
**"POST-PARTUM BLOOD LOSS IN INDUCED VS
SPONTANEOUS VAGINAL DELIVERY" – A DESCRIPTIVE
OBSERVATIONAL STUDY**

By

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RESEARCH (KAHER), BELAGAVI,
KARNATAKA**

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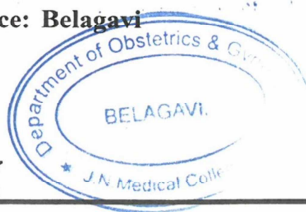
Dr. ANITA DALAL, MD
Professor & HOD
Department of Obstetrics
and Gynecology
J.N. Medical College Belagavi- 590010



Dr. (Mrs.) N. S. MAHANTSHETTI, MD
Principal
J.N. Medical College
Nehru Nagar, Belagavi- 590010

Date: 1/1/2022



Place: Belagavi



Date:


Place: Belagavi


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Nehru Nagar, Belagavi- 590 010, Karnataka, INDIA		
0831 - 2471350	0831 - 2470759	www.jnmc.edu
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Chairperson-Antiplagiarism Committee &
Principal,
J. N. Medical College, Belagavi.

To,
Reg. No. BJ0119014.
Postgraduate Student,
2019-20 Batch,
Department of Obst. & Gynecology,
J. N. Medical College, Belagavi.

ABBREVIATIONS

BMI	:	Body mass index
cms	:	Centimeters
FGR	:	Fetal Growth Restriction
GAG	:	Glycosaminoglycan
Hb	:	Hemoglobin
PROM	:	Premature Rupture of Membranes
PPROM	:	Preterm Premature Rupture of Membranes
PGE1	:	Prostaglandin E1 / Misoprostol
PGE2	:	Prostaglandin E2 / Dinoprostone
PPH	:	Post-Partum Hemorrhage
RCT	:	Randomized Controlled Trial
PG	:	Post Graduation
i.m	:	Intramuscular
kg/m ²	:	Kilogram/metre ²
gm/dl	:	Gram/deciliter
vs	:	Versus
WHO	:	World Health Organization

ABSTRACT

“Post-Partum Blood Loss In Induced Vs Spontaneous Vaginal Delivery” – A Descriptive Observational Study

Introduction

Induction of labor is one of the common interventions in obstetric practice, and the epidemiology of induction of labor has changed over the years, with increase in frequency of induction of labor. This study is based on a quantitative assessment of blood loss which occurs in induced and spontaneous vaginal deliveries using a calibrated pelvic drape to objectively measure postpartum blood loss.

Objectives

- To find out the association if exists between postpartum blood loss and induced labor.
- Prevalence of PPH (≥ 500 ml) in induced Vs spontaneous delivery.

Material & methods

This is a prospective cohort study conducted in KLE's DR. Prabhakar Kore Hospital from 1st January 2020 to 30th June 2021.

Women with live singleton pregnancy with cephalic presentation, anticipating a normal vaginal delivery and with hemoglobin ≥ 9.9 g/dl upon presentation and eligible based on inclusion and exclusion criteria were enrolled.

The serum hemoglobin of all the enrolled women will be measured at the time of admission for delivery. The type of induction will be determined by the obstetrician who will be in charge of the patient. In all patients, active management of third stage of labor will be carried out.

The blood loss will be objectively measured using the BRASS-V DRAPE (a calibrated transparent collecting drape). This drape will be opened only after the delivery of the baby. Blood loss will be measured for 1 hour after delivery.

For estimation of serum hemoglobin post-delivery, 2 ml of venous blood sample will be withdrawn under aseptic precautions 48-72 hours post-delivery.

The primary outcome was assessed by the amount of blood loss and change in hemoglobin.

Results

361 participants were analyzed of which 160 participants were analyzed in the induced group and 201 participants in the spontaneous group. Mean blood loss in the induced group was 361.69 ± 98.10 as compared to 189.85 ± 121.69 in the spontaneous group which was statistically significant ($p < 0.001$). Change in hemoglobin was significantly more in induced vaginal delivery compared to spontaneous vaginal delivery ($p < 0.001$).

Conclusion

Induction of labour is associated with increased blood loss as compared to spontaneous onset of labor. There is no significant association of post-partum hemorrhage with spontaneous and induced vaginal delivery.

Key words: Induction of labor, Postpartum blood loss, Postpartum hemorrhage.

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INTRODUCTION

The process of artificially stimulating the uterus to initiate labour is termed as induction of labour.⁽¹⁾ Generally, induction of labour is indicated when delivering is much more beneficial for mother and the baby than expectant management. It is usually accomplished with the use of oxytocin, prostaglandins, by artificial rupture of the amniotic membranes. Labour induction is beneficial for mother and the baby if done correctly and for the right reasons. The objective of induction is to facilitate a successful vaginal delivery.⁽²³⁾ In today's obstetric practise, it's among the most prevalent interventions.

The epidemiology of induction of labour has evolved drastically over the years as the frequency of induction has increased.⁽¹⁾ In developed countries, induction accounts for approximately 20-25% of deliveries. The rates often are lower in developing nations.⁽²⁾ In a global survey conducted in 24 nations by The World Health Organization (WHO) on maternal and perinatal health concluded that 9.6% of them were delivered by induction.⁽³⁾ Induction of labour is considered to be one of the risk factors for postpartum haemorrhage.⁽⁴⁾

WHO defines Postpartum haemorrhage (PPH) as an event in which blood lost following vaginal delivery exceeds 500mL within 24 hours of birth. Around 30% of the maternal deaths in Asia and Africa are caused due to postpartum haemorrhage.⁽⁵⁾ It is the most common cause of maternal death in developing countries. Early detection with immediate treatment is critical for PPH prevention. Visually assessing the blood loss in the postpartum period is considered inferior to quantitative assessment of blood loss, as the latter frequently results in underestimation of blood loss.

Prior history of PPH, multiple pregnancy, anaemia, prolonged labour, and induction of labour all seem to be precipitating factors for PPH. Even though multiple studies have demonstrated there is a strong possibility for PPH following induction of labour⁽⁶⁾, the results of these studies did not analyse the impact of induction of labour on the amount of blood loss following delivery.⁽⁷⁾

This research uses a calibrated pelvic drape to quantitatively assess postpartum blood loss in both induced and spontaneous vaginal births⁽⁸⁾.

If this study proves that there is an increase in blood loss following induction of labour, it will give us a hint to be better prepared and institute prompt treatment.

OBJECTIVE

Primary objective

To find out the association if exists between postpartum blood loss and induced labor.

Secondary objective

Prevalence of PPH ($\geq 500\text{ml}$) in Induced Vs Spontaneous delivery.

REVIEW OF LITERATURE

PPH continues to be the principal reason for maternal mortality worldwide, contributing to approximately 30% of all maternal deaths⁽⁵⁾ with atonicity being the most likely culprit for PPH. The rate of induction of labour has risen steadily in recent years. Studies have shown that induction of labour was implicated in the development of PPH.⁽⁷⁾ This is due to prolong exposure to labour inducing drugs which has a direct effect on the muscles of the myometrium, leading to muscular exhaustion. This in turn results in postpartum atony, leading to PPH.^(7, 8, and 17)

The first hour following delivery is considered to be the golden hour and a delay in the diagnosis can result in the death. Hence prompt intervention is crucial which includes using injection oxytocin before delivery of placenta followed by control cord traction of the umbilical cord using modified Brandt-Andrews method. The diagnosis of blood loss can sometimes be delayed due to erroneous assessment of the amount of blood lost post- delivery.

Previously, the amount of blood lost following delivery was assessed visually, which frequently resulted in underestimation of blood loss. A study conducted by Patel et al. demonstrated that there was an under estimation of blood loss by 33% when compared to drape estimation. The drape used in this study was a calibrated funnel shaped BRASS-V drape, that was placed under the women's buttocks and the calibrations measured the volume of blood loss.^(11, 12)

A similar study was conducted in 2013, wherein a total of 286 patients were enrolled and visual estimation misdiagnosed two-thirds of PPH cases. According to this study, visual estimation of blood loss was less accurate than objective measurement of post-delivery blood loss accounting for about 31%.⁽⁴⁴⁾

According to the consensus in the literature review, a woman is in spontaneous labour if she experiences frequent contractions that require her whole concentration, as well as adequate effacement (more than or equal to 80%) and/or cervical dilatation of 4-5 cm, she should be admitted to the hospital for a normal spontaneous vaginal delivery. It's crucial to remember that women in the early stages of labour can have regular contractions but no cervical effacement or dilation, and can be released following routine monitoring of the fetal heart rate and contraction monitoring using a tocodynamometer. Following that, certain women with cervical dilatation or effacement who do not have enough spontaneous contractions may be hospitalized for augmentation or induction. In recent years, the rate of induction has risen steadily.

The method of initiating labour before it naturally begins in order to deliver the fetus is termed as induction.⁽²³⁾ Labour induction to reduce the duration of a pregnancy has increased during the last several decades. In developed nations, after induction of labour, the proportion of children delivered at term can be as high as one out of every four births. Labour induction was practiced in 9.6% of deliveries, according to statistics from the global survey conducted World Health Organization on maternal and perinatal health, which comprised of 373 health-care institutions in 24 countries and about 300,000 births. In overall, institutions in African nations had lower rates of labour induction than the facilities in Asian and Latin American countries, as per the survey.⁽³⁾

Over the years, there has been a rising trend in the rate of induction all over the world. Induction is a favorable option when the benefits to the mother and the baby on delivering exceeds the risk of continuing the pregnancy. For a variety of

causes, the epidemiology of induction of labour has evolved tremendously, although the most prevalent reason for induction of labour remains postdatism.

