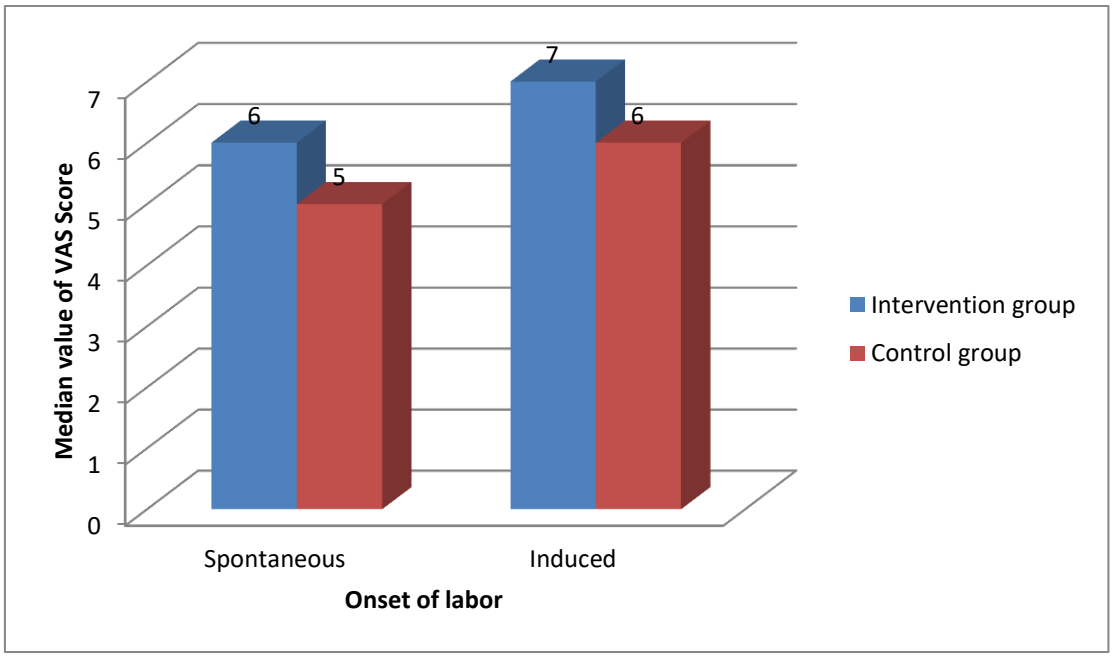

Figure 26: Association of VAS with Onset of labor

8.5 Association of VAS with Birth weight

We assume that as birth weight increases, an obstetrician will have to perform more liberal episiotomies which may increase the intensity of pain.

In the intervention group, the VAS median in birth weight < 2500 grams was 6, 7 in both 2500-3500 and >3500, with p value of 0.417.

In the control group, VAS median was 5.5 in birth weight < 2500, 5 in both 2500-3500 and >3500, with p value of 0.465 which was not statistically significant.

TABLE 25: Association of VAS with Birth weight

Birth weight (grams)	Intervention group		p value	Control group		p value
	VAS Median	IQR (Q1, Q2)		VAS Median	IQR (Q1, Q2)	
< 2500	6	5,8	0.417	5.5	4.25,7	0.465
2500-3500	7	5,8		5	4,6	
>3500	7	6,8		5	4,7	

*Mann-Whitney U test

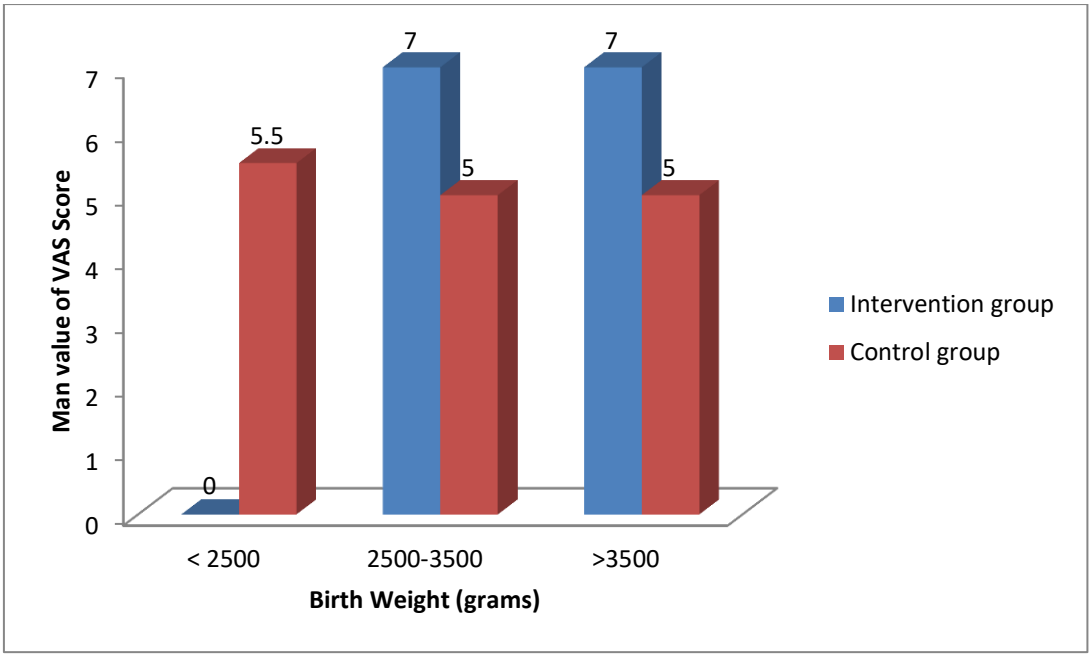

Figure 27: Association of VAS with Birth weight

8.5 Association of VAS with duration of repair of episiotomy

In terms of duration of repair of episiotomy, in the intervention group, the VAS median is 6 in <20 minutes as well as 20-30 minutes and 7 in >30 minutes with a statistically significant p value of 0.006 whereas in control group, the VAS median is 5 in <20 and 20-30 minutes, 6 in >30 with a p value of 0.120 which was not statistically significant. In both the groups, we found that with increased duration of episiotomy repair, VAS score was higher. This could be due to the effect of L-P cream wearing off as it is washed away by liquor and blood.

TABLE 26: Association of VAS with duration of repair of episiotomy

Duration of episiotomy repair (minutes)	Intervention group		p value	Control group		p value
	VAS Median	IQR (Q1, Q2)		VAS Median	IQR (Q1, Q2)	
<20	6	5,7	**0.006**	5	3,6	0.120
20-30	6	5,8		5	4,7	
>30	7	7,8		6	5,7	

*Mann-Whitney U test

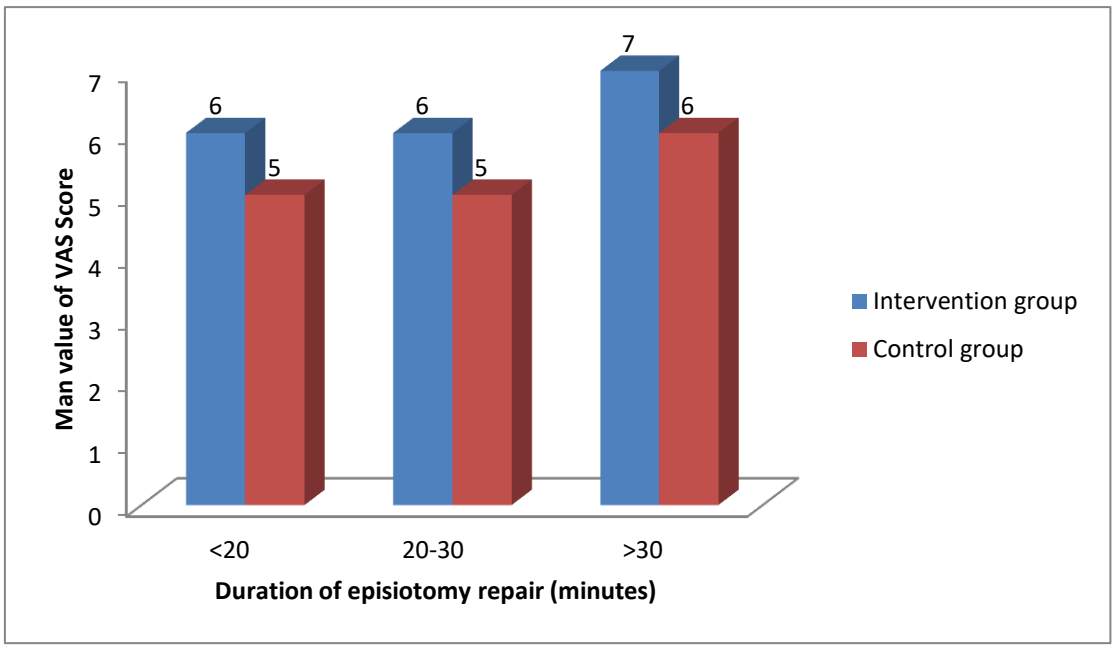

Figure 28: Association of VAS with duration of repair of episiotomy

DISCUSSION

It has been said that the discomfort associated with episiotomy repair is "extremely painful", “distressing," or "terrible”. The patient endures a great deal of suffering. Certain measures have been implemented in the past years to ease the pain caused by episiotomy. A crucial component in lowering women's anxiety and discomfort during repair of episiotomy is providing appropriate and sufficient analgesia.

Perineal infiltration with lidocaine during episiotomy is widely used, despite of its various disadvantages including the discomfort or pain caused by needle insertion, surgical site edema, distortion of the tissue making repair difficult and the dangers of accidental intravascular administration.

Several studies have been conducted to determine the efficacy of lidocaine-prilocaine cream on minor and major surgical procedures such as intravenous cannulation and venipuncture, wart removal, split thickness skin graft harvesting, and so on but very few studies have been performed on the use of L-P cream on episiotomy repair.

One may hypothesize that L-P cream is less effective in reducing pain perception since it acts at a shallower depth than local infiltration of lignocaine.

We hypothesize that pain perception is highly subjective as it is dependent on various factors, including the patient's age, anxiety before the procedure, level of education, socioeconomic background and so on. We studied and compared the effect of L-P cream and lidocaine injection in pain relief during repair of episiotomy and also the various other factors influencing pain perception.

Lidocaine-prilocaine cream is easy to use but it has not been used frequently. The purpose of the trial was to determine whether lignocaine infiltration might be replaced by an easy-to-apply lidocaine-prilocaine cream for pain management during episiotomy repair.

During the study period, two fifty two subjects were randomly allocated either to lidocaine infiltration or lidocaine-prilocaine cream to relief pain during repair of episiotomy after childbirth, out of which ten patients were drop-outs and one twenty one patients each group were available for data analysis.

There was no statistically significant difference between both groups concerning; maternal age, qualification, residential status, gestational age, onset of labor and birth weight. Most of the participants in both the groups were from urban area and were graduates.

A total of 93 patients (38.43%) underwent induction. None of the patients required manual removal of placenta.

In our study, ease of use of L-P cream was compared to lignocaine infiltration which was not studied in any of the previous studies. It was found that lidocaine prilocaine cream was easier to use. Use of L-P cream was described as easy and very easy by 73 (60.32%) of obstetrician while use of lidocaine injection was described as easy to very easy by 32 (26.44%) of obstetricians, with a statistically significant p value <0.0001.

It has been observed that most multigravidas experience labors that are shorter than those of primigravida, due to which the duration for which L-P cream remains applied on the perineal skin is shortened thereby reducing its effectiveness.

With greater estimated foetal weight and head circumference, bigger episiotomy might be needed, which may increase pain score and hence requiring greater degree of analgesia.

1. AGE-

In our study, the majority of women were in the age group of 20-30 years and the mean age in intervention group was 25.33±3.95 and in control group mean age was 25.48 ± 3.99 years. This represents the most fertile and reproductive age group.

2 .GESTATIONAL AGE

In our study, mean gestational age was 38.81±1.06 weeks in intervention group, and 38.82±1 in control group while in a study performed by **Roxana Kargar et al (2016)** (10) , mean gestational age in EMLA group was 39 ± 1 and in lidocaine group it was 39 ± 2. In the study by **Franchi M (2009)** (24), mean gestational age was 39.1±1.1 in the mepivacaine infiltration group and 39.2±0.9 in the EMLA group and in the study by **Hossam M Abdelnaby et al (2015)** (27), mean gestational age was 39.37± 0.70 in the mepivacaine infiltration group and 39.08±0.90 weeks in the EMLA cream group.

TABLE 27: Comparison of Gestational Age in different studies

Study	Intervention group (L-P cream)	Control group (Lidocaine)	Mepivacaine	p value
	Mean±SD gestational age (weeks)			
Franchi M *et al* (2009) (24)	39.2±0.9	-	39.1±1.1	0.56
Nirmala Duhan et al (2013) (25)	38.9±1.27	38.9±1.04	-	0.93
Hossam M Abdelnaby et al (2015) (27)	39.08± 0.90	-	39.37± 0.70	0.113
Roxana Kargar et al (2016) (10)	39 ± 1	39 ± 2	-	0.685
Our study (2022)	38.81 ±1.06	38.82 ± 1	-	0.940

3. ONSET OF LABOUR

In this present study, 50 subjects (41.32 %) in Intervention group and 43 (35.54%) in control group were induced whereas in a study conducted by **Roxana Kargar et al (2016)** (10), 30% each in both EMLA (3 subjects) and lidocaine group (7 subjects) underwent induction of labour.

Table 28: Comparison of onset of labor in different studies

Study	L-P cream	Lidocaine	Mepivacaine	p value
	Onset of labour			
Roxana Kargar et al (2016) (10)	30 %	30%	-	0.975
Our study (2022)	41.32%	35.54%	-	0.354

4. BIRTH WEIGHT

In the study conducted by us, the mean birthweight in L-P cream group was 3024.91±473.46 and 2965.99±392.69 grams in the Lidocaine group and in a study performed by **Hossam M Abdelnaby et al (2015)** (27), mean birthweight in mepivacaine infiltration group and EMLA cream group 3030.73±186.85 and 3080.56±216.08 grams respectively.

In a study by **Franchi M** (2009) (24), the mean birthweight was 3409±390 in the mepivacaine group and 3340±365 grams in the EMLA group and in a study conducted by **Roxana Kargar et al** (10) in 2016, mean birthweight in EMLA and lidocaine group was 3217±339 and 3279±464 grams respectively, whereas in a study performed by **Nirmala Duhan et al** (25) in 2013, mean birthweight in EMLA cream group and lidocaine infiltration was 2.7±0.38 and 2.6±0.34 kg respectively.