According to a study conducted by Khireddine et al , there is 20% risk of PPH in women who had delivered following induction.⁽⁷⁾ According to WHO, when there are clear medical indications, induction should be practiced, and it should be carried out in facilities where maternal and fetal wellbeing can be monitored closely.⁽³⁾ Indications for induction includes conditions like rupture of membranes prior to labour, postdatism, intra uterine fetal growth restriction, gestational diabetes mellitus, gestational hypertension, and oligohydramnios.

Various methods for induction include induction with dinoprostone (PGE₂), induction with misoprostol (PGE₁) and induction with oxytocin.

A research conducted in the West Indies compared blood loss during oxytocin-induced labour against misoprostol-induced labour, wherein they had found that blood loss was greater in group where misoprostol was used for induction of labour, as compared to spontaneous labour. Also, this study showed that there was a trend towards PPH in the group where women were induced with misoprostol.⁽¹⁰⁾

The indication for induction has changed over the years, from inducing a woman in order to expel dead foetus to inducing a woman in order to enhance maternal and foetal wellbeing. Over the years, methods of induction have evolved, starting from nipple stimulation to mechanical dilatation of cervix described by Hippocrates.⁽²²⁾

Over the years, various methods of induction have been carried out. The history of induction of labour dates way back to the original descriptions of

stimulation of nipple and mechanical dilatation of cervix by Hippocrates.⁽²²⁾ Artificial rupture of membranes was practised by Soranus during the second century AD. Various methods of mechanical induction have been commonly practised through the 17th century.⁽²²⁾

Hormonal techniques for induction of in the form of extracts from the pituitary gland especially from the infundibular lobe of the pituitary gland was gaining importance during the 18th century. It was originally reported in the year 1906 by Dale, that these pituitary extracts were capable of causing myometrial contractions. These findings were first reported by Bell, three years later, following which the use of hormonal extracts (oxytocin) gained popularity as a hormonal method of induction.⁽²²⁾ Adverse effects with large dose and due to the presence of impurities in the pituitary extracts, many centres began discrediting its use. In 1953, fourteen years later from its discovery, structural formula of these pituitary extracts was discovered and since then synthetic oxytocin has been in use.⁽²²⁾

Use of prostaglandins for labour induction was first described by Karim and his colleagues in 1968. Since then, prostaglandin has become a popular option for inducing labour. In recent years, a chemical-based prostaglandin derivative named misoprostol has been used as a pharmacological agent to induce labour.⁽²⁴⁾

The idea of inducing a labour is to shorten the time to delivery, therefore it is essential to assess the cervix prior to induction. For a favourable outcome, that is a successful vaginal delivery, assessment of cervix is important. Edward Bishop, in 1964, devised a system of scoring to predict the cervix's favourability based on its condition. He had included dilatation of the cervix, effacement of the cervix, consistency and the station and position of the presenting part. This scoring system

was modified by Calder in 1974 and was termed Modified Bishop's score, which is being followed till date. ^(17,21,22,30)

Components of Modified Bishops score included cervical dilatation, consistency, position, station and effacement of cervix has been replaced with length of the cervix. According to this score, a favourable cervix is termed when Bishops score ≥ 6 , which predicts a favourable outcome.

Modified Bishop Score:-

Cervical features	Pelvic score			
	0	1	2	3
Dilatation of cervix	<1cm	1-2cm	2-4cm	>4cm
Length of cervix	>4cm	2-4cm	1-2cm	<1cm
Station of presenting part	-3	-2	-1/0	+1/+2
Consistency of cervix	Firm	Medium	Soft	
Position of cervix	Posterior	Mid position	Anterior	

Bishops score and failure of induction are inversely related, that is, lower the bishops score, higher the chances of patient going for caesarean section. Hence for a successful induction, it is essential for the cervix to be ripe. Therefore, cervical assessment prior to induction is essential to decide on a regimen for induction.

Cervical ripening refers to a change in arrangement of the collagen molecules, resulting in softening of the cervix. Cervical ripening is a physiological process

wherein there is an extensive remodelling of the cervical tissue. This process usually occurs towards the later weeks of pregnancy and results in onset of labour. ^(19, 20,21)

These physiological changes occur due to the change in the structure of the connective tissue of the cervix, which is predominantly formed of collagen. These collagen fibrils are linked together and structured in thick bundles in the non-pregnant state and early pregnancy. This is responsible for conferring rigidity to the cervix.

During ripening of the cervix, there is destabilization of these collagen fibrils, which results in the dilatation of the cervix. The biochemical and structural changes leading to cervical ripening was first studied by Danforth et al. ^(17,18,19). Collagen is encased in a ground substance that is primarily made up of glycosaminoglycan-based proteoglycan complexes (GAGs). Dermatan sulphate and chondroitin sulphate are the most abundant GAGs in the cervix. The changes in the composition of GAG, results in the ripening of the cervix. ⁽⁴⁾

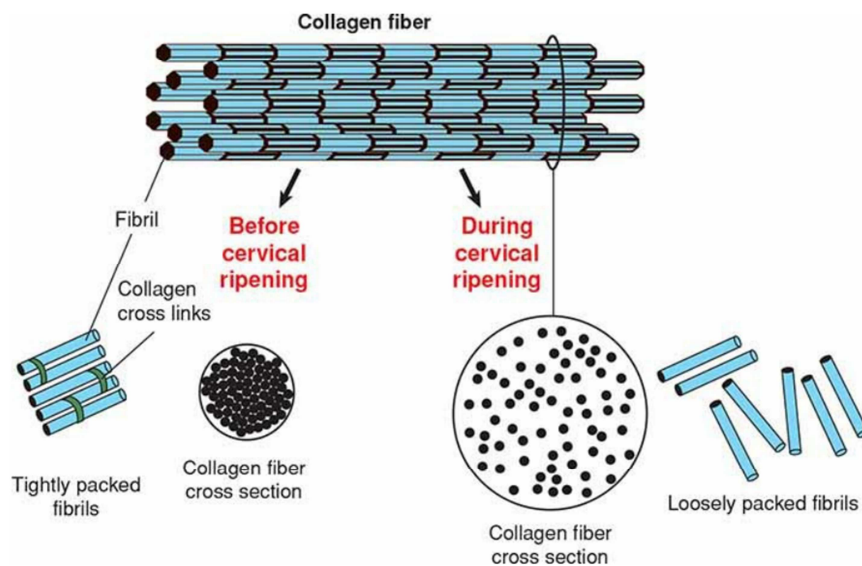


Figure 1: Collagen fibre architecture ⁽⁴⁾

The amount of collagen in the cervix decreases as the pregnancy progresses, while the amount of water in the cervix increases, resulting in the ripening the cervix. Infiltration by inflammatory mediators takes part in the process of cervical ripening. Fibroblast activation occurs and this fibroblast produces collagenases / matrix metalloproteinases which results in the enzymatic breakdown of the collagen fibrils, resulting in the ripening of the cervix. ^(17, 18, 19)

General Principles of the World Health Organization (WHO) on Labour Induction ⁽³⁾

Induction has to proceed with caution and to be used when there is a legitimate reason and the predicted advantage is more than the risks associated with it. When implementing the guidelines, take into account each woman's real condition, wants, and preferences, with an emphasis on cervical state, induction of labour strategy, and concurrent issues including parity and membrane rupture.

Because of high chances of excessive stimulation of the uterus, rupture of uterus, and fetal distress, induction should be done with prudence. Facilities for measuring mother and fetal well-being should be accessible wherever induction of labour is undertaken. Women who are taking misoprostol, prostaglandins or oxytocin should be monitored vigilantly. Whenever possible, labour induction must only take place in a hospital that has the facility to perform caesarean sections. ⁽³⁾

Prerequisites for induction of labour as per FOGSI-ICOG 2018⁽²⁴⁾

1. Informed written consent.
2. Detailed maternal history.
3. Evaluate for indications and rule out any possible contraindications.

4. Gestational age should be reliable and presentation and the fetal weight should be known.
5. The mother's pulse, blood pressure, temperature, breathing rate, and abdominal examination findings must all be documented.
6. Auscultation/electronic foetal monitoring must be used to establish a baseline foetal heart rate pattern.
7. Assessment of maternal pelvis and to rule out cephalopelvic disproportion by clinical evaluation.
8. Appropriate method of induction has to be selected after assessing the cervical status by modified Bishops score.
9. Once induction has been decided, thorough documentation of the indication for induction, technique of induction, and modified Bishops score must be completed.