Table 29: Comparison of Birth weight in different studies

Study	L-P cream	Lidocaine	Mepivacaine	p value
	Mean±SD birthweight			
Franchi M *et al* (2009) (24)	3340±365 grams	-	3409±390 grams	0.56
Nirmala Duhan et al (2013) (25)	2.7 ±0.38 kg	2.6 ±0.34 kg	-	0.15
Hossam M Abdelnaby et al (2015) (27)	3080.56±216.08 grams	-	3030.73±186.85 grams	0.267
Roxana Kargar et al (2016) (10)	3217±339 grams	3279±464 grams	-	0.167
Our study (2022)	3024.91±473.46 grams	2965.99±392.69 grams	-	0.293

5. HEAD CIRCUMFERENCE

In this present study, mean head circumference was 34.01±1.27 cm in the intervention group and 33.95±1.35 in the control group, which is comparable with the head circumference of EMLA group (34.7±3.2) and mepivacaine group (34.4±1.6) in a study conducted by **Franchi M (2009)** (24). In a study by **Hossam M Abdelnaby et al (2015)** (27), the mean head circumference in mepivacaine infiltration group was 35.63±2.21 vs 36.24±1.85 in the EMLA group with a p value of 0.180 which was not significant statistically.

Table 30: Comparison of Head circumference in different studies

Study	L-P cream	Lidocaine	Mepivacaine	p value
	Mean±SD head circumference (cm)			
Franchi M *et al* (2009) (24)	34.7±3.2	-	34.4±1.6	0.77
Hossam M Abdelnaby et al (2015) (27)	36.24±1.85	-	35.63±2.21	0.180
Our study (2022)	34.01±1.27	33.95±1.35	-	0.697

6. VAS SCORE

Our findings were in contrast to a study conducted by **Franchi M *et al*** (2009) (24) where 61 primigravida were randomly assigned to receive either topical application of "EMLA" cream or local infiltration of 20 ml of 1% "mepivacaine" during the repair of an episiotomy. The study found that the topical administration of EMLA cream to the perineum resulted in lower pain scores than the infiltration of mepivacaine, however in our study, compared to women who got L-P cream as a topical anesthesia for pain relief, women who received lidocaine injection for pain relief during repair of an episiotomy reported lower pain scores. Due to shallower depth of action of L-P cream, it may be less effective in the perineal muscular layers thus making it less effective than lidocaine infiltration.

In our study, intervention group has mean VAS score of 6.50±1.49 whereas control group has 5.25±1.73 with a p value <0.0001 which is statistically significant. In the study by **Franchi M *et al*** (2009) (24), mean pain score of mepivacaine group and in EMLA group was 3.9±2.4 and 1.7±2.4 respectively with a p value of .0002 which was also statistically significant.

Also in a study conducted by **Hossam M Abdelnaby et al (2015)** (27), mean visual analogue scale (VAS) was found to be statistically significant lower in EMLA group than in mepivacaine infiltration group (4.39±2.32 vs 6.17±2.59, p value of 0.002)

However, in a study by **Roxana Kargar et al (2016)** (10), mean VAS score was 4.1±2.5 in EMLA group and 4.3±2.2 in lidocaine group giving a p value of 0.730, which was not significant statistically and consistent with the study result of **Nirmala Duhan et al (2013)** (25), in which mean VAS score was 4.3±1.28 in EMLA and 4.14±1.0 in lidocaine, giving a p value of 0.48.

Table 31: Comparison of VAS score in different studies

Study	L-P cream	Lidocaine	Mepivacaine	p value
	Mean±SD VAS score			
Franchi M *et al* (2009) (24)	1.7±2.4	-	3.9±2.4	**0.0002**
Nirmala Duhan et al (2013) (25)	4.3±1.28	4.14±1.0	-	0.48
Hossam M Abdelnaby et al (2015) (27)	4.39±2.32	-	6.17±2.59	**0.002**
Roxana Kargar et al (2016) (10),	4.1±2.5	4.3±2.2	-	0.730
Our study (2022)	6.50±1.49	5.25±1.73	-	**<0.0001**

7. PATIENT'S SATISFACTION WITH L-P CREAM OR LIDOCAINE INJECTION USE

In our study, patients in both the group had similar level of satisfaction. Most of the participants were partially to fully satisfied, 110 (90.91 %) in intervention group and 109 (90.08 %) in control group, with p value of 0.050 which is not significant and is consistent with the findings in the study conducted by **Roxana Kargar et al (2016)** (10) where 19 persons (95 %) of EMLA group and 21 persons (91%) of lidocaine group were partially or fully satisfied from their episiotomy repair which has no statistical significance, however in other studies conducted by **Nirmala Duhan et al** (2013) (25) and **Hossam M Abdelnaby et al (2015)** (27) statistically significant results were obtained.

Table 32: Comparison of satisfaction with L-P cream or lidocaine injection use

Study	L-P cream	Lidocaine	Mepivacaine	p value
	Patients satisfaction with L-P cream or lidocaine injection use			
Nirmala Duhan et al (2013) (25)	94%	78%	-	**0.04**
Hossam M Abdelnaby et al (2015) (27)	78.05%	-	46.34 %	**0.002**
Roxana Kargar et al (2016) (10)	95 %	91%	-	0.730
Our study (2022)	90.91 %	90.08 %	-	0.050

8. DURATION OF REPAIR OF EPISIOTOMY

The mean duration of repair of episiotomy in EMLA group was 26±11 minutes and in lidocaine group it was 25±9 with a p value of 0.890 in a study by **Roxana Kargar et al** (10) in 2016 while in our study, mean duration of episiotomy in the EMLA group was 26.03±6.27 and in the lidocaine group it was 24.73+6.28 minutes.

No other studies have compared the duration of repair of episiotomy.

Table 33: Comparison of duration of episiotomy repair in different studies

Study	L-P cream	Lidocaine	Mepivacaine	p value
	Mean duration of repair in minutes±2SD			
Roxana Kargar et al (2016) (10)	26±11	25±9	-	0.890
Our study (2022)	26.03±6.27	24.73+6.28	-	0.110

9. NEED FOR FURTHER ANALGESIA

In this study, the number of subjects who needed extra analgesia was more in the L-P cream group while in a study by **Roxana Kargar et al (2016)** (10), more patients in the lidocaine group needed more analgesia.

In our study we had a total of 72 patients who needed extra analgesia of which 59 (48.76) were from intervention group and 13 (10.74) in control group, with a p value of < 0.0001which was statistically significant

In the study by **Roxana Kargar et al (2016)** (10), 3 (15%) in the EMLA group and 5 (22%) in Lidocaine group needed extra analgesia with p value of 0.571 which was not statistically significant. Likewise in a study conducted by **Nirmala Duhan et al (2013)** (25), 26% and 18% of subjects needed additional analgesia in lignocaine and EMLA group respectively, giving a p value of 0.46 which was not statistically significant.

Table 34: Comparison of need for extra analgesia in different studies

Study	L-P cream	Lidocaine	Mepivacaine	p value
	Need for further Analgesia			
Nirmala Duhan et al (2013) (25)	26%	18%	-	0.46
Roxana Kargar et al (2016) (10)	15%	22%	-	0.571
Our study (2022)	48.76%	10.74%	-	**<0.0001**

Table 35: Comparison of characteristics of various studies of L-P cream, lidocaine or mepivacaine infiltration for perineal tears and episiotomy repair

Characteristics	**Franchi M *et al* (2009)** (24)	**Nirmala Duhan et al (2013)** (25)	**Hossam M Abdelnaby et al (2015)** (27)	**Roxana Kargar et al (2016)** (10)	**Our study** (2022)
Sample size	**61**	**100**	**82**	**46**	**242**
Mean age (years)	L-P cream-31.3 Mepivacaine-31.1 p value-0.76	L-P cream-22.1±1.5 Lidocaine-22.1±1.5 p value-0.93	L-P cream-24.93±3.28 Mepivacaine- 26.12 ± 2.87 p value-0.083	L-P cream-23±4 Lidocaine-25±9 p value-0.397	L-P cream-25.33+3.95 Lidocaine-25.48+3.99 p value-0.771
Gestational age (weeks)	L-P cream-39.2±0.9 Mepivacaine-39.1±1.1 p value-0.56	L-P cream-38.9±1.27 Lidocaine-38.9±1.04 p value-0.93	L-P cream-39.08±0.90 Mepivacaine-39.37±0.70 p value-0.113	L-P cream-39±1 Lidocaine-39± 2weeks p value-0.685	L-P cream-38.81±1.06 Lidocaine-38.82±1 p value-0.940
Onset of labour	-	-	-	L-P cream-30% Lidocaine- 30% p value-0.975	L-P cream-41.32% Lidocaine-35.54% p value-0.354
BW	L-P cream-3340±365grams Mepivacaine-3409±390grams p value-0.56	L-P cream-2.7±0.38kg Lidocaine-2.6±0.34kg p value-0.15	L-P cream-3080.56±216.08grams Mepivacaine-3030.73±186.85grams p value-0.267	L-P cream-3217±339grams Lidocaine-3279±464grams p value-0.167	L-P cream-3024.91±473.46grams Lidocaine-2965.99±392.69grams p value-<0.293
HC (cm)	L-P cream-34.7±3.2 Mepivacaine-34.4±1.6 p value-0.77	-	L-P cream-36.24±1.85 Mepivacaine-35.63±2.21 p value-0.180	-	L-P cream-34.01±1.27 Lidocaine-33.95±1.35 p value-<0.697
VAS score	L-P cream-1.7±2.4 Mepivacaine-3.9±2.4 p value-**0.0002**	L-P cream-4.3±1.28 Lidocaine-4.14±1.0 p value-0.48	L-P cream- 4.39±2.32 Mepivacaine-6.17±2.59 p-value-**0.002**	L-P cream-4.1±2.5 Lidocaine-4.3±2.2 p-value-0.730	L-P cream-6.50±1.49 Lidocaine-5.25±1.73 p-value-**<0.0001**
Satisfaction with method of analgesia	-	L-P cream-94% Lidocaine-78% p value-0.04	L-P cream-78.05% Mepivacaine-46.34 % p value-**0.002**	L-P cream-95 % Lidocaine-91% p-value-0.730	L-P cream-90.91% Lidocaine-90.08% p value-0.050
Duration of perineal repair (mins)	-	-	-	L-P cream-26±11 Lidocaine-25 ± 9 p value-0.890	L-P cream-26.03±6.27 Lidocaine-24.73+6.28 p value-0.110
Need for extra analgesia	-	L-P cream-26% Lidocaine-18% p value-0.46	-	L-P cream-15% Lidocaine- 22% p value- 0.571	L-P cream-48.76% Lidocaine-10.74% p value-**<0.0001**

STRENGTH AND LIMITATIONS OF THE STUDY

STRENGTH

1) The greatest strength is that it is a randomised clinical trial, which reduced potential bias and several unavoidable factors that could affect pain score, such as primigravida and birth weight, which were balanced between the two groups.
2) Comparing our sample size to earlier studies, it was significantly larger.
3) The study not only observed the satisfaction of the patient but also studied regarding physician satisfaction with the procedure, which hasn't been documented in any of the earlier studies.
4) There are very few studies worldwide comparing the lidocaine-prilocaine cream to lidocaine injection during repair of episiotomy, In India also we could find only one such study.
5) 2^{nd} degree perineal tear were also included in our study as we consider it similar to episiotomy.

LIMITATIONS

1) Even though the lidocaine-prilocaine cream started working on skin within one hour, it might not have been long enough to provide anaesthesia required as it takes around two to three hours to give maximum effect.
2) The Lidocaine-prilocaine cream floculates and gets mixed up with the discharge or secretions coming from the vagina, due to this the cream's efficacy may be compromised.
3) Even with the identical stimuli, each person's sensitivity to pain varies greatly, so in this type of clinical trial study, the accuracy of pain evaluation may be decreased.
4) Due to the nature of the interventions, there was no blinding of participants or researchers, therefore there may be chance of bias in response to pain scores.

CONCLUSION

This was a randomized controlled clinical trial comparing the effects of lidocaine-prilocaine cream and lidocaine injection for pain relief during episiotomy & perineal repair following vaginal birth.

The clinical trial was conducted at All India Institute of Medical Sciences, Jodhpur in the Department of Obstetrics and Gynecology from October 2021 to October 2022 after ethical approval and registration at the Clinical Trial Registry of India (CTRI), CTRI/2021/09/036668.

Two fifty two pregnant women recruited and randomized by computer-generated random sequences by online software to participate in the trial of which ten were drop outs. Out of 242, 121 (50%) women received lidocaine-prilocaine cream (intervention group), whereas 121 (50%) received lidocaine infiltration (Control group). All participants were matched in terms of age, qualification and other demographic variables.

1. In our study, we obtained a mean VAS score of 6.50±1.49 in intervention group and 5.25±1.73 in control group giving a p value <0.0001 which is statistically significant. Lidocaine infiltration was more effective than lidocaine-prilocaine cream for pain relief during episiotomy and perineal repair.
2. We found that most of the participants were partially to fully satisfied in both the groups, 110 (90.91 %) in intervention group and 109 (90.08 %) in control group, with p value of 0.050 which is non-significant.
3. Use of lidocaine-prilocaine cream was described as easy and very easy by 73 (60.32%) obstetrician while use of lidocaine injection was described as easy to very easy by 32 (26.44%) obstetricians, with a p value <0.0001which is statistically significant.
4. The study also reported that more patients needed additional analgesia in the L-P cream group. Total 72 patients needed extra analgesia, 59 (48.76 %) in intervention group and 13 (10.74%) in control group, giving a p-value of <0.0001 which is statistically significant.

In conclusion, this study has found that lidocaine cream is simpler to apply, but lidocaine injection is more effective at relieving pain during repair of episiotomy. In both the groups, the patients' satisfaction with the repair technique was comparable. Additional analgesia was required for the patient if L-P Cream was used for episiotomy repair.