Induction is justified when the consequences of maintaining the pregnancy is hazardous to either the mother or the foetus. The reason for induction has to be persuading, persuasive, agreed upon, and documented. In order to acquire unambiguous permission, the care provider and the pregnant women should be elaborated on the reason for and technique of induction. ⁽²⁾

Indication for Induction of Labour:-

1. Preeclampsia \geq 37 weeks
2. Chorioamnionitis
3. Fetal growth restriction
4. Premature rupture of membranes (PROM)
5. Gestational hypertension \geq 38 weeks of gestation

6. Diabetes mellitus
7. Post-dated pregnancy >41 weeks of gestation
8. Oligohydramnios
9. Intrauterine fetal demise
10. Preterm premature rupture of membranes

Cervix ripening and labour induction approaches –

Two pharmaceutical alternatives include oxytocin, PGE1 (misoprostol) and PGE2 (dinoprostone).^(25, 26) Prostaglandins are the treatment option when cervical softening is necessary in the context of an unfavourable cervix. Oxytocin, on the other hand, is administered when the cervix is in good condition (Bishops score 7–8) and is effective at increasing contractions.⁽²⁶⁾

- Mechanical:- catheters and hygroscopic dilators
- Pharmacological methods:- PGE2 , misoprostol (PGE1) , Mifepristone
- Surgical methods:- Sweeping of membranes and amniotomy

Prostaglandins for cervical ripening have been used since 1960s. The cervical changes caused by prostaglandin are similar to the physiological changes that occur in normal labour. Prostaglandin especially PGE2, increases collagenase activity of the cervix and alter the extracellular ground substance of the cervix. It also causes an increase infiltration of leukocytes, which in turn is also responsible for increased collagen degradation, thereby enhancing the process of cervical ripening. They are also responsible for bringing about contraction of the myometrium by increasing intracellular calcium.^(18, 19, 24, 26)

PGE2 is an excellent cervical ripening agent with a good safety panel, but the drawback is that, it's costly and has to be stored at a temperature of 2-8 degree Celsius. Misoprostol, a synthetic analogue of PGE1, heat stable and is also an excellent agent for priming the cervix. These agents prime the cervix and shorten the time to delivery.

Contraindication for induction of labour include ⁽²⁴⁾:-

- Prior classic uterine incision
- Active genital herpes infection
- Placenta previa
- Umbilical cord prolapse
- Transverse / oblique lie
- Absolute cephalopelvic disproportion
- Cervical carcinoma

An increase in third-stage blood loss is one of the most serious repercussions associated with induction of labour. It is usually seen following induction using pharmacological methods. The direct action of these drugs in the uterine musculature, results in supra physiological contractions. These supra physiological contractions can cause muscle fatigue. As a result of muscle fatigue following delivery, atonicity sets in, resulting in atonic PPH.

A calibrated drape (BRASS-V drape) is used to assess blood, which is placed underneath the women's buttocks. This calibrated drape can collect 2500ml of fluid, thereby making it an essential tool for visually estimating the amount of blood lost post-delivery.



Figure 2: BRASS-V Drape

A prospective observational study, which was single blinded, was undertaken by W Yoong et al. (2010), wherein the accuracy of estimating the amount of bleeding visually by the midwife and the obstetrician have been assessed. W Yoong et al. (2010) conducted a prospective observational study was conducted to assess midwife and obstetrician visual estimation of blood loss accuracy and intra-observer test-retest reliability. Although there was an inclination to exaggerate in this study, estimated actual volume showed no significant difference observed amongst consultants, trainees, and midwives. Inaccuracies were observed on visual estimations when it came to smaller amounts, which might be overstated by up to 540 percent. Visual estimations were shown to be erroneous due to overestimation of the blood loss by health workers, according to the findings of the study. ⁽²⁷⁾

Gary A Dildy et al. (2004) investigated whether a 20-minute educational course would improve the ability to precisely estimate the amount of blood loss visually and whether prior clinical experience could improve blood loss estimation. Simulated scenarios with known blood loss using standard surgical equipment utilising reconstituted whole blood from a blood bank was created. Health workers visually measured blood loss before and after a 20-minute educational session. 53 people evaluated seven scenarios. For all scenarios, there were notable decrease in the errors. They had concluded that, visual estimation of loss of low volumes of blood was overestimated and estimation at high volumes were underestimated. ⁽²⁸⁾

Romana Brun et al. 2019 studied blood loss after delivery in women underwent induction vs women who had progressed spontaneously and delivered in the context of a prospective cohort study's secondary analysis. Between 2015 and 2016, they looked at postpartum haemorrhage, analysing 965 births, including 380 women who had labour induction. The incidence of postpartum bleeding, amount of blood loss, and postpartum haemoglobin reduction were the primary outcome criteria. In women who had induction of labour, the incidence of postpartum haemorrhage and amount of postpartum blood loss were not substantially different. Labour induction resulted in a considerably lower drop in haemoglobin following delivery in women. Induction of labour, they found, is not linked to greater blood loss after delivery and concluded that is not a risk factor for postpartum haemorrhage. ⁽²⁾

Randomized controlled trials (RCTs) comparing a practice of induction with a practice of waiting for spontaneous labour to commence in pregnant women at or beyond term were reviewed by Philippa Middleton et al

in a Cochrane database systematic review published in 2018. The authors reached a conclusion that, when compared to expectant management, induction had fewer incidence perinatal deaths and caesarean sections, but more instrumental deliveries. With induction, the need for NICU reduced, and fewer new-borns had poor Apgar scores. Despite having very less chance of perinatal mortality, providing women with professional counseling to assist them choose between planned induction for a post-dated pregnancy and monitoring without (or later) induction may be beneficial. ⁽³¹⁾

Foeto-maternal outcomes in an induced labour were identified in a retrospective matched cohort study which included 403 nulliparous women who were induced at 292 days and 806 nulliparous women who had spontaneous labour at 285-291 days. The authors concluded that nulliparous women who underwent induction were more susceptible than those who have spontaneously progressed to develop uterine hyper stimulation, undergo caesarean delivery, and may have new-borns with slightly less Apgar scores. During counseling, nulliparous women should be explained in detail about the pro and cons of induction and also explained in detail about the possible consequences of conservative management, which is to watch for spontaneous onset of labour. PPH was not analysed in this study. ⁽¹³⁾

In studies conducted to compare the blood loss in induced labor and spontaneous labor over the years, 1998 – 2014 , it was observed that the mean blood loss in the induced group was in the range of 150-350 ml and in the spontaneous labor group, the mean blood loss was in the range of 100-205ml. ^(8,9,10)

When induction with misoprostol was compared to induction with oxytocin, studies conducted over the years 1998- 2014, concluded that the mean blood loss in

misoprostol induced labor was in the range of 290-1200ml and in oxytocin induced labor, the mean blood loss was in the range of 190-800ml. ^(1,8,10,29)

Several studies conducted over the years till 2016, examined induction of labor as a possible risk factor for PPH and concluded that induction of labor was associated with the occurrence of PPH. ^(6, 7, 10, 13, 14) Risk of postpartum hemorrhage following induction of labor was in the range 11-20%. ^(7, 11, 15, 19)

MATERIALS AND METHODS

1. Source of data:- Pregnant women admitted to labour room and undergo vaginal delivery at KAHER's, Dr.Prabhakar Kore Hospital, Belagavi during the study period.
2. Method of collection of data
 - a) Study design: Prospective cohort study
 - b) Study Setting: KAHER's, Dr.Prabhakar Kore Hospital, Belagavi.
 - c) Study Period: 01.01.2020 to 30.06.2021
 - d) Study Population: Pregnant women admitted to the labor room and undergo vaginal delivery at KAHER's, Dr.Prabhakar Kore Hospital, Belagavi.
 - e) Sample Size: 290 (145 each)

The formula to calculate sample size is based on the mean and standard deviation =

$$\frac{(z_{\alpha} + z_{\beta})^2 (s_1^2 + s_2^2)}{(\bar{X}_1 - \bar{X}_2)^2}$$

where,

z_{α} is linked with the level of significance

z_{β} is linked with the power of the test.

For 5% level of the significance

$z_{\alpha}=1.96$ and $z_{\beta}=0.84$ for 80% power of the test.

Reference :-⁽⁸⁾

\bar{x}_1 is the first group's mean (210) and \bar{x}_2 is the second group's mean (172). The first group's standard deviation (117) is S1, and the second group's standard deviation is S2 (114).

The sample size generated with these values is 145.

There will be two groups, each with a minimum of 145 cases.

f) Selection Criteria:

Inclusion criteria:

- Live singleton pregnancy with cephalic presentation, anticipating normal vaginal delivery.
- Hemoglobin \geq 9.9g/dl

Exclusion criteria:

- Placental Abnormality-
 - Placenta previa
 - Invasive placenta (placenta accreta/ increta/percreta)
 - Abruptio placentae
- Eclampsia
- HELLP syndrome
- Intra uterine fetal death
- Congenital malformation in fetus
- Malpresentations
- Multiple pregnancy

- Previous cesarean section or presence of any uterine scar
- Women on heparin or anti-platelet agents
- Known case of bleeding disorder
- Known case of cardiovascular/liver/renal disorder

METHODOLOGY

Women with a live singleton pregnancy with cephalic presentation who are expecting a normal vaginal delivery are admitted to the delivery room and hemoglobin >9.9g/dl upon presentation to KAHER's, Dr.Prabhakar Kore Hospital, Belagavi and eligible based on inclusion and exclusion criteria will be enrolled.

Patient data such as the age of the patient, obstetric score, period of gestation, method of induction and reason for induction will be recorded. The serum hemoglobin of all the enrolled women will be measured at the time of admission for delivery (Cyan methemoglobin method). The doctor who will be in charge of the patient will decide on the induction procedure. Active management of third stage of labor will be conducted in all patients, whether induced or not, according to the standard of care practiced in the hospital. All patients, will receive Inj. Oxytocin 10 IU intramuscular after the delivery of the baby.