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ANNEXURE-I

ETHICAL CLEARANCE CERTIFICATE

अखिल भारतीय आयुर्विज्ञान संस्थान, जोधपुर
All India Institute of Medical Sciences, Jodhpur
संस्थागत नैतिकता समिति
Institutional Ethics Committee

No. AIIMS/IEC/2021/ 3570 **Date: 16/03/2021**

ETHICAL CLEARANCE CERTIFICATE

Certificate Reference Number: **AIIMS/IEC/2021/**3445

Project title: **"Comparison of the effects of lidocaine-prilocaine cream and lidocaine injection for pain relief during perineal repair following vaginal delivery: A randomized clinical trial"**

Nature of Project:	**Research Project Submitted for Expedited Review**
Submitted as:	**M.D. Dissertation**
Student Name:	**Dr. Matte Siba**
Guide:	**Dr. Pratibha Singh**
Co-Guide:	**Dr. Shashank Shekhar, Dr. Charu Sharma, Dr. Garima Yadav & Dr. Priyanka Kathuria**

Institutional Ethics Committee after thorough consideration accorded its approval on above project.

The investigator may therefore commence the research from the date of this certificate, using the reference number indicated above.

Please note that the AIIMS IEC must be informed immediately of:

- Any material change in the conditions or undertakings mentioned in the document.
- Any material breaches of ethical undertakings or events that impact upon the ethical conduct of the research.
- In case of any issue related to compensation, the responsibility lies with the Investigator and Co-Investigators.

The Principal Investigator must report to the AIIMS IEC in the prescribed format, where applicable, bi-annually, and at the end of the project, in respect of ethical compliance.

AIIMS IEC retains the right to withdraw or amend this if:

- Any unethical principle or practices are revealed or suspected
- Relevant information has been withheld or misrepresented

AIIMS IEC shall have an access to any information or data at any time during the course or after completion of the project.

Please Note that this approval will be rectified whenever it is possible to hold a meeting in person of the Institutional Ethics Committee. It is possible that the PI may be asked to give more clarifications or the Institutional Ethics Committee may withhold the project. The Institutional Ethics Committee is adopting this procedure due to COVID-19 (Corona Virus) situation.

If the Institutional Ethics Committee does not get back to you, this means your project has been cleared by the IEC. On behalf of Ethics Committee, I wish you success in your research.

Sharma
Dr. Praveen Sharma
Member Secretary
Member secretary
Institutional Ethics Committee
AIIMS,Jodhpur

Basni Phase-2, Jodhpur, Rajasthan-342005; **Website:** www.aiimsjodhpur.edu.in; **Phone:** 0291-2740741 Extn. 3109
E-mail : ethicscommittee@aiimsjodhpur.edu.in; ethicscommitteeaiimsjdh@gmail.com

ANNEXURE-II

PATIENT INFORMATION SHEET

Part-1

You are invited to take part in this study entitled **"**Comparison of the effects of lidocaine-prilocaine cream and lidocaine injection for pain relief during perineal repair following vaginal delivery: a randomized clinical trial".

It is informed that it is entirely voluntary and you may refuse to take part or discontinue at any time without losing your right to adequate clinical care.

This research is aimed to compare the effects of lidocaine-prilocaine cream and lidocaine injection for pain relief during perineal repair following vaginal birth.

The expected duration of your participation in this study is till the completion of procedure.

All the records will be kept confidential.

You have the right to ask for any further information that you require.

In case of any doubt regarding the study you are welcome to contact the undersigned personally or telephonically.

Part-2

Investigator's statement

I have explained the purpose, procedures, benefits and harms of the study in detail to the patient/ patient's relative.

All information regarding the study has been disclosed.

Enough Time and Opportunity for asking questions regarding the study was given to the patient/ patient's relative.

Investigator signature: - Witness signature: -

Phone no.- 9862806220

ANNEXURE-III

ऑल इंडिया इंस्टिट्यूट ऑफ मैडिकल साईंसिस ,
जोधपुर, राजस्थान

सूचित सहमति प्रपत्र थीसिस

निबंध काशीर्षक :“ Comparison of the Effects of Lidocaine-Prilocaine Cream and Lidocaine Injection on the Reduction of Perineal Pain during perineal repair following Vaginal Delivery: A Randomized Clinical Trial’’,

पीजी छात्र का नाम : Dr. Matte Siba

दूरभाष।संख्या : 9862806220

रोगी / स्वयं सेवक पहचान संख्या: _____

मैं, _____ पुत्र/ पुत्री _____

निवासी_____

अध्ययन“ Comparison of the Effects of Lidocaine-Prilocaine Cream and Lidocaine Injection on the Reduction of Perineal Pain during perineal repair following Vaginal Delivery: A Randomized Clinical Trial’’,

में भाग लेने के लिए मेरी पूर्ण, स्वतंत्र, स्वैच्छिक सहमति देता हूं, जिसकी प्रक्रिया और प्रकृति मुझे मेरी भाषा में समझाई गई है। मैं पुष्टि करता हूं कि मुझे प्रश्न पूछने का अवसर मिला है।

मैं समझत हूं कि मेरी भागीदारी स्वैच्छिक है और मुझे किसी भी समय अध्ययन से बाहर निकलने का अधिकार है।

मैं समझता हूं कि मेरे और मेरे मेडिकल रिकॉर्ड के बारे में एकत्रित की गई जानकारी कोऑल इंडिया इंस्टिट्यूट ऑफ मैडिकल साईंसिस के जिम्मेदार व्यक्ति द्वारा देखा जा सकता है ।मैं इन लोगों को मेरे रिकॉर्ड देखने की अनुमति देता हूं

तारीख : _____

जगह: _____ हस्ताक्षर / बाएंअंगूठे का छाप

यह प्रमाणित करने के लिए कि मेरी उपस्थिति में उपरोक्त सहमति प्राप्त की गई है

तारीख : _____ _____

जगह: _____ पीजी छात्र के हस्ताक्षर

1. गवाह 2. गवाह

_____ _____

हस्ताक्षर हस्ताक्षर

नाम_____ नाम: _____

पता_____ पता : _____

ANNEXURE-IV

All India Institute of Medical Sciences
Jodhpur, Rajasthan

INFORMED CONSENT FORM

Title of Thesis/Dissertation : " Comparison of the Effects of Lidocaine-Prilocaine Cream and Lidocaine Injection on the Reduction of Perineal Pain during perineal repair following Vaginal Delivery: A Randomized Clinical Trial '' ,

Name of PG Student : Dr. Matte Siba

Tel. No. :9862806220

Patient/Volunteer Identification No.: _____

I, _____ S/o or D/o _____

R/o _____give my full, free, voluntary consent to be a part of the study "" Comparison of the Effects of Lidocaine-Prilocaine Cream and Lidocaine Injection on the Reduction of Perineal Pain during perineal repair following Vaginal Delivery: A Randomized Clinical Trial '' , the procedure and nature of which has been explained to me in my own language to my full satisfaction. I confirm that I have had the opportunity to ask questions. I understand that my participation is voluntary and am aware of my right to opt out of the study at any time without giving any reason.I understand that the information collected about me and any of my medical records maybe looked at by responsible individual from AIIMS, Jodhpur or from regulatory authorities. I give permission for these individuals to have access to my records.

Date: _____ _____

Place: _____ Signature/Left thumb impression

This to certify that the above consent has been obtained in my presence.

Date: _____ _____

Place: _____ Signature of PG Student

1. Witness 1 2. Witness

2 _____

Signature Signature

Name: _____ Name: _____

Address: _____ Address: _____

ANNEXURE – V

ALL INDIA INSTITUTE OF MEDICAL SCIENCES, JODHPUR
(Department of Obstetrics & Gynaecology)

PROFORMA FOR DATA COLLECTION

(**CONTROL / INTERVENTION GROUP)**

Name : Registration Id:

Age: Residence:

Qualification: mobile no.

Occupation:

Chief complaints

HOPP

Menstrual History: Menstrual cycle-

LMP- POG- EDD-

Obstetric History:

Past History:

Family History:

Personal History:

ON EXAMINATION:

General condition

Pulse rate /min Blood pressure (mmHg)

Respiratory rate/min Temperature

Pallor / Icterus/Cyanosis/Clubbing/Lymphadenopathy/Edema

Weight(Kg): Height(cm): Body Mass Index(Kg/m^2):

Central Nervous System:

Respiratory System:

Cardio-Vascular System:

Per-Abdomen

Final Diagnosis:

INVESTIGATIONS:

	DATE
Blood Group	
CBC- Hb- TLC- Plt-	

LABOUR- Onset- Spontaneous/ Induced

Indication of induction-

Cervical dilatation-

Duration of stages of labour- $1^{st}/2^{nd}/3^{rd}$- hrs/ mins/ mins

Type of placental delivery-

Duration of repair of episiotomy-

Need for further analgesia-YES/NO

Pain during repair of episiotomy (Visual Analog Scale) 0-10:

SATISFACTION WITH L-P CREAM OR LIDOCAINE INJECTION USE- (LIKERT)

Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
1	2	3	4	5

BABY DETAILS - Date & Time of Birth-

Gender: birth weight:

APGAR- 1 minute: 5 minutes :

Weight (gm)-

Head circumference- NICU admission- YES/NO

EASE OF USE OF LIDOCAINE- PRILOCAINE CREAM OR LIGNOCAINE INJECTION BY THE OBSTETRICIAN-

Very easy	Easy	Neither easy nor difficult	Difficult	Very difficult
1	2	3	4	5

SIDE EFFECTS OF DRUG:

Day1

Day2

Day3

VISUAL ANALOGUE SCALE PAIN SCORE: For pain at episiotomy site

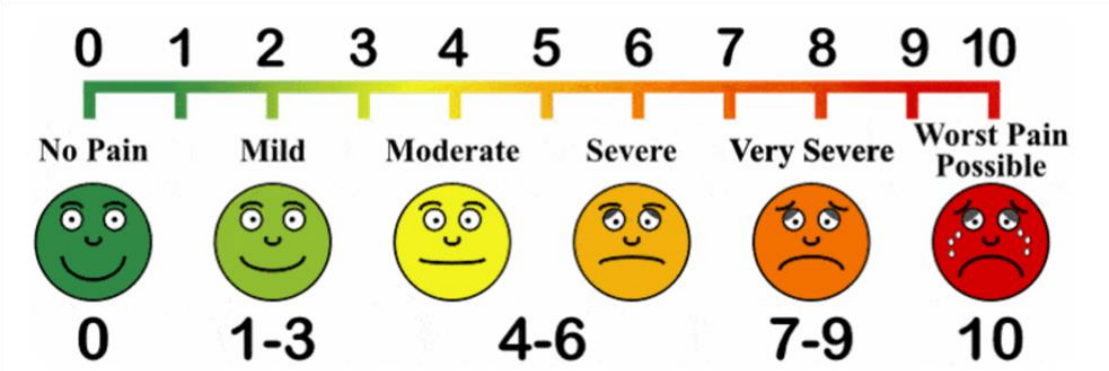

Figure 29 : VISUAL ANALOGUE SCALE (VAS) PAIN SCORE

NAME	AGE	AIIMS ID	QUALIFICATION	RESIDENCE	GRAVIDA / PARITY	POG	ONSET OF LABOUR	IF INDUCED INDICATION OF INDUCTION	DURATION OF STAGES OF LABOUR	DURATION OF REPAIR OF EPISIOTOMY	NEED FOR FURTHER ANALGESIA	PAIN DURING REPAIR OF EPISIOTOMY	SATISFACTION WITH L-P CREAM OR LIDOCAINE INJECTION USE	GENDER OF BABY	BIRTH WEIGHT	HEAD CIRCUMFERENCE (CM)	EASE OF USE OF L-P CREAM AND LIDOCAINE INJECTION BY THE OBSTETRICIAN	SIDE EFFECTS OF DRUG	STUDY GROUP
EKTA	28	2016/05/008144	POST GRADUATE	URBAN	G1	39	SPONTANEOUS		3 HOURS 25 MINS/ 13 MINS/ 5 MINS	30 MINS	NO	2	VERY SATISFIED	BOY	3180 GM	36	VERY EASY	NO	CONTROL
SANGEETA	37	2021/01/011628	GRADUATE	URBAN	G7P1051	37 + 6	SPONTANEOUS		5 HOURS 30 MINS/ 10 MINS/ 5 MINS	30 MINS	NO	5	VERY SATISFIED	BOY	2587 GM	35	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
MEERA RATHORE	25	2020/11/001063	GRADUATE	URBAN	G1	38	INDUCED	FGR	12 HOURS/ 5 MINS/ 7MINS	25 MINS	NO	7	SATISFIED	GIRL	2333 GM	33	EASY	NO	CONTROL
URMILA	26	2021/03/011927	GRADUATE	URBAN	G1	37 + 6	SPONTANEOUS		8 HOURS 45 MINS/ 13 MINS/ 5 MINS	32 MINS	YES	8	NEITHER SATISFIED NOR DISSATISFIED	GIRL	2596 GM	33	DIFFICULT	NO	INTERVENTION
VINITA	24	2021/02/007953	GRADUATE	URBAN	G1	37 + 1	INDUCED	GHTN AND GDM ON MNT	8 HOURS 20 MINS/ 7 MINS/ 5 MINS	30 MINS	NO	8	SATISFIED	GIRL	3040 GM	34	VERY DIFFICULT	NO	CONTROL
KAVITA SHARMA	27	2016/11/010030	POST GRADUATE	URBAN	G2P1001	40	SPONTANEOUS		6 HOURS 10 MINS/ 13 MINS/ 5 MINS	30 MINS	NO	2	VERY SATISFIED	GIRL	3061 GM	36	VERY EASY	NO	CONTROL
SANTOSH	23	2021/03/000666	GRADUATE	URBAN	G1	38 + 6	SPONTANEOUS		8 HOURS/ 10 MINS/ 7 MINS	30 MINS	NO	4	SATISFIED	BOY	3266 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
PUJA	21	2019/05/020808	SENIOR SECONDARY	RURAL	G1	37 + 3	SPONTANEOUS		13 HOURS/ 40 MINS/ 10 MINS	25 MINS	NO	4	SATISFIED	BOY	2357 GM	35	DIFFICULT	NO	INTERVENTION
PRIYA	21	2021/05/005776	SENIOR SECONDARY	URBAN	G1	38	SPONTANEOUS		10 HOURS 45 MINS/ 50 MINS/ 10 MINS	24 MINS	NO	8	NEITHER SATISFIED NOR DISSATISFIED	BOY	2534 GM	33	NEITHER EASY NOR DIFFICULT	NO	CONTROL
SHARDA	31	2020/10/002357	POST GRADUATE	URBAN	G4P1021	40	INDUCED	GDM ON MNT	8 HOURS/ 13 MINS/ 5 MINS	32 MINS	NO	5	SATISFIED	BOY	4258 GM	37	VERY DIFFICULT	NO	CONTROL
GANGA	25	2021/02/008670	SENIOR SECONDARY	URBAN	G2P1001	38 + 4	SPONTANEOUS		11 HOURS / 22 MINS/ 10 MINS	28 MINS	NO	8	SATISFIED	BOY	2455 GM	34.5	NEITHER EASY NOR DIFFICULT	TINGLING	INTERVENTION
POONAM GREWAL	31	2021/01/017161	GRADUATE	URBAN	G1	40 + 3	SPONTANEOUS		14 HOURS/ 34 MINS/ 10 MINS	34 MINS	NO	7	SATISFIED	GIRL	3323 GM	35.5	VERY EASY	NO	CONTROL
KANCHAN SUTHAR	26	2021/05/010452	GRADUATE	RURAL	G1	37 + 3	INDUCED	GHTN AND IHCP	16 HOURS 15 MINS/ 18 MINS/ 7 MINS	30 MINS	YES	8	SATISFIED	BOY	3155 GM	33	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
KIRAN	20	2021/07/010308	ILLITERATE	URBAN	G2P0010	40 + 5	SPONTANEOUS		11 HOURS/ 24 MINS/ 5 MINS	25 MINS	NO	5	SATISFIED	GIRL	2859 GM	33	DIFFICULT	NO	INTERVENTION
PRIYANKA	25	2021/03/002689	GRADUATE	URBAN	G1	37 + 6	SPONTANEOUS		6 HOURS 45 MINS/ 1HOUR 20 MINS/ 5 MINS	24 MINS	NO	5	SATISFIED	GIRL	2585 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
MAMTA	23	2021/07/001340	GRADUATE	URBAN	G1	38	SPONTANEOUS		12 HOURS 10 MINS / 36 MINS/ 10 MINS	20 MINS	NO	8	NEITHER SATISFIED NOR DISSATISFIED	GIRL	2533 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
HONEY SHARMA	28	2021/01/016097	GRADUATE	URBAN	G1	38 + 1	INDUCED	IHCP	20 HOURS 30 MINS/ 28 MINS/ 10 MINS	32 MINS	YES	7	SATISFIED	GIRL	3092 GM	35	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
KOSHILIYA KANWAR	24	2020/11/008638	MIDDLE SCHOOL	RURAL	G1	39 + 1	SPONTANEOUS		5 HOURS / 10 MINS/ 5 MINS	35 MINS	NO	8	SATISFIED	BOY	3378 GM	35.5	NEITHER EASY NOR DIFFICULT	NO	CONTROL
MEENA	22	2021/07/018163	ILLITERATE	URBAN	G1	37 + 3	SPONTANEOUS		11 HOURS/ 30 MINS/ 5 MINS	30 MINS	NO	5	NEITHER SATISFIED NOR DISSATISFIED	BOY	2217 GM	34.5	NEITHER EASY NOR DIFFICULT	NO	CONTROL
SANGEETA KANWAR	28	2021/06/001005	POST GRADUATE	RURAL	G1	39 + 5	SPONTANEOUS		5 HOURS/ 30 MINS/ 10 MINS	30 MINS	NO	5	SATISFIED	GIRL	2701 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
MAMTA	28	2021/07/016376	GRADUATE	URBAN	G2P1001	38	SPONTANEOUS		6 HOURS/ 3 MINS/ 10 MINS	26 MINS	NO	4	SATISFIED	GIRL	3030 GM	35.5	NEITHER EASY NOR DIFFICULT	NO	CONTROL
SAGAR KUMARI	28	2021/04/007030	GRADUATE	URBAN	G1	38 +3	SPONTANEOUS		13 HOURS/ 22 MINS/ 10 MINS	25 MINS	NO	7	SATISFIED	BOY	3622 GM	35.5	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
DIKSHA	24	2021/07/008301	MIDDLE SCHOOL	URBAN	G3P1011	37 + 6	SPONTANEOUS		7 HOURS/ 16 MINS/ 10MINS	35 MINS	NO	7	SATISFIED	BOY	2673 GM	34	EASY	NO	CONTROL
RENU BORANA	30	2014/11/000131	SENIOR SECONDARY	URBAN	G3P2002	40	SPONTANEOUS		8 HOURS 38 MINS/ 6 MINS/ 5 MINS	20 MINS	NO	4	SATISFIED	BOY	3566 GM	35.5	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
VARSHA JAIN	28	2021/04/007509	POST GRADUATE	URBAN	G1	38	INDUCED	IHCP	6 HOURS 15 MINS/ 10 MINS	35 MINS	NO	7	SATISFIED	BOY	3663 GM	36	NEITHER EASY NOR DIFFICULT	NUMBNESS	INTERVENTION
HEMLATA	24	2021/12/007665	SENIOR SECONDARY	URBAN	G1	40 + 2	SPONTANEOUS		14 HOURS/ 30 MINS/ 10MINS	30 MINS	YES	5	SATISFIED	GIRL	3121 GM	35.5	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
MAYA REGAR	21	2021/09/016885	MIDDLE SCHOOL	URBAN	G2P1000	40 + 1	SPONTANEOUS		2 HOURS 15 MINS/ 15 MINS/ 10 MINS	25 MINS	NO	5	SATISFIED	GIRL	2788 GM	32	NEITHER EASY NOR DIFFICULT	NO	CONTROL
KOMAL	22	2021/05/010166	POST GRADUATE	URBAN	G1	38 + 6	SPONTANEOUS		14 HOURS / 8 MINS/ 7 MINS	32 MINS	NO	6	SATISFIED	BOY	3315 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
SWETA BHATI	22	2021/06/013114	GRADUATE	URBAN	G1	38 + 1	INDUCED	PROM	15 HOURS 15 MINS/ 125 MINS/ 5 MINS	26 MINS	NO	5	SATISFIED	BOY	2796 GM	34	NEITHER EASY NOR DIFFICULT	NO	CONTROL
VINOD KANWAR	19	2021/09/001655	GRADUATE	URBAN	G1	38 + 4	SPONTANEOUS		2 HOURS / 4 MINS/ 5 MINS	25 MINS	YES	7	SATISFIED	GIRL	2745 GM	33	EASY	NUMBNESS	INTERVENTION
POOJA TAILOR	23	2021/07/010554	GRADUATE	URBAN	G1	40 + 1	INDUCED	GHTN	12 HOURS / 15 MINS/ 5 MINS	30 MINS	YES	8	SATISFIED	BOY	3003 GM	35	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
DIMPAL	21	2021/06/003295	GRADUATE	URBAN	G1	38 + 2	SPONTANEOUS		10 HOURS / 18 MINS/ 7 MINS	23 MINS	NO	5	SATISFIED	BOY	3065 GM	35.5	NEITHER EASY NOR DIFFICULT	NO	CONTROL
SHWETA BHATI	26	2021/06/011602	GRADUATE	URBAN	G1	39 + 5	SPONTANEOUS		15 HOURS / 16 MINS/ 15 MINS	30 MINS	NO	4	SATISFIED	BOY	3130 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
KAMLA CHOUDHARY	29	2021/09/012717	GRADUATE	URBAN	G1	39 + 6	SPONTANEOUS		10 HOURS / 22 MINS/ 6 MINS	36 MINS	YES	8	SATISFIED	BOY	3516 GM	36	VERY DIFFICULT	NO	CONTROL
RADHIKA KELLA	27	2021/04/005419	POST GRADUATE	URBAN	G1	38 + 1	INDUCED	GDM ON OHA AND SGA	10 HOURS/ 8 MINS/ 6 MINS	23 MINS	NO	7	SATISFIED	BOY	2675 GM	34.5	DIFFICULT	NO	INTERVENTION
VINOD KANWAR	19	2021/09/001655	SENIOR SECONDARY	URBAN	G1	38 + 4	SPONTANEOUS		12 HOURS /4 MINS/ 5 MINS	24 MINS	YES	5	SATISFIED	GIRL	2745 GM	32	VERY EASY	NO	CONTROL
SONIYA KANWAR	20	2020/03/003563	SENIOR SECONDARY	URBAN	G2P0010	37 + 3	SPONTANEOUS		16 HOURS / 25 MINS/ 5 MINS	15 MINS	NO	5	SATISFIED	BOY	2924 GM	35	EASY	NO	CONTROL
MONIKA SHARMA	22	2021/02/002910	GRADUATE	URBAN	G1	39	SPONTANEOUS		14 HOURS / 28 MINS/ 10 MINS	25 MINS	YES	8	NEITHER SATISFIED NOR DISSATISFIED	BOY	2911 GM	35.5	NEITHER EASY NOR DIFFICULT	NO	CONTROL
NISHA DEORA	24	2021/05/008958	GRADUATE	URBAN	G1	39 + 3	SPONTANEOUS		16 HOURS 10 MINS/ 20 MINS/ 10 MINS	18 MINS	NO	5	SATISFIED	GIRL	2913 GM	33	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
KAVITA RAJPUROHIT	29	2021/04/013784	POST GRADUATE	URBAN	G1	38 + 6	INDUCED	GHTN AND GDM ON MNT	8 HOURS/ 10 MINS/ 6 MINS	25 MINS	NO	7	NEITHER SATISFIED NOR DISSATISFIED	GIRL	3146 GM	35.5	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
DIVYA	26	2021/01/014902	GRADUATE	URBAN	G1	38 + 6	SPONTANEOUS		5 HOURS/ 9 MINS/ 8 MINS	28 MINS	NO	5	SATISFIED	BOY	2728 GM	33	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
MANISHA	27	2021/02/009781	SENIOR SECONDARY	URBAN	G4P1111	39	SPONTANEOUS		7 HOURS/ 8 MINS/ 6 MINS	27 MINS	NO	4	SATISFIED	GIRL	2812 GM	33	NEITHER EASY NOR DIFFICULT	NO	CONTROL
SANGEETA KUMARI	30	2017/07/000883	GRADUATE	URBAN	G2P1001	37	SPONTANEOUS		9 HOURS 49 MINS/ 12 MINS/ 5 MINS	30 MINS	NO	8	SATISFIED	GIRL	2881 GM	34.5	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
MAMTA GAUR	24	2021/03/006325	MIDDLE SCHOOL	URBAN	G2P0010	40 + 1	INDUCED	RH NEGATIVE PREGNANCY AT 40 + 1 WEEKS	10 HOURS/ 42 MINS/ 5 MINS	23 MINS	NO	8	SATISFIED	GIRL	3002 GM	36	EASY	NO	CONTROL
MANJU	22	2021/01/0186788	GRADUATE	URBAN	G1	39 + 1	SPONTANEOUS		12 HOURS/ 18 MINS/ 10 MINS	10 MINS	YES	5	SATISFIED	GIRL	2706 GM	32	EASY	NO	INTERVENTION
MEENAL KANWAR	29	2020/08/000676	POST GRADUATE	URBAN	G1	39 +1	SPONTANEOUS		12 HOURS 50 MINS/ 18 MINS/ 5 MINS	40 MINS	YES	7	DISSATISFIED	GIRL	3266 GM	34.4	NEITHER EASY NOR DIFFICULT	TINGLING	INTERVENTION
NEETU	19	2021/01/022800	SENIOR SECONDARY	URBAN	G1	39 + 5	INDUCED	SGA	8 HOURS/ 12 MINS/ 5 MINS	28 MINS	NO	7	SATISFIED	GIRL	2732 GM	34	DIFFICULT	NO	CONTROL
NIKKI	30	2020/10/008205	GRADUATE	URBAN	G1	38 + 6	SPONTANEOUS		4 HOURS 15 MINS/ 10 MINS/ 5 MINS	30 MINS	NO	8	DISSATISFIED	BOY	3380 GM	36	NEITHER EASY NOR DIFFICULT	NO	CONTROL
MEGNA SOLANKI	28	2017/09/013563	GRADUATE	URBAN	G2P1001	37	INDUCED	IHCP WITH GDM ON MNT	12 HOURS 10 MINS/ 14 MINS/ 5 MINS	25 MINS	YES	5	SATISFIED	BOY	3421 GM	35.5	NEITHER EASY NOR DIFFICULT	NO	CONTROL
SUMAN	23	2020/12/000800	GRADUATE	URBAN	G1	39	INDUCED	GHTN	8 HOURS 30 MINS/ 8 MINS/ 6 MINS	25 MINS	YES	5	SATISFIED	GIRL	3142 GM	35	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION

HINA	23	2021/ 07/000849	SECONDARY SCHOOL	URBAN	G3P1011	39 + 4	SPONTANEOUS		17 HOURS/ 13 MINS/ 15 MINS	34 MINS	NO	6	SATISFIED	BOY	3836 GM	35	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
PRIYANKA SEERVI	29	2020/09/003292	POSTGRADUATE	URBAN	G1	39 + 1	INDUCED	GDM ON OHA	4 HOURS 15 MINS/ 18 MINS/ 6 MINS	45 MINS	YES	7	SATISFIED	GIRL	2920 GM	32.5	EASY	NO	INTERVENTION
VINOD KANWAR	19	2021/07/013295	SECONDARY SCHOOL	URBAN	G1	38	SPONTANEOUS		12 HOURS 5 MINS/ 14 MINS/ 7 MINS	30 MINS	NO	5	SATISFIED	BOY	2911 GM	35	EASY	NO	CONTROL
SHRIDEVI JAIN	32	2021/07/011207	GRADUATE	URBAN	G3P1011	39	INDUCED	PROM	6 HOURS 30 MINS/ 12 MINS/ 5 MINS	30 MINS	YES	4	SATISFIED	BOY	2577 GM	32	NEITHER EASY NOR DIFFICULT	NO	CONTROL
MONA MAHESHWARI	31	2020/12/009577	GRADUATE	URBAN	G2P0010	38 + 5	INDUCED	GDM ON OHA	9 HOURS/ 2 HOURS/ 5 MINS	36 MINS	YES	7	SATISFIED	GIRL	3302 GM	34.5	NEITHER EASY NOR DIFFICULT	TINGLING	INTERVENTION
GEETA DEVI	23	2021/09/010166	HIGHER SECONDARY	URBAN	G1	37	SPONTANEOUS		5 HOURS/ 15 MINS/ 15 MINS	32 MINS	YES	8	SATISFIED	GIRL	2285 GM	33	VERY EASY	NUMBNESS	INTERVENTION
POOJA KANWAR	27	2021/06/006050	HIGHER SECONDARY	URBAN	G3P1011	40 + 1	SPONTANEOUS		9 HOURS/ 39 MINS/ 5 MINS	36 MINS	NO	5	SATISFIED	GIRL	2837 GM	36	NEITHER EASY NOR DIFFICULT	NO	CONTROL
AMBA RATHORE	32	2019/06/012645	GRADUATE	URBAN	G2P1001	40 + 3	INDUCED	POSTDATED AND HYPOTHYROIDISM	7 HOURS/ 6 MINS/ 5 MINS	25 MINS	NO	7	SATISFIED	GIRL	3502 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
SANTOSH SAINI	27	2021/07/005661	HIGHER SECONDARY	URBAN	G1	38 + 5	SPONTANEOUS		8 HOURS/ 36 MINS/ 7 MINS	26 MINS	NO	7	SATISFIED	GIRL	3040 GM	34.5	VERY EASY	NO	CONTROL
KAJAL	22	2021/09/009328	SECONDARY SCHOOL	URBAN	G1	40 + 5	INDUCED	POSTDATED	8 HOURS/ 6 MINS/ 5 MINS	35 MINS	NO	6	SATISFIED	GIRL	3458 GM	35	EASY	TINGLING	INTERVENTION
DARSHNA RAJPURIHIT	30	2021/10/002392	SECONDARY SCHOOL	URBAN	G2P1001	39 + 1	SPONTANEOUS		4 HOURS 30 MINS/ 10 MINS/ 5 MINS	28 MINS	YES	8	SATISFIED	BOY	3356 GM	35.5	EASY	NUMBNESS	INTERVENTION
SOHANI	29	2017/01/020067	GRADUATE	URBAN	G4P1021	37 + 4	INDUCED	IHCP	14 HOURS/ 8 MINS/ 6 MINS	30 MINS	YES	8	SATISFIED	GIRL	2736 GM	34	EASY	NUMBNESS	INTERVENTION
PHOOLI	24	2017/06/003840	SECONDARY SCHOOL	URBAN	G3P0020	38 + 5	INDUCED	GHTN	7 HOURS/ 30 MINS/ 5 MINS	24 MINS	NO	7	SATISFIED	GIRL	3050 GM	35.5	NEITHER EASY NOR DIFFICULT	NO	CONTROL
PRIYANKA JANGID	25	2021/08/000235	GRADUATE	URBAN	G1	39 + 1	INDUCED	GDM ON OHA	8 HOURS/ 25 MINS/ 5 MINS	40 MINS	NO	8	DISSATISFIED	GIRL	3660 GM	35.2	EASY	TINGLING	INTERVENTION
DIVYA	26	2021/10/002987	SECONDARY SCHOOL	URBAN	G1	40 + 6	SPONTANEOUS		14 HOURS/ 22 MINS/ 10 MINS	25 MINS	NO	8	DISSATISFIED	BOY	2715 GM	34	NEITHER EASY NOR DIFFICULT	NO	CONTROL
GITA	31	2021/08/013865	GRADUATE	URBAN	G1	38 + 2	SPONTANEOUS		8 HOURS/ 10 MINS/ 6 MINS	35 MINS	YES	8	DISSATISFIED	GIRL	3114 GM	35.5	EASY	NO	INTERVENTION
PRIYANKA VISHNOI	19	2019/10/016285	SECONDARY SCHOOL	URBAN	G1	38 + 3	INDUCED	PREECLAMPSIA WITHOUT SEVERE FEATURES	5 HOURS/ 19 MINS/ 10 MINS	32 MINS	NO	8	SATISFIED	GIRL	2968 GM	32.5	EASY	NO	INTERVENTION
JUHI KUMARI	21	2021/07/006947	GRADUATE	URBAN	G1	37	INDUCED	IHCP	16 HOURS/ 16 MINS/ 10 MINS	20 MINS	NO	7	SATISFIED	BOY	3086 GM	34	EASY	NO	INTERVENTION
SONU SHARMA	26	2021/10/006123	SECONDARY SCHOOL	URBAN	G1	37 + 4	INDUCED	PROM	5 HOURS/ 25 MINS/ 7 MINS	25 MINS	NO	5	SATISFIED	GIRL	2522 GM	32	EASY	NO	CONTROL
BHANU KANWAR	27	2021/08/015098	POSTGRADUATE	URBAN	G2P1001	38 + 6	INDUCED	PROM	8 HOURS 30 MINS/19 MINS/ 10 MINS	25 MINS	NO	5	SATISFIED	BOY	3776 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
APEKSHA	28	2021/09/014984	GRADUATE	URBAN	G1	39 + 1	SPONTANEOUS		8 HOURS 10 MINS/ 20 MINS/ 3 MINS	35 MINS	NO	7	SATISFIED	BOY	3300 GM	35	EASY	NO	INTERVENTION
NEETU BHATI	28	2021/08/017284	SECONDARY SCHOOL	URBAN	G2P0010	39 + 4	SPONTANEOUS		13 HOURS/ 32 MINS/ 5 MINS	25 MINS	NO	7	SATISFIED	GIRL	3553 GM	35.5	EASY	NO	INTERVENTION
RUKHSAAR PARVEEN PATHAN	26	2021/08/004911	POSTGRADUATE	URBAN	G1	38 + 6	SPONTANEOUS		16 HOURS/ 29 MINS/ 5 MINS	35 MINS	NO	7	SATISFIED	GIRL	2913 GM	34	VERY DIFFICULT	NO	CONTROL
SUNITA KANWAR	19	2021/10/003216	GRADUATE	URBAN	G1	38 + 1	SPONTANEOUS		11 HOURS 30 MINS/ 36 MINS/ 5 MINS	30 MINS	NO	6	SATISFIED	BOY	3084 GM	35	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
SHWETA MAHESHWARI	26	2021/07/016710	GRADUATE	URBAN	G1	38 + 6	SPONTANEOUS		11 HOURS/ 4 MINS/ 5 MINS	23 MINS	NO	6	SATISFIED	GIRL	3082 GM	35	DIFFICULT	NO	INTERVENTION
EMA CHOUDHARY	22	2021/09/000803	GRADUATE	URBAN	G1	40	SPONTANEOUS		6 HOURS/ 12 MINS/ 5 MINS	20 MINS	NO	5	SATISFIED	GIRL	2680 GM	32	NEITHER EASY NOR DIFFICULT	NO	CONTROL
URMILA	22	2021/07/014604	HIGHER SECONDARY	URBAN	G2P0010	38 + 5	INDUCED	PROM	7 HOURS/ 16 MINS/ 5 MINS	24 MINS	NO	3	SATISFIED	BOY	2770 GM	34.5	NEITHER EASY NOR DIFFICULT	NO	CONTROL
PAYAL SONI	23	2021/08/004620	HIGHER SECONDARY	URBAN	G1	39	SPONTANEOUS		6 HOURS/ 10 MINS/ 8 MINS	28 MINS	YES	8	NEITHER SATISFIED NOR DISSATISFIED	GIRL	2964 GM	33.5	EASY	NO	INTERVENTION
RIA DEY DUTTA	28	2021/05/006761	GRADUATE	URBAN	G1	39 + 4	INDUCED	PROM	8 HOURS/ 6 MINS/ 5 MINS	32 MINS	NO	7	SATISFIED	GIRL	3009 GM	35	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
ANURADHA	26	2021/11/007087	HIGHER SECONDARY	RURAL	G2P1001	38	INDUCED	GHTN	7 HOURS 30 MINS/ 14 MINS/ 10 MINS	36 MINS	NO	5	SATISFIED	BOY	3247 GM	34.5	EASY	NO	CONTROL
PAYAL TAK	24	2021/09/003034	POSTGRADUATE	URBAN	G3P1010	38 + 4	SPONTANEOUS		4 HOURS/ 7 MINS/ 5 MINS	36 MINS	NO	2	SATISFIED	BOY	3421 GM	35	EASY	NO	CONTROL
SAROJ VAISHNAV	25	2021/09/016595	GRADUATE	URBAN	G1	39 + 5	INDUCED	PROM	8 HOURS 45 MINS/ 7 MINS/ 10 MINS	30 MINS	NO	5	VERY SATISFIED	GIRL	3229 GM	34.5	NEITHER EASY NOR DIFFICULT	NO	CONTROL
GUDDI	21	2021/12/010181	GRADUATE	URBAN	G2P0010	37 + 1	INDUCED	FGR	2O HOURS/ 30 MINS/ 8 MINS	32 MINS	NO	5	SATISFIED	GIRL	2175 GM	32	EASY	NO	INTERVENTION
ANISHA	29	2021/05/005139	GRADUATE	URBAN	G1	39 + 3	INDUCED	FGR	15 HOURS/ 20 MINS/ 10 MINS	25 MINS	NO	6	VERY SATISFIED	GIRL	2427 GM	33	NEITHER EASY NOR DIFFICULT	NO	CONTROL
MANJU SAU	20	2016/01/021119	GRADUATE	URBAN	G1	38 + 6	SPONTANEOUS		10 HOURS 15 MINS/ 8 MINS/ 6 MINS	20 MINS	NO	6	SATISFIED	BOY	2810 GM	34	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
POONAM SISODIYA	38	2021/07/011350	POSTGRADUATE	URBAN	G2P1001	38 + 3	INDUCED	FGR	8 HOURS/ 10 MINS/ 5 MINS	25 MINS	NO	5	SATISFIED	GIRL	2131 GM	31	NEITHER EASY NOR DIFFICULT	NO	CONTROL
AJANTA VAISHNAV	30	2021/06/003373	POSTGRADUATE	URBAN	G1	39 + 1	SPONTANEOUS		6 HOURS/ 15 MINS/ 10 MINS	25 MINS	NO	6	SATISFIED	GIRL	2846 GM	33	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
SUMAN	21	2020/03/006741	MIDDLE SCHOOL	URBAN	G2P1000	39 + 3	SPONTANEOUS		4 HOURS 15 MINS/ 12 MINS/ 8 MINS	28 MINS	NO	8	SATISFIED	GIRL	3291 GM	34.5	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
GULAB	28	2022/02/008832	GRADUATE	URBAN	G3P2002	39 + 3	SPONTANEOUS		4 HOURS/17 MINS/ 10 MINS	20 MINS	NO	7	SATISFIED	GIRL	2915 GM	32	DIFFICULT	NO	INTERVENTION
JAHNAVI PRAJAPAT	29	2021/07/017521	POSTGRADUATE	URBAN	G1	37 + 3	SPONTANEOUS		11 HOURS 45 MINS/ 21 MINS/ 17 MINS	30 MINS	NO	8	SATISFIED	BOY	2588 GM	32.5	NEITHER EASY NOR DIFFICULT	TINGLING	INTERVENTION
GAYATRI	24	2021/12/015981	HIGHER SECONDARY	URBAN	G1	37	INDUCED	SGA	17 HOURS 30 MINS/ 10 MINS/ 5 MINS	24 MINS	NO	5	NEITHER SATISFIED NOR DISSATISFIED	BOY	2760 GM	34	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
RUKHIYON	23	2021/05/009538	GRADUATE	URBAN	G1	39 + 4	SPONTANEOUS		5 HOURS/ 21 MINS/ 5 MINS	20 MINS	NO	3	SATISFIED	GIRL	2762 GM	33	EASY	NO	CONTROL
DEEKSHA SANKHLA	25	2021/09/015928	GRADUATE	URBAN	G1	39 + 5	SPONTANEOUS		15 HOURS 30 MINS/ 35 MINS/10 MINS	25 MINS	NO	7	SATISFIED	GIRL	2938 GM	33.5	EASY	NO	CONTROL
ANJANA SATPAL	30	2021/08/004908	POSTGRADUATE	URBAN	G1	38 + 1	SPONTANEOUS		13 HOURS/5 MINS/5 MINS	24 MINS	NO	5	SATISFIED	BOY	2923 GM	33	EASY	NO	INTERVENTION
SANTOSH KUMARI	30	2021/10/010870	GRADUATE	URBAN	G2P1001	38 + 4	SPONTANEOUS		18 HOURS/ 30 MINS/ 5 MINS	30 MINS	YES	7	SATISFIED	BOY	2666 GM	34	EASY	NO	INTERVENTION
RAVINA	27	2021/12/012913	HIGHER SECONDARY	URBAN	G2P0010	40 + 2	INDUCED	PROM	12 HOURS/ 6 MINS/ 5 MINS	28 MINS	YES	6	SATISFIED	BOY	2910 GM	32	EASY	NO	INTERVENTION
PRIYANKA	27	2021/09/012438	GRADUATE	URBAN	G1	37 + 2	INDUCED	PROM	4 HOURS 30 MINS/ 10 MINS/ 15 MINS	28 MINS	NO	6	SATISFIED	BOY	2657 GM	32.5	NEITHER EASY NOR DIFFICULT	NO	CONTROL
BHAVANA MALVIYA	28	2021/09/001461	MIDDLE SCHOOL	URBAN	G1	40	INDUCED	EPILEPSY	15 HOURS/ 30 MINS/ 5 MINS	32 MINS	NO	7	SATISFIED	GIRL	2505 GM	34	NEITHER EASY NOR DIFFICULT	NO	CONTROL
RAKHI RATHORE	22	2022/01/028336	GRADUATE	URBAN	G1	39 + 6	INDUCED	DEREASED FETAL MOVEMENT	14 HOIURS 30 MINS/ 19 M INS/ 18 MINS	24 MINS	NO	7	SATISFIED	GIRL	3722 GM	35	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
RADHA BAI	23	2022/03/018207	MIDDLE SCHOOL	URBAN	G1	38 + 4	SPONTANEOUS		18 HOURS/ 20 MINS/ 9 MINS	25 MINS	NO	6	SATISFIED	GIRL	2766 GM	33	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
GUDDI	21	2021/12/010181	GRADUATE	URBAN	G2P0010	37 + 1	INDUCED	FGR	20 HOURS/ 30 MINS/ 8 MINS	30 MINS	NO	4	SATISFIED	GIRL	2175 GM	32	NEITHER EASY NOR DIFFICULT	NO	CONTROL