The BRASS-V DRAPE (a calibrated transparent collecting drape) will be positioned beneath the buttocks before delivery and fastened around the woman's waist to objectively quantify blood loss. This drape will be opened only after the baby has been delivered and the liquor has been drained out. The volume of blood collected in the drape will be monitored for 1 hour after delivery. Estimation of serum hemoglobin post-delivery, 2 ml of venous blood sample will be withdrawn under aseptic precautions 48-72 hours post-delivery.

STATISTICAL ANALYSIS

Data is analysed using R software version 4.1.1 and Excel. Categorical variables are given in the form of frequency table. Continuous variables are given in Mean \pm SD/ Median (Min, Max) form. Two-sample t test/Welch's t test are used to compare means of variables between spontaneous and induced vaginal delivery. Mann Whitney U test is used to compare the distributions of variables between spontaneous and induced vaginal delivery. Chi-Square test is used to check the association of variables with spontaneous and induced vaginal delivery. Paired t test is used to compare mean HB before and after delivery. P-value less than or equal to 0.05 indicates statistical significance.

RESULTS

Of 4,086 deliveries that occurred during the period of January 2020 to June 2021, 2718 women were eligible for vaginal delivery.

684 of the 2718 women who were eligible for vaginal delivery were induced, while 2,084 were allowed to progress spontaneously.

In this study, a total of 869 participants were screened for enrolment. The study's exclusion criteria resulted in the exclusion of 172 participants.

Of 345 participants who were enrolled in the induced group, 185 participants required caesarean section and the remaining 160 subjects were analysed. A matched control consisting of 352 were enrolled in the spontaneous group, of which 151 participants required caesarean section and the remaining 201 subjects were analysed.

STROBE DIAGRAM

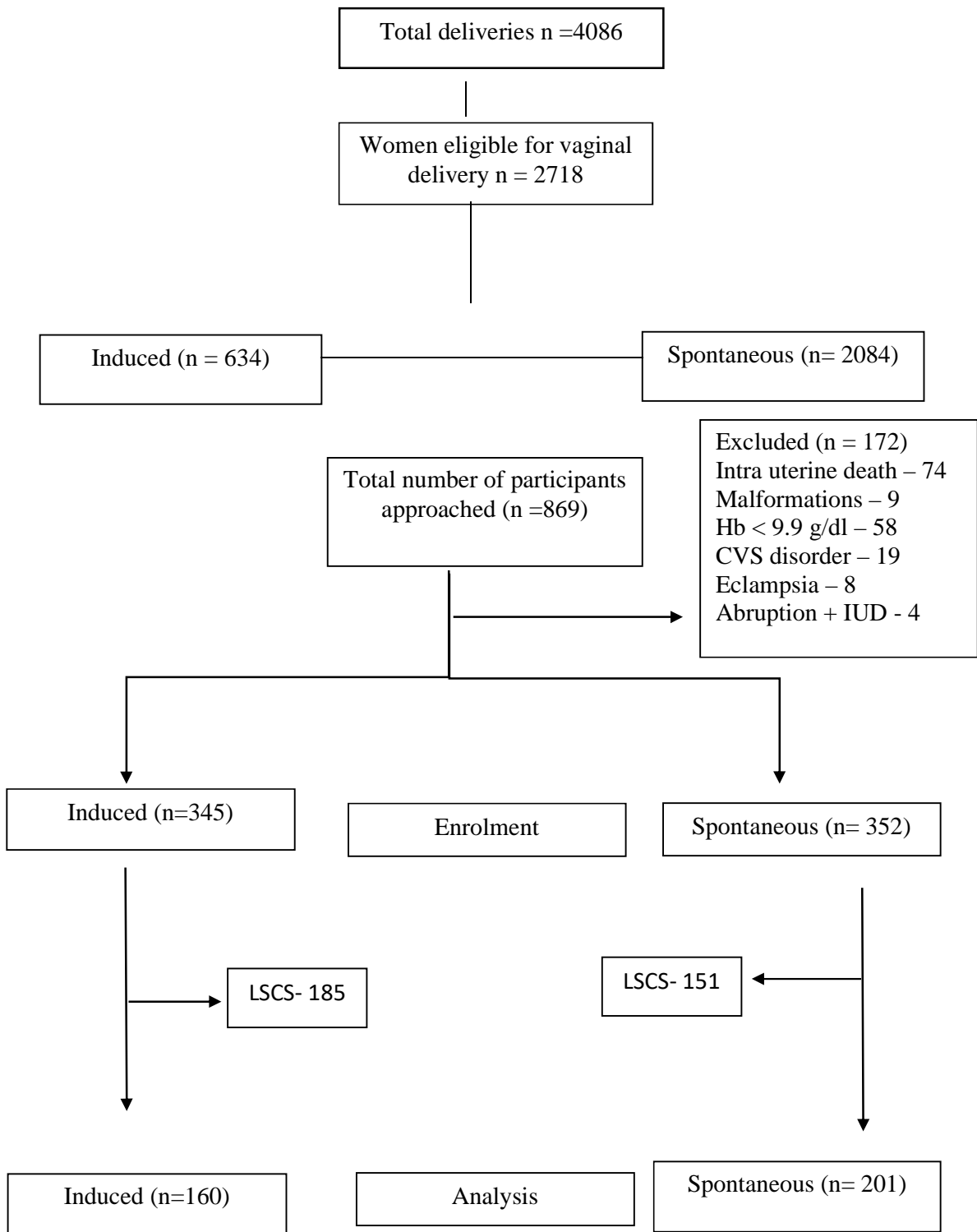


Table - 1

Distribution according to maternal age

Maternal age	Induced	Spontaneous	P Value
≤20	5 (3.13%)	11 (5.4%)	0.3109 ^C
20-25	87 (54.38%)	112 (55.7%)	
26-30	52 (32.5%)	67 (33.3%)	
≥30	16 (10%)	11 (5.4%)	
Total	160	201	
Mean ± SD	24.35 ± 3.95	23.83 ± 3.29	0.1738 ^t
Median (Min, Max)	23.5 (18, 40)	23 (18, 33)	

t – Two sample *t* test, *C* – Chi square test

361 subjects of mean age 24.06 ± 3.60 years varying from 18 to 40 years were considered for the study consisting of 160 subjects among induced and 201 subjects in the spontaneous group. It was observed that majority of the subjects in induced and spontaneous group belonged to the age group 20 – 25 years whereas the least number of subjects were of the age ≤20 group years. Descriptive statistics based on age of each group is shown in table 1 and graph 1.

Graph - 1

Distribution according to maternal age

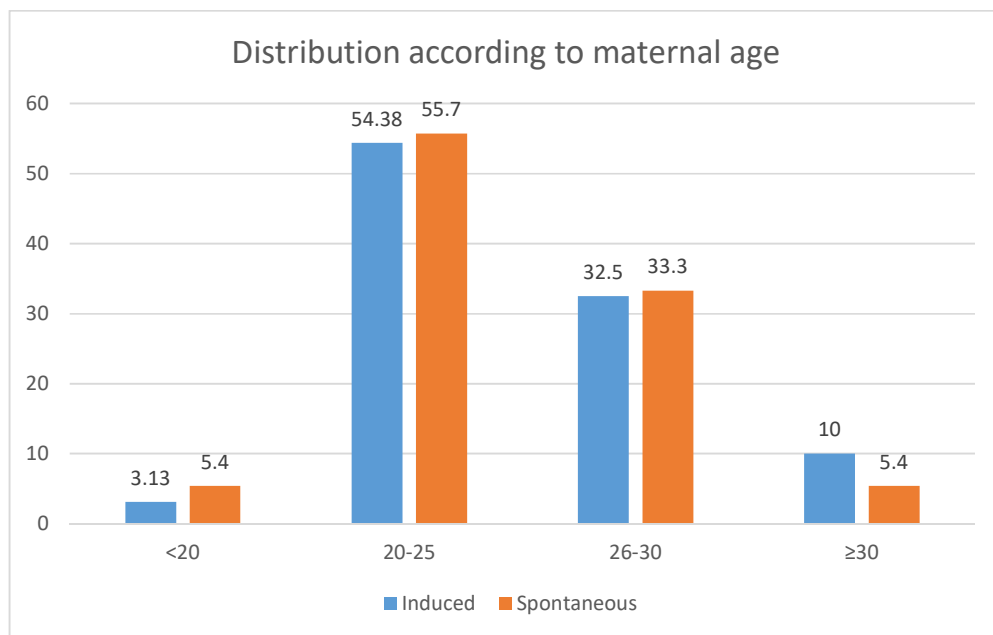


Table - 2

Distribution based on gravity

Gravity	Induced	Spontaneous	P value
Primigravida	99 (61.88%)	120 (59.7%)	0.6468 ^C
Multigravida	61 (38.13%)	81 (40.2%)	
Total	160	201	

C – Chi square test

In this study, 61.88% of participants were primigravidas in the induced group and 59.7 % of the participants were primigravidas in the spontaneous group respectively. Whereas 38.13% of the participants were multigravida in the induced group and 40.2% of the participants was multigravida in the spontaneous group with a P value of 0.6468.