SUSHILA	23	2021/12/011494	GRADUATE	URBAN	G2P1001	38+ 1	INDUCED	PROM	6 HOURS 30 MINS/ 15 MINS/ 7 MINS	34 MINS	NO	6	NEITHER SATISFIED NOR DISSATISFIED	BOY	3277 GM	33	NEITHER EASY NOR DIFFICULT	NO	CONTROL
SHWETA	27	2021/10/001620	POSTGRADUATE	URBAN	G1	40 + 6	INDUCED	POSTDATED	5 HOURS/ 15 MINS/ 8 MINS	30 MINS	YES	7	SATISFIED	BOY	3205 GM	35	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
POOJA PRAJAPAT	21	2021/07/003420	SECONDARY SCHOOL	URBAN	G1	38 + 3	SPONTANEOUS		9 HOURS/ 30 MINS/ 5 MINS	30 MINS	NO	4	VERY SATISFIED	BOY	2690 GM	32	NEITHER EASY NOR DIFFICULT	NO	CONTROL
VINIT MUNDRA	36	2022/03/019018	GRADUATE	URBAN	G2P1001	39 + 3	SPONTANEOUS		6 HOURS/ 2 MINS/6 MINS	20 MINS	NO	2	SATISFIED	BOY	2852 GM	34	NEITHER EASY NOR DIFFICULT	NO	CONTROL
SARITA BADIYASAR	25	2021/09/016573	HIGHER SECONDARY	URBAN	G1	40	INDUCED	GDM ON MNT	5 HOURS/ 13 MINS/ 5 MINS	24 M INS	NO	7	SATISFIED	GIRL	2950 GM	32	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
SUNITA	33	2022/03/001591	GRADUATE	URBAN	G3P2001	37 + 1	INDUCED	OVERT DM ON INSULIN	8 HOURS/ 5 MINS/ 5 MINS	32 MINS	NO	7	SATISFIED	GIRL	3392 GM	35	EASY	NO	INTERVENTION
REKHA	21	2021/08/018217	GRADUATE	RURAL	G1	40 +4	SPONTANEOUS		10 HOURS/ 18 MINS/ 7 MINS	23 MINS	YES	6	SATISFIED	GIRL	2881 GM	34	EASY	NO	INTERVENTION
YACHIKA JAIN	27	2022/04/011632	POSTGRADUATE	URBAN	G1	39 + 5	SPONTANEOUS		3 HOURS/ 10 MINS/ 5 MINS	20 MINS	NO	1	VERY SATISFIED	BOY	3304 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
KOMAL SINGHVI	32	2022/03/021569	POSTGRADUATE	URBAN	G1	37 + 1	SPONTANEOUS		4 HOURS/ 13 MINS/ 10 MINS	24 MINS	NO	4	SATISFIED	GIRL	2572 GM	33	NEITHER EASY NOR DIFFICULT	NO	CONTROL
REKHA	19	2022/06/017642	MIDDLE SCHOOL	URBAN	G1	39	SPONTANEOUS		6 HOURS/22 MINS/ 10 MINS	14 MINS	NO	4	VERY SATISFIED	GIRL	2639 GM	32	VERY EASY	NO	INTERVENTION
VARSHA PALIWAL	24	2022/06/003569	GRADUATE	URBAN	G2P1001	41 + 2	INDUCED	POSTDATED	10 HOURS 20 MINS/ 15 MINS/ 15 MINS	20 MINS	NO	5	SATISFIED	GIRL	3286 GM	35.5	VERY EASY	NO	INTERVENTION
KIRAN	24	2022/09/003368	MIDDLE SCHOOL	URBAN	G1	38 + 1	INDUCED	GHTN	11 HOURS/ 25 MINS/ 10 MINS	30 MINS	NO	5	SATISFIED	GIRL	2842 GM	34.5	EASY	NO	INTERVENTION
JAYLALEETA	20	2022/05/006697	SECONDARY SCHOOL	URBAN	G1	40 + 2	SPONTANEOUS		9 HOURS 30 MINS/ 24 MINS/ 7 MINS	15 MINS	NO	5	VERY SATISFIED	BOY	2846 GM	33.5	NEITHER EASY NOR DIFFICULT	NO	CONTROL
RINKU	24	2022/03/009949	HIGHER SECONDARY	URBAN	G1	39 + 4	SPONTANEOUS		5 HOURS 30 MINS/ 12 MINS/ 10 MINS	16 MINS	NO	6	VERY SATISFIED	BOY	3117 GM	34	EASY	NO	INTERVENTION
LADU KANWAR	30	2022/02/006390	ILLITERATE	URBAN	G4P2102	40 + 1	SPONTANEOUS		4 HOURS 30 MINS/ 10 MINS/ 5 MINS	15 MINS	NO	3	SATISFIED	GIRL	3001 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
EVA HAKSHSAR	28	2022/03/016705	POSTGRADUATE	URBAN	G1	37	INDUCED	GHTN	5 HOURS / 30MINS / 6 MINS	17 MINS	YES	7	VERY SATISFIED	BOY	2620 GM	33.5	VERY EASY	NUMBNESS	INTERVENTION
DIMPLE KANWAR	23	2022/08/006640	HIGHER SECONDARY	URBAN	G1	38 + 2	SPONTANEOUS		8 HOURS/ 30 MINS/ 10 MINS	16 MINS	NO	6	SATISFIED	GIRL	2664 GM	33	VERY EASY	NO	CONTROL
POOJA PHOPHALIYA	28	2019/03/010261	POSTGRADUATE	URBAN	G2P1001	37	INDUCED	GDM ON MNT AND FGR	6 HOURS/ 15 MINS/ 6 MINS	24 MINS	NO	5	SATISFIED	BOY	2398 GM	33	EASY	NO	INTERVENTION
KIRAN VISHNOI	28	2021/12/012312	POSTGRADUATE	URBAN	G3P1011	40 + 4	INDUCED	POSTDATED	13 HOURS/ 15 MINS/ 5 MINS	28 MINS	YES	8	SATISFIED	BOY	3365 GM	34	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
AISHA KHATOON	26	2020/04/000753	SECONDARY SCHOOL	URBAN	G2P1001	40 + 2	SPONTANEOUS		3 HOURS 10 MINS/ 28 MINS/ 8 MINS	20 MINS	NO	3	SATISFIED	BOY	3028 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
MANJU KANWAR	31	2021/ 10 012122	POSTGRADUATE	URBAN	G2P1001	39 + 6	SPONTANEOUS		12 HOURS/ 20 MINS/ 15 MINS	23 MINS	NO	6	SATISFIED	GIRL	3409 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
BHAWANA RATHORE	27	2022/01/027962	POSTGRADUATE	URBAN	G1	37 + 6	SPONTANEOUS		8 HOURS 40 MINS/ 12 MINS/ 10 MINS	23 MINS	YES	8	SATISFIED	GIRL	2991 GM	32	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
PRAVEEN KANWAR	24	2021/08/018953	POSTGRADUATE	URBAN	G1	40 + 4	INDUCED	DECREASED FETAL MOVEMENT	12 HOURS/ 10 MINS/ 15 MINS	20 MINS	NO	3	SATISFIED	BOY	3192 GM	35	EASY	NO	INTERVENTION
PAYAL	22	2021/09/012926	SECONDARY SCHOOL	URBAN	G1	38 + 6	INDUCED	DECREASED FETAL MOVEMENT	6 HOURS/ 15 MINS/ 6MINS	30 MINS	NO	5	SATISFIED	GIRL	2774 GM	32.5	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
ARIFA SAYED	24	2017/08/004862	SECONDARY SCHOOL	URBAN	G1	39 + 1	SPONTANEOUS	PROM	17 HOURS 45 MINS/ 22 MINS/ 6 MINS	20 MINS	NO	5	SATISFIED	BOY	2613 GM	32	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
SONU	22	2022/05/021733	SECONDARY SCHOOL	URBAN	G1	38	SPONTANEOUS		7 HOURS/ 13 MINS/ 5 MINS	12 MINS	NO	3	VERY SATISFIED	BOY	2804 GM	33.5	NEITHER EASY NOR DIFFICULT	NO	CONTROL
PRIYANKA CHANDAK	28	2021/12/002839	GRADUATE	URBAN	G2P1001	39	SPONTANEOUS		6 HOURS/ 15 MINS/ 3 MINS	22 MINS	NO	4	SATISFIED	GIRL	3404 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
SHIVANGI	19	2021/07/013147	GRADUATE	URBAN	G1	39 + 2	SPONTANEOUS		14 HOURS 30 MINS/ 10 MINS/ 10 MINS	30 MINS	NO	5	SATISFIED	GIRL	3152 GM	34	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
KAMLESH RATHORE	27	2022/03/005461	POSTGRADUATE	URBAN	G1	39 + 6	SPONTANEOUS		7 HOURS/ 15 MINS/ 8 MINS	28 MINS	YES	8	SATISFIED	BOY	3462 GM	35	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
SARUPI	21	2021/11/006437	ILLITERATE	URBAN	G2P0010	38 + 5	SPONTANEOUS		12 HOURS/ 8 MINS/ 5 MINS	14 MINS	YES	7	VERY SATISFIED	BOY	3412 GM	35	EASY	NO	INTERVENTION
MANISHA	30	2020/09/002448	POSTGRADUATE	URBAN	G2 P0100	39 + 3	SPONTANEOUS		7 HOURS / 22 MINS/ 5 MINS	30 MINS	YES	5	SATISFIED	GIRL	3097 GM	35	EASY	NO	INTERVENTION
GUDDU KANWAR	32	2022/04/006080	POSTGRADUATE	URBAN	G1	37 + 5	INDUCED	PROM	8 HOURS 30 MINS/ 15 MINS/ 6 MINS	23 MINS	NO	7	SATISFIED	BOY	2956 GM	33	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
NEHA PUNJABI	28	2021/11/008322	GRADUATE	URBAN	G1	37 + 3	SPONTANEOUS		13 HOURS/ 20 MINS/ 5 MINS	24 MINS	NO	3	SATISFIED	BOY	2780 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
ANITA KUMARI	27	2022/03/016938	GRADUATE	RURAL	G1	40 + 3	INDUCED	PROM	12 HOURS/ 18 MINS/ 10 MINS	24 MINS	NO	5	SATISFIED	BOY	3078 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
JYOTI CHOUDHARY	32	2022/01/032895	GRADUATE	URBAN	G3P1011	40 + 1	SPONTANEOUS		12 MINS/ 25 MINS/ 8 MINS	32 MINS	NO	5	SATISFIED	BOY	3783 GM	35.5	NEITHER EASY NOR DIFFICULT	NO	CONTROL
HIMANI SHEKHAWAT	22	2021/08/018897	GRADUATE	URBAN	G2P0010	39 + 4	INDUCED	DECREASED FETAL MOVEMENT	12 HOURS/ 18 MINS/ 3 MINS	15 MINS	YES	8	SATISFIED	GIRL	3092 GM	35.5	EASY	NO	INTERVENTION
KAVITA	28	2020/12/010150	SECONDARY SCHOOL	URBAN	G1	39 + 2	SPONTANEOUS		8 HOURS / 12 MINS/ 5 MINS	18 MINS	NO	5	SATISFIED	GIRL	3318 GM	34	EASY	NO	INTERVENTION
GAJU KANWAR	22	2021/08/003783	HIGHER SECONDARY	URBAN	G1	40 + 6	SPONTANEOUS		5 HOURS/ 5 MINS/ 6 MINS	32 MINS	NO	5	SATISFIED	GIRL	2970 GM	33.5	DIFFICULT	NO	CONTROL
MEENAKSHI	25	2021/09/017813	HIGHER SECONDARY	URBAN	G1	37 + 6	SPONTANEOUS		7 HOURS/20 MINS/ 6 MINS	14 MINS	NO	6	SATISFIED	GIRL	3558 GM	33	NEITHER EASY NOR DIFFICULT	NO	CONTROL
SEEMA	24	2022/04/000715	HIGHER SECONDARY	URBAN	G1	40 + 1	SPONTANEOUS		6 HOURS 15 MINS/ 6 MINS/ 6 MINS	28 MINS	NO	6	SATISFIED	GIRL	3316 GM	35	VERY DIFFICULT	NO	CONTROL
POOJA DEVI	20	2022/04/000468	HIGHER SECONDARY	URBAN	G2P0010	39 + 4	SPONTANEOUS		14 HOURS/ 30 MINS/ 5 MINS	22 MINS	YES	8	SATISFIED	BOY	3791 GM	35	EASY	NO	INTERVENTION
DEEPMALA	28	2022/07/010321	POSTGRADUATE	URBAN	G1	41 +1	INDUCED	POSTDATED	8 HOURS/ 15 MINS/ 5 MINS	15 MINS	YES	6	SATISFIED	GIRL	3355 GM	35.5	EASY	NO	INTERVENTION
SUMITRA SHARMA	33	2021/12/008598	GRADUATE	URBAN	G2P1001	37 + 3	SPONTANEOUS		8 HOURS/20 MINS/ 5 MINS	23 MINS	YES	8	SATISFIED	BOY	3155 GM	35	EASY	NO	INTERVENTION
NIRMA	23	2021/11/011995	SECONDARY SCHOOL	RURAL	G1	38 + 1	SPONTANEOUS		8 HOURS/ 38 MINS/ 5 MINS	24 MINS	YES	7	SATISFIED	GIRL	2844 GM	33	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
POOJA CHOUDHARY	22	2021/09/016344	GRADUATE	URBAN	G1	37	INDUCED	SGA	10 HOURS / 15 MINS/ 3 MINS	22 MINS	YES	6	NEITHER SATISFIED NOR DISSATISFIED	BOY	2550 GM	32	EASY	NO	CONTROL
RAMKANWARI	22	2021/12/011681	GRADUATE	URBAN	G1	38	SPONTANEOUS		16 HOURS/ 8 MINS/ 8 MINS	24 MINS	NO	5	SATISFIED	GIRL	3216 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
MAINA	22	2022/07/016205	PRIMARY	RURAL	G2P1001	39 + 1	SPONTANEOUS		4 HOURS/ 7 MINS/ 10 MINS	23 MINS	YES	5	SATISFIED	GIRL	3515 GM	35.5	EASY	NO	INTERVENTION
SIMRAN SONI	24	2022/01/025339	POSTGRADUATE	URBAN	G1	39 + 6	SPONTANEOUS		7 HOurs/ 30 MINS/ 5 MINS	20 MINS	YES	6	SATISFIED	BOY	3305 GM	34.5	EASY	NO	INTERVENTION
MEENA KUMARI	26	2021/05/001826	GRADUATE	RURAL	G1	37 + 3	INDUCED	GDM ON INSULIN	12 HOURS/ 18 MINS/ 7 MINS	32 MINS	YES	8	SATISFIED	GIRL	3403 GM	35	EASY	NO	INTERVENTION
MAMTA	23	2018/03/001019	GRADUATE	URBAN	G1	39 + 5	SPONTANEOUS		4 HOURS 4 MINS/ 5 MINS/ 3 MINS	15 MINS	NO	5	SATISFIED	BOY	2878 GM	33	DIFFICULT	NO	CONTROL
DURGA	22	2022/09/012232	MIDDLE SCHOOL	URBAN	G1	37	INDUCED	GHTN	8 HOURS/ 25 MINS/ 10 MINS	32 MINS	NO	5	SATISFIED	GIRL	3146 GM	33.6	NEITHER EASY NOR DIFFICULT	NO	CONTROL
AARTI	25	2022/02/004983	GRADUATE	URBAN	G1	41	SPONTANEOUS		8 HOURS/ 29 MINS/ 17 MINS	24 MINS	YES	10	DISSATISFIED	GIRL	3621 GM	34	VERY EASY	TINGLING	INTERVENTION
REKHA PANWAR	27	2022/02/018247	SECONDARY SCHOOL	URBAN	G1	39	INDUCED	GDM ON OHA	16 HOURS 30 MINS/ 22 MINS/ 5 MINS	20 MINS	YES	4	VERY SATISFIED	BOY	3192 GM	34.5	VERY EASY	NO	INTERVENTION
GUNAVANTI	33	2022/07/021277	SECONDARY SCHOOL	RURAL	G6P1131	37	INDUCED	GHTN	6 HOURS/ 5 MINS/ 5 MINS	30 MINS	YES	8	SATISFIED	BOY	2566 GM	30	VERY EASY	TINGLING	INTERVENTION