Descriptive analysis of distribution of participants based on gravity is depicted in table 2 and graph -2

Graph - 2

Distribution based on gravity

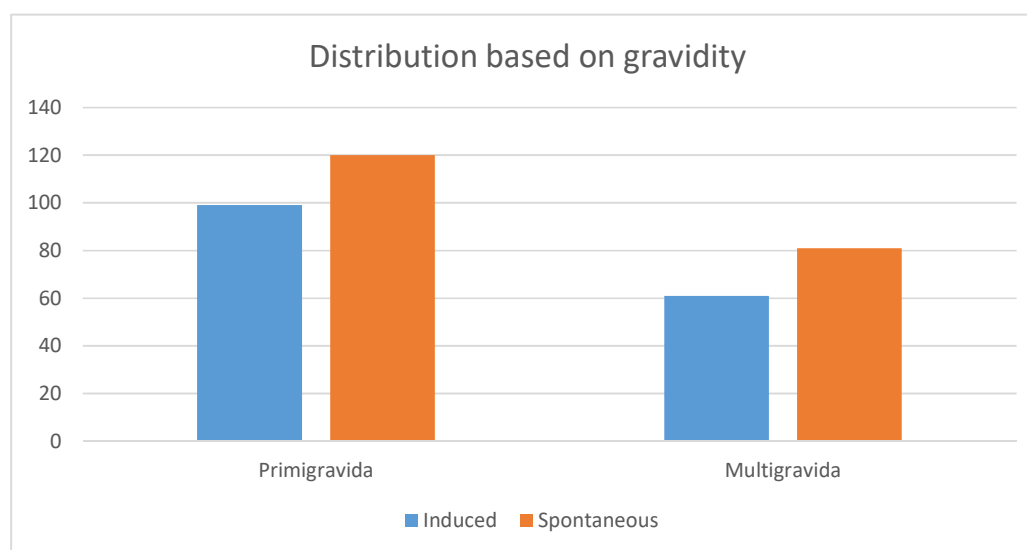


Table - 3**Distribution according to body mass index (BMI)**

BMI(kg/m ²)	Induced	Spontaneous	P value
18.5-24.9	52 (32.5%)	60 (29.8%)	0.8741 ^C
25-29.9	96 (60%)	126 (62.6%)	
≥30	12 (7.5%)	15 (7.4%)	

C – Chi square test

In the present study, majority of the participants had a BMI within 25-29.9kg/m², with 60 % participants in induced and 62.5 % in the spontaneous group, with a P value of 0.8741.

Descriptive analysis of distribution of participants based on BMI in the 2 groups shown in table 3 and graph 3

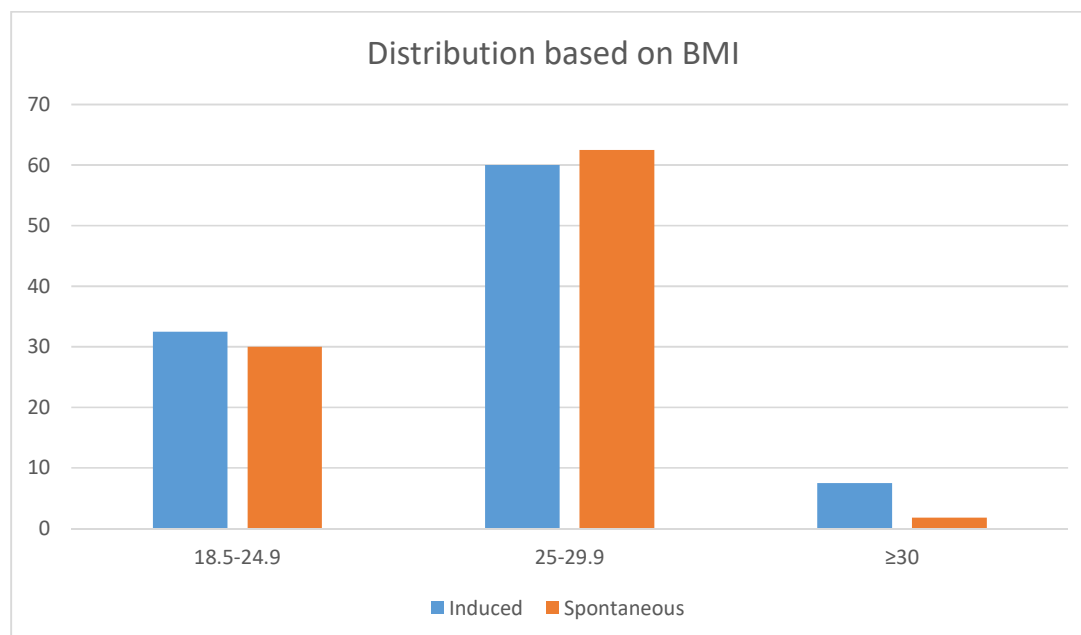
Graph - 3:- Distribution based on body mass index (BMI)

Table - 4
Distribution based on gestational age

Gestational Age (weeks)	Induced	Spontaneous	P value
32 – 36 + ⁶ weeks	13 (8.1%)	15(7.46%)	0.4495 ^{MW}
37 – 40 + ⁶ weeks	117(73.12%)	182(90.5%)	
>41 weeks	30(18.75%)	4(2%)	
Mean ± SD	38.79 ± 1.95	38.73 ± 1.55	
Median (Min, Max)	39.05 (30, 41.8)	39.05 (30.2, 41.4)	

MW – Mann Whitney U test

In this study, majority of the participants were in the 37-40+6 weeks group, with 73.12% of participants were in the induced group and 90.5% of the participants were in the spontaneous group, with a P value of 0.4495.

Descriptive analysis of distribution of participants based on gestational age is depicted in table 4 and graph 4.

Graph - 4

Distribution based on gestational age (weeks)

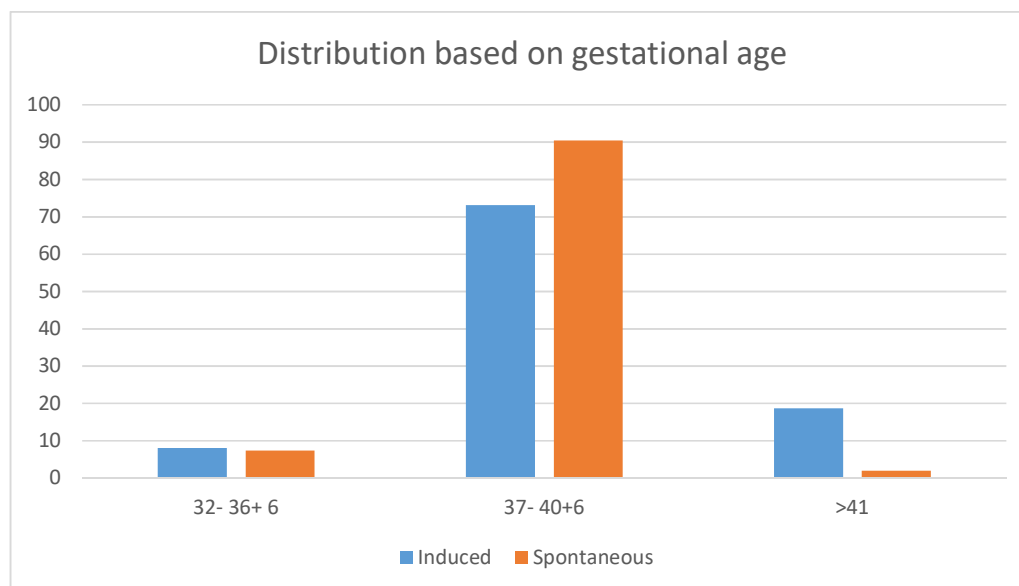


Table - 5**Indication for induction**

Indication	Number	Percentage (%)
Post-dated pregnancy	30	18.75
PROM	26	16.25
PPROM	13	8.125
Gestational hypertension	26	16.25
Mild Pre-eclampsia	4	2.5
Severe Pre-eclampsia	1	0.625
Oligohydramnios	12	7.5
Foetal growth restriction	20	12.5
Gestational diabetes mellitus	8	5
Foetal macrosomia	5	3.125
Rh negative pregnancy	4	2.5
Decreased foetal movements	11	6.875

Among the 160 participants in the induced group, 18.75% of participants were induced in view of postdatism, 16.25% of participants for premature rupture of membranes and, 16.25% of participants for gestational hypertension.

Graph 5 depicts the indication for induction of labour.

Graph 5: - Indication for induction

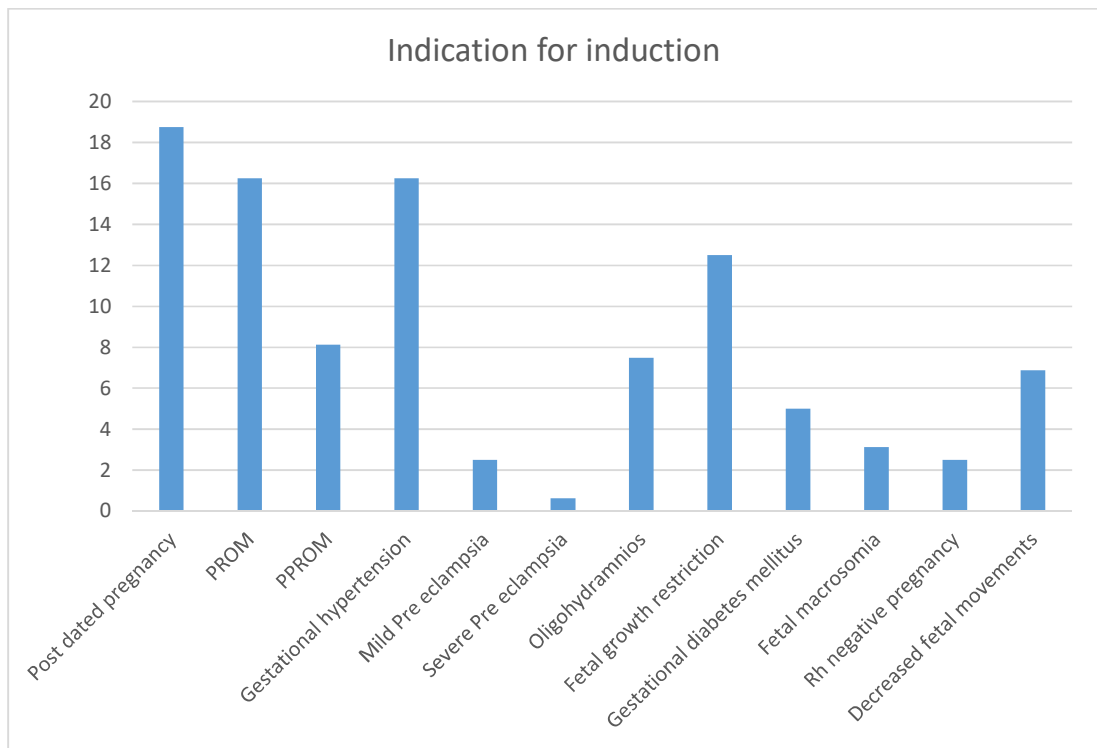
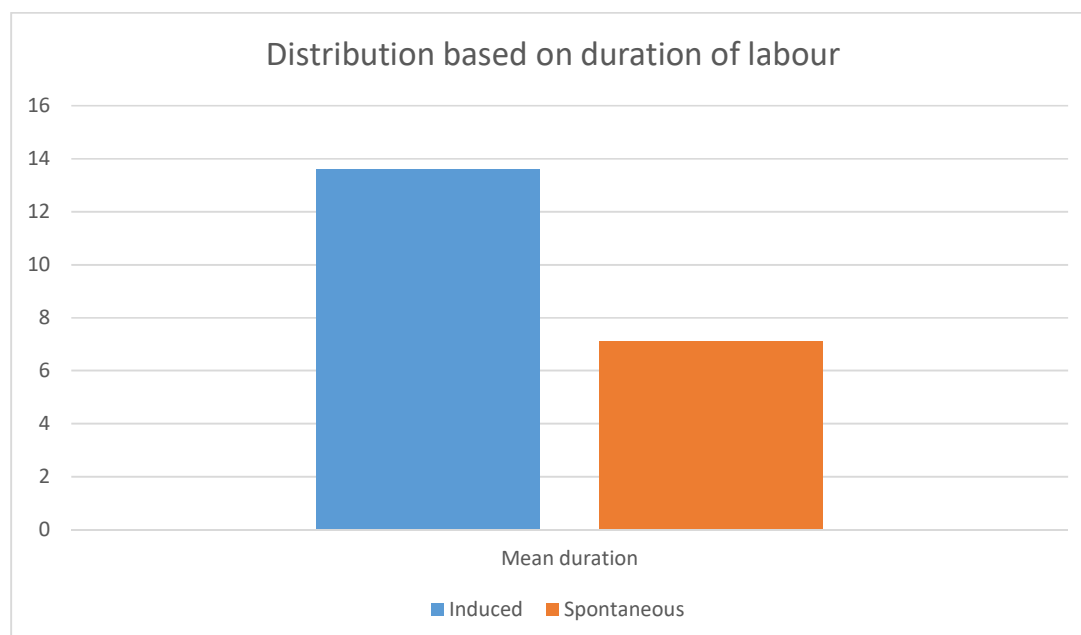


Table - 6
Distribution based on duration of labour

Duration of labour(hours)	Induced	Spontaneous	P value
Latent phase	10.32 ± 4.41	4.56 ± 1.74	<0.0001
Duration	13.59 ± 4.81	7.12 ± 2.23	<0.0001

The duration of labour was significantly higher among the induced population, with mean duration of labour being 13 hours 59 minutes when compared to the spontaneous population. Duration of labour in the induced and spontaneous group is shown in table 6 and graph 6a and 6b.

Graph – 6a
Distribution based on duration of labour (hours)



Graph – 6b

Distribution based on duration of labour (hours)

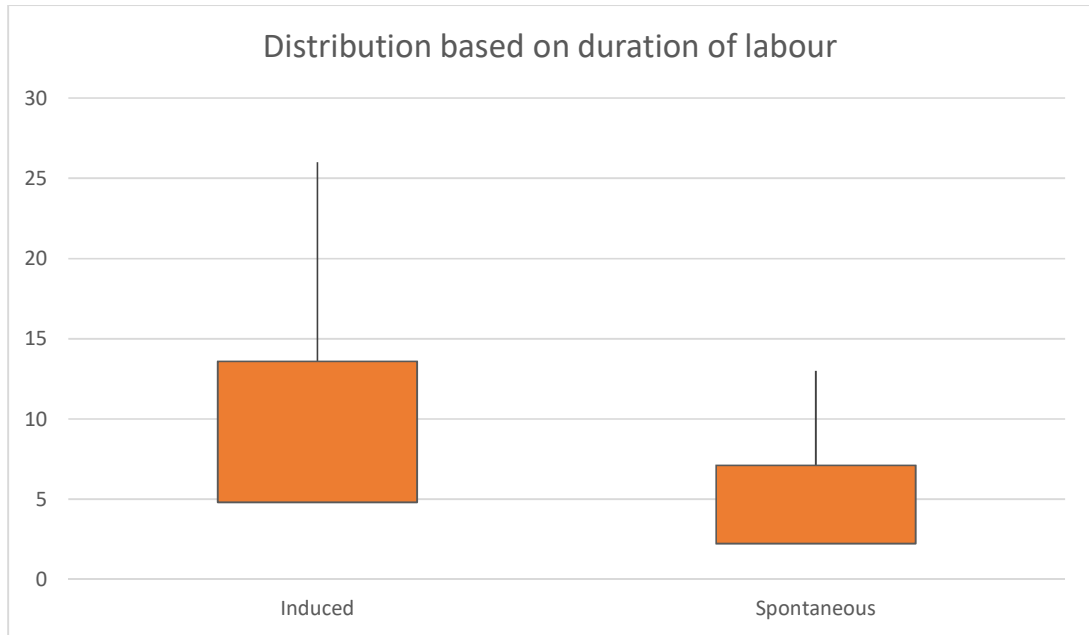


Table - 7
Distribution based on mode of delivery

Mode of delivery	Induced	Spontaneous	P value
Instrumental vaginal delivery	6 (3.75%)	8 (3.9%)	0.903 ^C
Normal vaginal delivery	154 (96.25%)	193 (96.01%)	

C – Chi square test

In this study, 3.75% of participants and 3.9 % of the participants belonging to the induced group and spontaneous group respectively had instrumental vaginal delivery, with a P value of 0.903.

Descriptive analysis of distribution of participants based on Mode of delivery is depicted in table 7 and graph 7

Graph - 7:- Distribution according to mode of delivery

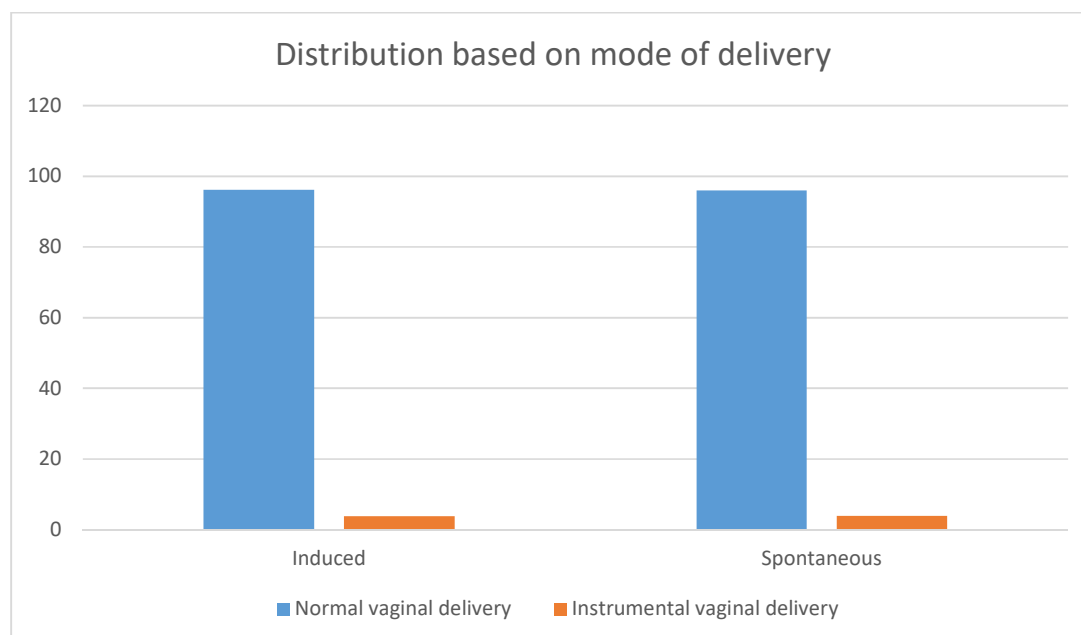


Table - 8
Distribution based on method of induction

Method of induction	Number	Percentage %
Dinoprostone (PGE2)	54	33.75
Misoprostol (PGE1)	39	24.37
Dinoprostone + Misoprostol	67	41.87
Total	160	100

Among the 160 participants in the induced group, 41.87% of participants were induced with dinoprostone followed by misoprostol and 33.75% of participants were induced with dinoprostone alone.