KIRTI GUND	25	2021/11/001848	GRADUATE	URBAN	G2P1001	37 + 3	SPONTANEOUS		12 HOURS 30 MINS/ 11 MINS/ 5 MINS	30 MINS	NO	5	DISSATISFIED	BOY	3348 GM	34	NEITHER EASY NOR DIFFICULT	NO	CONTROL
VIMLA	25	2022/04/007423	GRADUATE	URBAN	G2P0010	39	INDUCED	SGA	6 HOURS 15 MINS/ 20 MINS/ 5 MINS	20 MINS	NO	5	VERY SATISFIED	GIRL	2642 GM	31.5	VERY EASY	TINGLING	INTERVENTION
SHAMEENA BANO	29	2022/03/004452	HIGHER SECONDARY	RURAL	G1	40 + 3	SPONTANEOUS		5 HOURS 30 MINS/17 MINS/ 6 MINS	15 MINS	NO	5	SATISFIED	BOY	3280 GM	33.7	VERY EASY	NO	INTERVENTION
NISHA SUTHAR	20	20222/04/007013	MIDDLE SCHOOL	URBAN	G2P0010	40 + 5	SPONTANEOUS		12 HOURS/ 15 MINS/ 8 MINS	32 MINS	NO	4	SATISFIED	GIRL	3640 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
NEHA SANGTANI	25	222/05/007869	POSTGRADUATE	URBAN	G1	39	INDUCED	PROM	10 HOURS/ 5 MINS/ 87 MINS	25 MINS	YES	5	SATISFIED	GIRL	2581 GM	32.5	EASY	NO	INTERVENTION
RINKU CHOUDHARY	24	2022/02/002364	POSTGRADUATE	URBAN	G1	39	INDUCED	DECREASED FETAL MOVEMENT	9 HOURS/ 14 MINS / 5 MINS	32 MINS	YES	5	SATISFIED	BOY	2850 GM	34.5	EASY	NO	INTERVENTION
SUA	21	2021/12/003299	MIDDLE SCHOOL	RURAL	G2P1000	39	SPONTANEOUS		11 HOURS/ 15 MINS/ 5 MINS	32 MINS	NO	7	SATISFIED	BOY	3573 GM	36	EASY	NUMBNESS	INTERVENTION
VIMLA CHOUDHARY	22	2021/12/001614	GRADUATE	URBAN	G1	38 + 2	INDUCED	PROM	15 HOURS/ 14 MINS/ 6 MINS	32 MINS	YES	10	SATISFIED	GIRL	3713 GM	35.5	EASY	NO	INTERVENTION
POOJA CHOUDHARY	24	2021/11/013459	HIGHER SECONDARY	URBAN	G1	38 + 2	INDUCED	FGR	6 HOURS 30 MINS/ 10 MINS/ 5 MINS	25 MINS	NO	3	VERY SATISFIED	GIRL	1978 GM	30	NEITHER EASY NOR DIFFICULT	NO	CONTROL
SAMI DEVI	25	2022/01/027033	SECONDARY SCHOOL	URBAN	G1	40 + 2	INDUCED	RH NEGATIVE PREGNANCY	7 HOURS/ 15 MINS/ 5 MINS	20 MINS	NO	3	VERY SATISFIED	GIRL	2998 GM	34	DIFFICULT	NO	CONTROL
SHRADDHA SONI	28	2022/02/018181	POSTGRADUATE	URBAN	G2P1001	38	SPONTANEOUS		13 MINS/ 15 MINS/ 3MINS	15 MINS	NO	4	VERY SATISFIED	BOY	3572 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
MANISHA KUMARI	24	2021/11/003535	GRADUATE	URBAN	G2P1001	39 + 5	SPONTANEOUS		4 HOURS/ 6 MINS/ 5 MINS	32 MINS	YES	7	SATISFIED	GIRL	3576 GM	36	EASY	NO	INTERVENTION
NIRMA PRAJAPAT	20	2022/02/004407	HIGHER SECONDARY	URBAN	G1	39 + 2	INDUCED	SGA	5 HOURS 30 MINS/ 9 MINS/ 10 MINS	28 MINS	NO	5	SATISFIED	GIRL	2684 GM	34.5	EASY	NO	INTERVENTION
MINAKSHI	25	2022/05/003371	POSTGRADUATE	URBAN	G1	40	INDUCED	GDM ON MNT	5 HOURS 10 MINS/ 11 MINS/ 6 MINS	30 MINS	YES	6	SATISFIED	GIRL	3093 GM	34	NEITHER EASY NOR DIFFICULT	NO	CONTROL
SAROJ RATHORE	22	2021/12/017562	HIGHER SECONDARY	URBAN	G1	38 + 4	SPONTANEOUS		12 HOURS/ 6 MINS/ 10 MINS	30 MINS	YES	8	SATISFIED	GIRL	3028 GM	33	EASY	NO	INTERVENTION
KAVITA	26	2021/10/009300	MIDDLE SCHOOL	URBAN	G2P1001	40 + 5	INDUCED	DECREASED FETAL MOVEMENT	7 HOURS/ 13 MINS/ 6 MINS	30 MINS	YES	8	SATISFIED	GIRL	3875 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
KAVITA DEVI	30	2022/02/008192	MIDDLE SCHOOL	URBAN	G2P1001	40 + 3	INDUCED	PROM	7 HOURS/ 18 MINS/ 6 MINS	12 MINS	NO	7	NEITHER SATISFIED NOR DISSATISFIED	BOY	3555 GM	34.5	NEITHER EASY NOR DIFFICULT	NO	CONTROL
MANJU PATEL	21	2021/11/012860	HIGHER SECONDARY	URBAN	G2P1001	39	SPONTANEOUS		11 HOURS 30 MINS/ 15 MINS/ 5 MINS	30 MINS	NO	6	SATISFIED	BOY	3314 GM	33	EASY	NO	INTERVENTION
SEEMA	21	2022/01/027433	SECONDARY SCHOOL	URBAN	G1	37 + 4	SPONTANEOUS		12 HOURS/ 15 HOURS/ 8 MINS	24 MINS	YES	9	NEITHER SATISFIED NOR DISSATISFIED	GIRL	2789 GM	33.8	EASY	NO	INTERVENTION
KAVITA	28	2021/06/004196	HIGHER SECONDARY	URBAN	G2P1001	38 + 3	INDUCED	PROM	10 HOURS 30 MINS/ 28 MINS/ 10 MINS	22 MINS	NO	6	SATISFIED	GIRL	2629 GM	33	NEITHER EASY NOR DIFFICULT	NO	CONTROL
SUMAN KANWAR	30	2021/11/008529	GRADUATE	URBAN	G2P1001	38 + 3	SPONTANEOUS		11 HOURS 50 MINS/ 5 MINS/ 5 MINS	32 MINS	NO	6	SATISFIED	GIRL	3100 GM	34	NEITHER EASY NOR DIFFICULT	NO	CONTROL
MONU GOUR	29	2022/04/005563	GRADUATE	URBAN	G1	38 + 6	SPONTANEOUS		8 HOURS 30 MINS/ 30 MINS/ 15 MINS	25 MINS	NO	4	VERY SATISFIED	BOY	2837 GM	33.5	EASY	NO	CONTROL
MAINA	20	2022/05/021641	SECONDARY SCHOOL	URBAN	G1	39 + 6	SPONTANEOUS		5 HOURS 45 MINS/ 21 MINS/ 5 MINS	32 MINS	YES	8	SATISFIED	GIRL	2985 GM	32	EASY	NO	INTERVENTION
VIMLA	29	2022/01/031475	GRADUATE	URBAN	G2P0010	37 + 2	INDUCED	IHCP	8 HOURS/ 26 MINS/ 10 MINS	20 MINS	YES	3	VERY SATISFIED	BOY	2516 GM	34	EASY	NO	INTERVENTION
NISHA	27	2022/03/012093	SECONDARY SCHOOL	URBAN	G3P0020	37 + 4	SPONTANEOUS		16 HOURS/ 22 MINS/ 10 MINS	12 MINS	NO	4	VERY SATISFIED	BOY	2652 GM	32.3	NEITHER EASY NOR DIFFICULT	NO	CONTROL
LAVINA	24	2022/03/015992	GRADUATE	URBAN	G1	38	SPONTANEOUS	SGA	13 HOURS/15 MINS/ 7 MINS	20 MINS	NO	4	SATISFIED	GIRL	2649 GM	32.4	NEITHER EASY NOR DIFFICULT	NO	CONTROL
SANTOSH	28	2022/06/010227	POSTGRADUATE	URBAN	G2P1001	39 + 6	SPONTANEOUS		10 HOURS 40 MINS/ 14 MINS/ 5 MINS	28 MINS	YES	9	SATISFIED	GIRL	3321 GM	35	EASY	NO	INTERVENTION
MANISHA	23	2021/12/005683	SECONDARY SCHOOL	URBAN	G1	37 + 2	SPONTANEOUS		5 HOURS 30 MINS/ 19 MINS/ 5 MINS	32 MINS	YES	5	SATISFIED	BOY	2757 GM	33.5	EASY	NUMBNESS	INTERVENTION
MANJU	20	2019/ 07/008747	GRADUATE	RURAL	G1	39 + 3	SPOTANEOUS		6 HOURS/ 30 MINS/ 6 MINS	20 MINS	NO	8	SATISFIED	GIRL	2751 GM	33	VERY EASY	NO	INTERVENTION
SONA SONI	32	2021/08/008771	POSTGRADUATE	URBAN	G2P1001	39	SPONTANEOUS		12 HOURS/ 14 MINS/ 5 MINS	23 MINS	NO	6	SATISFIED	GIRL	3012 GM	34.5	DIFFICULT	NO	CONTROL
POONAM CHOUDHARY	26	2021/10/013254	GRADUATE	URBAN	G2P1001	38	SPONTANEOUS		5 HOURS 15 MINS/ 8 MINS/ 10MINS	10 MINS	NO	5	SATISFIED	GIRL	3038 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
ANJU	25	2022/04/002209	POSTGRADUATE	URBAN	G1	40 + 4	INDUCED	HYPOTHYROIDISM	8 HOURS/ 20 MINS/ 5 MINS	32 MINS	YES	8	NEITHER SATISFIED NOR DISSATISFIED	GIRL	4117 GM	36	EASY	NO	INTERVENTION
DAYANA PALIWAL	29	2022/06/006972	HIGHER SECONDARY	RURAL	G1	38 + 6	SPONTANEOUS		12 HOURS 30 MINS/ 29 MINS/ 10 MINS	20 MINS	NO	7	SATISFIED	GIRL	2850 GM	33.5	EASY	NO	INTERVENTION
SEEMA BAKOLIYA	31	2022/04/010285	GRADUATE	URBAN	G1	38	INDUCED	PROM	5 HOURS/ 11 MINS/ 10 MINS	23 MINS	NO	5	SATISFIED	GIRL	2798 GM	34	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
VIMLA	22	2022/04/016932	MIDDLE SCHOOL	URBAN	G1	40 + 3	SPONTANEOUS		8HOURS/ 15 MINS/ 12 MINS	18 MINS	YES	7	NEITHER SATISFIED NOR DISSATISFIED	BOY	3246 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
SANTOSH	23	2021/10/017891	GRADUATE	RURAL	G1	40	SPONTANEOUS		12 HOURS/ 30 MINS/ 6 MINS	15 MINS	YES	7	SATISFIED	BOY	3128 GM	33	EASY	NUMBNESS	INTERVENTION
DIVYA RANI	28	2022/02/002630	POSTGRADUATE	URBAN	G1	38 + 5	INDUCED	PROM	11 HOURS/ 13 MINS/ 5 MINS	35 MINS	YES	9	SATISFIED	BOY	2846 GM	33	VERY EASY	NO	INTERVENTION
SURABHI KANWAR	24	2021/01/019751	POSTGRADUATE	URBAN	G1	38	SPONTANEOUS		12 HOURS/ 26 MINS/ 6 MINS	18 MINS	NO	4	VERY SATISFIED	GIRL	2531 GM	33	NEITHER EASY NOR DIFFICULT	NO	CONTROL
SUMAN	23	2022/04/010086	GRADUATE	URBAN	G1	40	INDUCED	GDM ON MNT	8 HOURS/ 15 MINS/ 6MINS	20 MINS	NO	4	VERY SATISFIED	GIRL	2696 GM	33	VERY EASY	NO	CONTROL
KAVITA	22	2022/08/014666	GRADUATE	URBAN	G1	39 + 1	SPONTANEOUS		8 HOURS/ 20 MINS/ 5 MINS	20 MINS	NO	3	VERY SATISFIED	BOY	2869 GM	33.5	EASY	NO	CONTROL
PRIYANSHEE DHOOT	25	2022/01/020477	POSTGRADUATE	URBAN	G1	40 + 3	SPONTANEOUS		9 HOURS/ 11 MINS/ 10 MINS	20 MINS	NO	4	SATISFIED	BOY	3399 GM	35	EASY	NO	INTERVENTION
SONIYA	19	2022/03/020538	HIGHER SECONDARY	URBAN	G1	39 + 3	SPONTANEOUS		8 HOURS 40 MINS/ 9 MINS/ 5 MINS	20 MINS	NO	7	SATISFIED	BOY	3110 GM	34.5	EASY	NO	INTERVENTION
PUSHPA DEVI	22	2021/11/015845	GRADUATE	URBAN	G1	38	INDUCED	PROM	6 HOURS 30 MINS/ 16 MINS/ 6 MINS	30 MINS	YES	8	SATISFIED	BOY	2793 GM	32	EASY	NO	INTERVENTION
REKHA CHOUDHARY	18	2022/09/004540	MIDDLE SCHOOL	URBAN	G1	40 + 1	INDUCED	POSTDATED	8 HOURS/ 10 MINS/ 5MINS	20 MINS	YES	7	SATISFIED	GIRL	2774 GM	32	EASY	NO	INTERVENTION
SONU PANWAR	22	2022/05/006113	SECONDARY SCHOOL	URBAN	G1	39	SPONTANEOUS		8 HOURS/ 15 MINS/ 8MINS	15 MINS	NO	6	VERY SATISFIED	GIRL	2919 GM	31.5	EASY	NO	CONTROL
HEERA	22	2022/06/011457	GRADUATE	URBAN	G1	39	SPONTANEOUS	NO	7 HOURS 3 MINS/ 14 MINS/ 10 MINS	24 MINS	NO	6	SATISFIED	GIRL	2521 GM	32	NEITHER EASY NOR DIFFICULT	NO	CONTROL
MONU KANWAR	18	2021/10/012702	SECONDARY SCHOOL	URBAN	G2P0010	39 + 5	SPONTANEOUS		10 HOURS/ 13 MINS/ 10 MINS	15 MINS	NO	2	SATISFIED	BOY	2824 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
SARIKA GIDWANI	29	2021/12/004664	POSTGRADUATE	URBAN	G1	39 + 3	SPONTANEOUS		24 HOURS/ 23 MINS/ 10 MINS	30 MINS	NO	3	SATISFIED	GIRL	3853 GM	36	EASY	TINGLING	INTERVENTION
POOJA PRAJAPAT	22	2022/04/011899	POSTGRADUATE	URBAN	G1	39 + 4	SPONTANEOUS		21 HOURS/ 6 MINS/ 5 MINS	18 MINS	NO	3	SATISFIED	GIRL	3000 GM	33.8	EASY	NO	CONTROL
GAYATRI	25	2022/04/011377	POSTGRADUATE	URBAN	G2P1001	38	INDUCED	FGR	12 HOURS/ 15 MINS/ 8 MINS	20 MINS	NO	7	SATISFIED	BOY	2570 GM	32.5	NEITHER EASY NOR DIFFICULT	TINGLING	INTERVENTION
REKHA	25	2021/04/012994	POSTGRADUATE	URBAN	G1	37	SPONTANEOUS		9 HOURS/ 26 MINS/ 10 MINS	30 MINS	NO	5	VERY SATISFIED	BOY	2740 GM	32	NEITHER EASY NOR DIFFICULT	NO	CONTROL
SURUCHI RATHI	24	2022/04/010405	GRADUATE	URBAN	G1	38 + 4	SPONTANEOUS		8 HOURS/ 12 MINS/ 6 MINS	15 MINS	NO	5	VERY SATISFIED	BOY	3179 GM	31.7	NEITHER EASY NOR DIFFICULT	NO	CONTROL
SWAROOP KANWAR	21	2022/07/016965	GRADUATE	URBAN	G1	39 + 5	SPONTANEOUS		7 HOURS/ 12 MINS/ 5 MINS	17 MINS	YES	6	VERY SATISFIED	GIRL	3119 GM	34	NEITHER EASY NOR DIFFICULT	NUMBNESS	INTERVENTION
DEEPA PARIHAR	27	2020/09/011298	POSTGRADUATE	URBAN	G1	38 2	SPONTANEOUS		8 HOURS/ 30 MINS/ 6 MINS	20 MINS	NO	6	SATISFIED	BOY	3351 GM	34.5	EASY	NO	INTERVENTION
PRIYANKA CHOUDHARY	21	2019/04/012490	POSTGRADUATE	URBAN	G1	38	INDUCED	GHTN	13 HOURS/ 13 MINS/ 5 MINS	20 MINS	NO	5	SATISFIED	BOY	2678 GM	33	NEITHER EASY NOR DIFFICULT	NO	CONTROL

SHIVANI RATHORE	28	2021/01/022256	GRADUATE	URBAN	G2P1001	40 + 2	SPONTANEOUS		4 HOURS/ 12 MINS/ 5 MINS	28 MINS	NO	5	SATISFIED	BOY	4048 GM	36	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
PRAMILA	23	2019/10/017781	SECONDARY SCHOOL	URBAN	G1	39 + 3	SPONTANEOUS		12 HOURS/ 8 MINS/ 7 MINS	14 MINS	NO	4	SATISFIED	BOY	3129 GM	34	NEITHER EASY NOR DIFFICULT	NO	CONTROL
MADHU GOSWAMI	31	2021/11/003728	POSTGRADUATE	URBAN	G1	39	INDUCED	GDM ON MNT	5 HOURS/ 15 MINS/ 10 MINS	30 MINS	NO	5	SATISFIED	BOY	3052 GM	35	EASY	NO	CONTROL
ASHRULEKHA	22	2020/09/008244	GRADUATE	URBAN	G1	39 + 1	INDUCED	PROM	10 HOURS/ 15 MINS/ 12 MINS	22 MINS	NO	8	SATISFIED	GIRL	3420 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
RAMDULARI SHARMA	19	2021/08/012554	SECONDARY SCHOOL	RURAL	G1	37 + 2	SPONTANEOUS		12 HOURS 50 MINS/ 15 MINS/ 5 MINS	32 MINS	YES	8	SATISFIED	GIRL	2168 GM	31	EASY	NO	INTERVENTION
KANIKA	28	2021/06/010389	GRADUATE	URBAN	G1	39 + 1	SPONTANEOUS		10 HOURS 30 MINS/ 4 MINS/ 15 MINS	30 MINS	NO	5	SATISFIED	GIRL	2966 GM	34	DIFFICULT	NO	CONTROL
PRIYANKA KANWAR	21	2020/12/000440	SECONDARY SCHOOL	RURAL	G1	39 + 4	INDUCED	PROM	18 HOURS 30 MINS/ 22 MINS/ 10 MINS	26 MINS	NO	7	SATISFIED	BOY	2429 GM	31.5	NEITHER EASY NOR DIFFICULT	NO	CONTROL
KRITIKA JAIN	29	2022/05/010963	POSTGRADUATE	URBAN	G1	39 + 5	INDUCED	PROM	16 HOURS/ 26 MINS/ 10MINS	26 MINS	NO	4	SATISFIED	GIRL	2646 GM	34	EASY	NO	INTERVENTION
POOJA DUBEY	32	2021/12/017797	GRADUATE	URBAN	G1	38 + 2	INDUCED	GDM ON OHA	12 HOURS/ 9 MINS/ 9 MINS	20 MINS	NO	8	SATISFIED	GIRL	3210 GM	35,1	EASY	NO	INTERVENTION
VIMLA GEHLOT	26	2021/07/017504	HIGHER SECONDARY	URBAN	G1	40	INDUCED	HYPOTHYROIDISM	10 HOURS/ 5 MINS/ 10 MINS	20 MINS	NO	6	SATISFIED	GIRL	2993 CM	32.4	DIFFICULT	NO	CONTROL
SIMA	24	2020/01/019839	ILLITERATE	RURAL	G1	39	SPONTANEOUS		6 HOURS/ 23 MINS/ 10 MINS	30 MINS	YES	8	SATISFIED	BOY	2890 GM	33	NEITHER EASY NOR DIFFICULT	NO	CONTROL
PANCHU DEVI	29	2018/05/014048	POSTGRADUATE	URBAN	G1	39 + 5	SPONTANEOUS		10 HOURS/ 12 MINS/ 8 MINS	30 MINS	NO	6	SATISFIED	BOY	3242 GM	35	EASY	NO	CONTROL
PREETI SHARMA	31	2015/02/000425	GRADUATE	URBAN	G1	39	SPONTANEOUS		5 HOURS 50 MINS/ 15 MINS/ 15 MINS	30 MINS	NO	7	SATISFIED	BOY	3280 GM	35	EASY	NO	CONTROL
RENUKA	29	2021/01/0108070	GRADUATE	URBAN	G2P1001	39 + 5	SPONTANEOUS		4 HOURS/ 15 MINS/ 5 MINS	15 MINS	YES	6	SATISFIED	BOY	3242 GM	35	NEITHER EASY NOR DIFFICULT	NUMBNESS	INTERVENTION
RENU	23	2019/06/016904	SECONDARY SCHOOL	RURAL	G1	38 + 6	INDUCED	FGR	8 HOURS/ 22MINS/ 10 MINS	24 MINS	NO	8	SATISFIED	BOY	2061GM	32	NEITHER EASY NOR DIFFICULT	NO	CONTROL
SHANTI	33	2022/05/003388	GRADUATE	RURAL	G1	40 + 6	INDUCED	POSTDATED	8 HOURS/ 6 MINS/ 3 MINS	28 MINS	YES	6	SATISFIED	GIRL	2683 GM	32	EASY	NO	INTERVENTION
NEHA SONI	28	2022/03/000286	GRADUATE	URBAN	G1	38 + 5	SPONTANEOUS		12 HOURS/ 18 MINS/ 7 MINS	15 MINS	NO	3	VERY SATISFIED	BOY	3794 GM	35	EASY	NO	CONTROL
GAYATRI	33	2017/10/013833	GRADUATE	URBAN	G2P1001	39	INDUCED	GDM IN OHA	9 HOURS/ 13 MINS/ 8 MINS	20 MINS	NO	5	SATISFIED	BOY	3246 GM	35	DIFFICULT	NO	CONTROL
CHUKA DEVI	24	2021/10/006555	HIGHER SECONDARY	URBAN	G1	38 + 5	SPONTANEOUS		12 HOURS/ 8 MINS/ 5 MINS	24 MINS	NO	5	VERY SATISFIED	BOY	2875 GM	32	EASY	NO	CONTROL
BINDIYA SHARMA	36	2015/06/009447	GRADUATE	URBAN	G2P1001	38	SPONTANEOUS		16 HOURS/ 15 MINS/ 8 MINS	20 MINS	NO	7	VERY SATISFIED	GIRL	3210 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
LAVINA TEWANI	26	2021/12/004413	GRADUATE	URBAN	G1	38 + 2	SPONTANEOUS	PROM	10 HOURS/ 15 MINS/ 5 MINS	18 MINS	NO	2	SATISFIED	GIRL	2965 GM	32	EASY	NO	CONTROL
SARAH KHAN	25	2022/02/005967	GRADUATE	URBAN	G1	39	SPONTANEOUS		17 HOURS/ 44 MINS/ 10 MINS	30 MINS	NO	4	VERY SATISFIED	BOY	2749 GM	32	EASY	NO	CONTROL
ARUNA	27	2021/11/011358	GRADUATE	URBAN	G1	39 + 4	SPONTANEOUS		6 HOURS 30 MINS/ 16 MINS/ 15 MINS	32 MINS	YES	10	NEITHER SATISFIED NOR DISSATISFIED	BOY	3605 GM	35.5	VERY EASY	NO	INTERVENTION
USHA BHATI	23	2022/03/010683	GRADUATE	URBAN	G1	39	SPONTANEOUS		17 HOURS/ 44 MINS/ 10 MINS	30 MINS	YES	6	SATISFIED	BOY	3068 GM	34	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
SHREYA SHARMA	18	2021/05/003049	HIGHER SECONDARY	URBAN	G1	38 + 2	INDUCED	FGR	12 HOURS/ 19 MINS/ 12 MINS	20 MINS	YES	8	NEITHER SATISFIED NOR DISSATISFIED	BOY	2159 GM	31.5	EASY	NO	CONTROL
VEENA SONI	36	2021/08/000465	GRADUATE	URBAN	G2P0010	39 + 1	SPONTANEOUS		13 HOURS/ 15 MINS/ 8 MINS	18 MINS	NO	4	SATISFIED	GIRL	3012 GM	35	EASY	NO	CONTROL
SWASTIKA	24	2021/02/003857	POSTGRADUATE	URBAN	G1	40 + 1	INDUCED	GDM ON MNT	11 HOURS/ 30 MINS/ 12 MINS	20 MINS	NO	2	VERY SATISFIED	BOY	3216 GM	35	NEITHER EASY NOR DIFFICULT	NO	CONTROL
SONU KANWAR	23	2021/09/0029791	POSTGRADUATE	URBAN	G1	39 + 1	INDUCED	GDM	15 HOURS/ 7 MINS/ 8 MINS	22 MINS	YES	7	SATISFIED	GIRL	2839 GM	32.5	DIFFICULT	NO	CONTROL
JAYA KANWAR	24	2021/09/003536	MIDDLE SCHOOL	RURAL	G1	40 + 4	INDUCED	POSTDATED	7 HOURS/ 12 MINS/ 5 MINS	35 MINS	NO	8	SATISFIED	GIRL	2888 GM	34	DIFFICULT	NO	CONTROL
DIKSHA PURI GOSWAMI	21	2021/07/008301	GRADUATE	URBAN	G3P1011	37 + 6	SPONTANEOUS		7 HOURS/ 16 MINS/10 MINS	20 MINS	YES	6	SATISFIED	BOY	2673 GM	34	VERY EASY	TINGLING	INTERVENTION
RITU	26	2020/10/003063	POST GRADUATE	URBAN	G1	39 + 5	SPONTANEOUS		4 HOURS 45 MINS/ 6 MINS/ 5 MINS	25 MINS	NO	6	SATISFIED	BOY	3219 GM	35	NEITHER EASY NOR DIFFICULT	NO	INTERVENTION
BALJIT KAUR	29	2019/11/008245	SENIOR SECONDARY	URBAN	G1	37	INDUCED	IHCP	9 HOURS 30 MINS/ 10 MINS/ 5 MINS	30 MINS	YES	8	SATISFIED	BOY	2731 GM	34	EASY	NO	CONTROL

Cell: A1
Comment: senior secondary=3
-Matte Siba
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graduate=2
-Matte Siba