Graph 8 depicts the method of induction of labour.

Graph – 8 Method of induction of labour

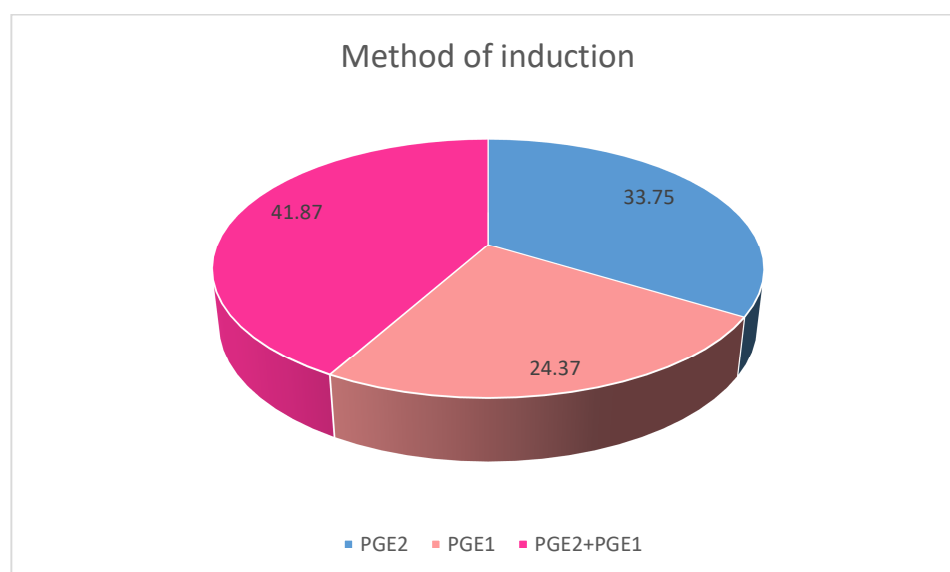


Table - 9

Average blood loss in induced and spontaneous group

	Induced	Spontaneous	P Value
Mean ± SD	361.69 ± 98.10	189.85 ± 121.69	< 0.001^{MW*}
Median (Min, Max)	350 (100, 900)	150 (50, 800)	

MW – Mann Whitney U test

The mean average blood loss in the present study was 361.69 ± 98.10 ml in the induced group compared to 189.85± 121.69 ml in the spontaneous group, having P value of 0. 001. Average blood loss in the induced and spontaneous group is shown in table 9 and graph 9.

Graph – 9 Average blood loss in induced and spontaneous group



Table - 10

Change in lab parameter

Change in Haemoglobin (g/dl)	Induced group	Spontaneous	P value
Mean \pm SD	2.01 \pm 0.79	1.12 \pm 0.76	<0.001^{MW*}
Median (Min, Max)	1.9 (0.5, 5.1)	0.90 (0.1, 4)	

MW – Mann Whitney U test

In the present study, change in Haemoglobin was 2.01 \pm 0.79 in the women who underwent induction and 1.12 \pm 0.76 in the women with spontaneous progress, with a P value of 0.001.

Change in laboratory parameters which include haemoglobin is depicted in table 10 and graph 10.

Graph – 10 Mean change in haemoglobin

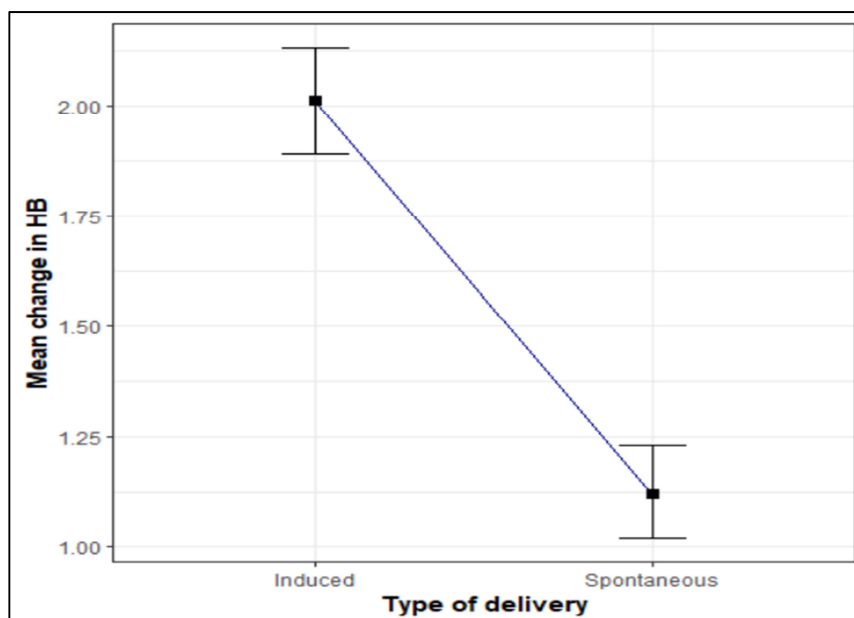


Table - 11

Incidence of postpartum haemorrhage

	Induced group	Spontaneous group	P value
Incidence of PPH	6(3.75%)	4(1.99 %)	0.4598 ^{MC}

MC – Chi square test with Monte Carlo simulation

In this study, of the 361 participants, 10 women had postpartum haemorrhage. It was observed that incidence of postpartum haemorrhage in induced group and spontaneous group was 3.75% and 1.99% respectively with a P value of 0.4598. Analysis of incidence of postpartum haemorrhage shown in table 11 and graph 11.

Graph - 11:- Incidence of postpartum haemorrhage

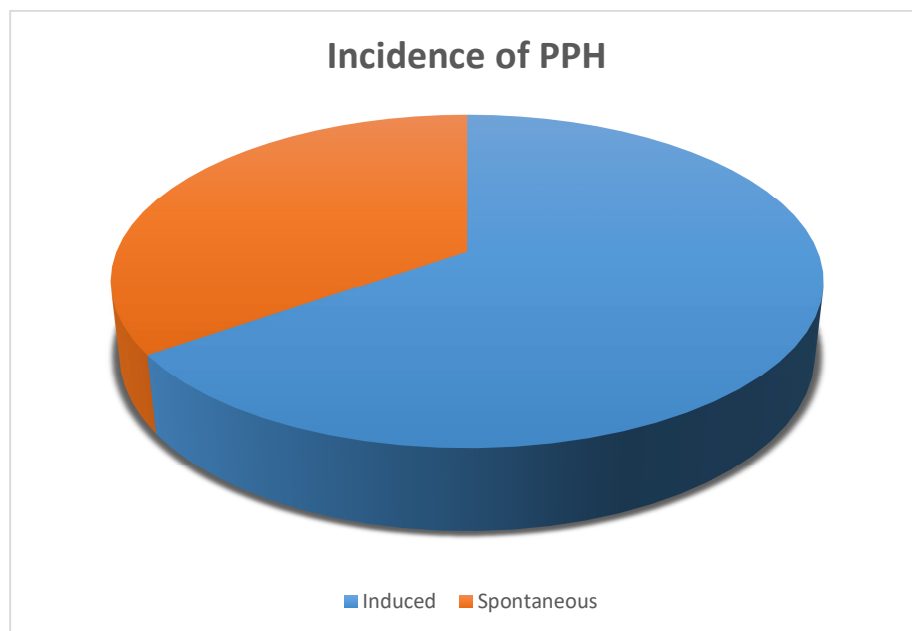


Table - 12

Incidence of atonic and traumatic postpartum haemorrhage in induced group and spontaneous group.

	Induced group	Spontaneous group	P-value
Atonic PPH	4 (2.5%)	3 (1.4%)	0.4598 ^{MC}
Traumatic PPH	2 (1.2%)	1 (0.49%)	

MC – Chi square test with Monte Carlo simulation

In the present study, the incidence of atonic PPH was 2.5 % in induced group and 1.4 % in the spontaneous group. Incidence of traumatic PPH was 1.2% in induced group and 0.49 % in spontaneous group. Analysis of atonic and traumatic postpartum haemorrhage in induced and spontaneous group is shown in table 12 and graph 12

Graph - 12

Incidence of atonic and traumatic postpartum haemorrhage in induced and spontaneous group

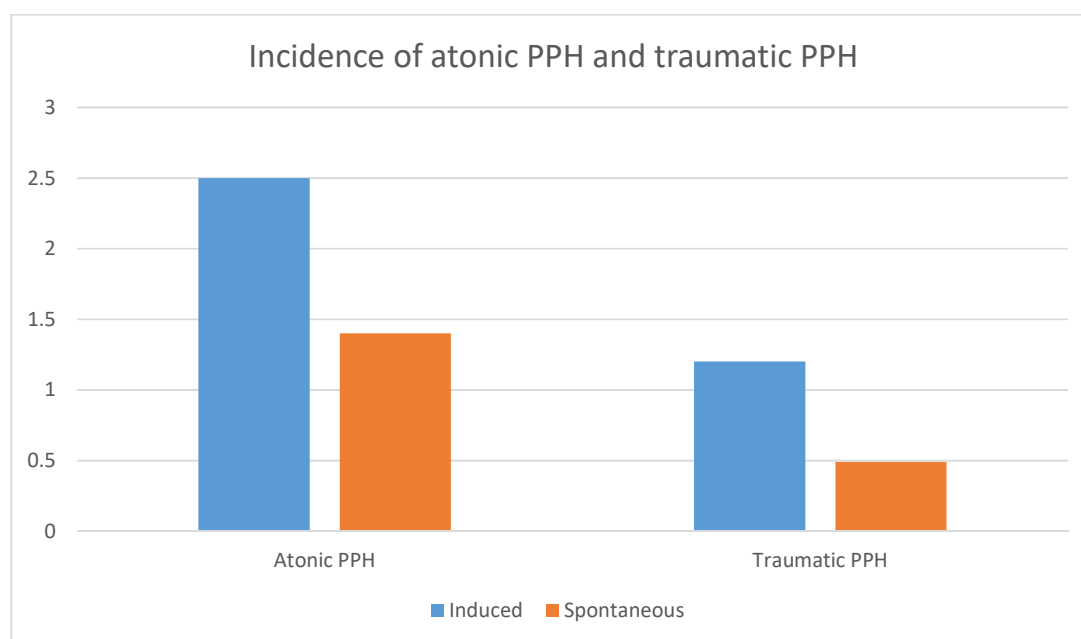


Table - 13**Distribution based on birthweight (kg)**

Birthweight (kg)	Induced group	Spontaneous group	P value
Mean \pm SD	2.7 \pm 0.46	2.78 \pm 0.43	0.2206 ^{MW}
Median (Min, Max)	2.7 (1.2, 4)	2.8 (1.5, 4.3)	

MW – Mann Whitney U test

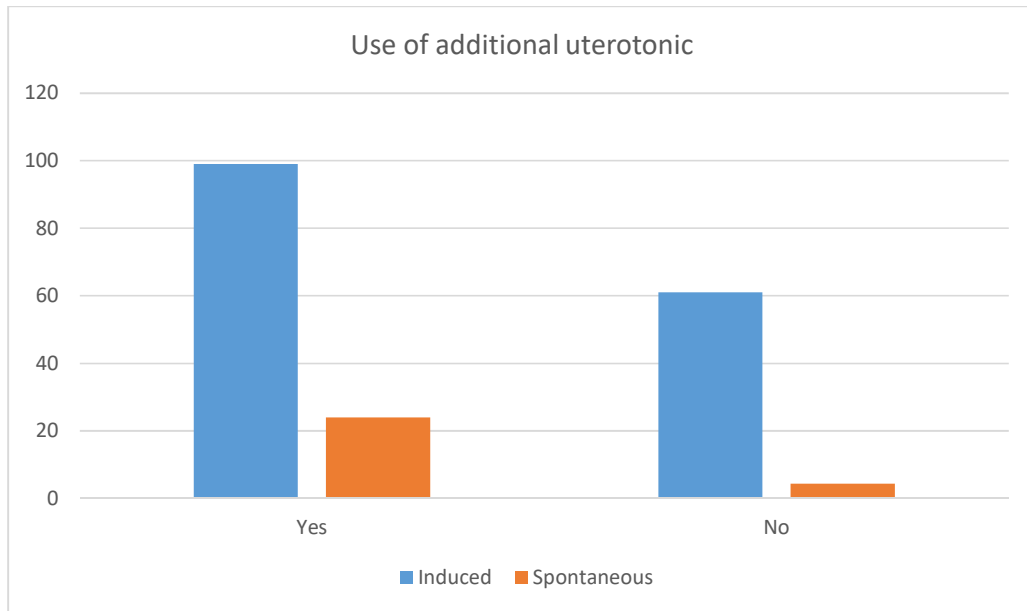
In the present study, mean birthweight was 2.7 \pm 0.46 kg in the induced group and 2.78 \pm 0.43 kg in the spontaneous group, with a P value of 0.2206.

Table - 14**Use of additional uterotonics**

Use of additional uterotonics	Induced	Spontaneous	P value
YES	99(61.88%)	24(11.94%)	<0.001
NO	61(38.13%)	177(88.06%)	

In this study, 61.88 % of participants in induced group required additional uterotonics whereas 11.94% of participants in spontaneous group required additional uterotonics. Use of additional uterotonics depicted in table 14 and graph 13.

Graph – 13 Use of additional uterotonics



DISCUSSION

Induction of labour is a standard obstetric procedure, and the epidemiology of labour induction has shifted over time as the practise has become more common. ⁽¹⁾ In developed countries, induction accounts for approximately 20-25% of deliveries. The rates are most often lower in developing countries. ⁽²⁾ According to the World Health Organization's (WHO) Global Survey on Maternal and Perinatal Health, 9.6% of the women were delivered via induction. ⁽³⁾

Induction of labour is considered to be one of the risk factors for postpartum haemorrhage. ⁽⁴⁾ Blood loss of 500mL or more within 24 hours of birth is defined by the WHO as postpartum haemorrhage (PPH). PPH is accountable for 30% of maternal deaths in Africa and Asia. ⁽⁵⁾

Even though multiple studies have demonstrated there is a strong possibility for PPH following induction of labour ⁽⁶⁾, the results of these studies did not analyse the impact of induction of labour on the amount of blood loss following delivery. ⁽⁷⁾ In this study, the majority of the participants both in the induced and spontaneous group were between the age group of 20 and 25 years, whereas the least number of subjects belonged to the age group of more than 30 years of age. It was concluded that, in this study, the median age difference between the two was not significant, and both groups were age matched.

In a similar study conducted by Shripad H et al, Department of Obst & Gynaecology, Kasturba hospital, Manipal where blood loss following induced and spontaneous vaginal births were compared – the mean age among the induced group was 26.4 years and in spontaneous group was 27.2 years. ⁽⁸⁾

A total of 661 pregnant females were induced in an identical study by Selo-Ojeme D et al, Department of Obstetrics and Gynaecology, NHS Trust, UK. Mean

age of the women under induced group was 27.9 years and in spontaneous group was 28.8 years.⁽¹³⁾

Phillip H et al, Department of Obstetrics and Gynecology, University of the West Indies, Kingdom of Jamaica, conducted a similar study, the mean age of the women who were enrolled was 27 years.⁽¹⁰⁾

There was no significant difference in the gravidity of the study participants in the current investigation. In this study the gravidity was matched between the two groups. There was no comparable difference in parity between the groups in Shripad H et al's study comparing blood loss in induced against spontaneous vaginal delivery, indicating that the groups were well matched for gravidity.⁽⁸⁾

In the present study, majority of the participants in both induced and spontaneous group, belonged to the BMI group of 24-29.9kg/m². The body mass index (BMI) of the women in the induced and spontaneous group did not significantly differ, concluding that both the groups were well matched in terms of BMI.

In a study by Shripad H et al comparing blood loss in induced against spontaneous vaginal delivery, induction group had a mean BMI of 27.4kg/m² and the spontaneous group had a mean BMI of 26.4kg/m² and both groups were matched.⁽⁸⁾

There was no substantial difference in BMI in a similar survey conducted by Selo-Ojeme D et al between the participants belonging to induced and spontaneous group.⁽¹³⁾

In the current study, the mean gestational age between the induced and spontaneous group was 38.79 weeks and 38.73 weeks respectively, there was no statistical difference between the two groups, concluding that in regards of gestational age, both groups were well matched. The gestational age of the induced group was

significantly lower than the spontaneous group in a study conducted by Shripad H et al on the comparison of blood loss in induced versus spontaneous vaginal delivery. ⁽⁸⁾

In this study, there was no significant variation in birth weight between the groups. In terms of birthweights, both the groups were well matched. Similarly, in Shripad H et al's study of blood loss in induced against spontaneous vaginal delivery, the mean birth weights in the induced and spontaneous group were 2.853 kg and 2.901kg, respectively, both the groups were comparable in terms of birth weights. ⁽⁸⁾

Phillip H et al. conducted a study on the impact of induced labour on postpartum blood loss, the groups were comparable in terms of birth weights ⁽¹⁰⁾. In the induced and spontaneous group, the average pre-delivery haemoglobin was 11.88gm/dl and 11.76gm/dl respectively. There was no significant difference in pre-delivery haemoglobin levels between the two groups. In terms of pre-delivery haemoglobin, both groups were comparable.

According to the study conducted by Shripad et al the mean pre delivery haemoglobin in induced and spontaneous group was 12.01gm/dl and 12.19 gm/dl respectively. The pre-delivery haemoglobin levels of the two groups were not significantly different. In terms of pre-delivery haemoglobin, both groups were comparable. ⁽⁸⁾

Table - 17: Comparison of estimated blood loss in the present study with other studies.

When induced labour was compared to spontaneous labour, the results demonstrated a significant increase in blood loss. In this study, the mean blood loss in the induced group was 361.69 ± 98.19 ml, compared to 189.85 ± 121.69 ml in the spontaneous group, with a statistically significant p value of 0.001. Median blood loss

among the induced group was 350 ml as compared to 150ml in the spontaneous group.

According to a study by Shripad H et al, the induced group lost 30ml more blood than the spontaneous group, however the difference was not statistically significant. In the same study, when individual method of induction was compared, it was observed that there was more blood loss among the group where labour was induced by artificial rupture of membranes followed by oxytocin when compared to other methods of induction. They had also compared oxytocin group to the spontaneous group, and they observed that oxytocin group had more blood loss.⁽⁸⁾

When comparing the misoprostol group to the spontaneous group in a study conducted by Phillip H et al on the impact of induced labour on postpartum blood loss, it was observed that there was a substantial increase in blood loss in the misoprostol group. The misoprostol group lost 162.5ml of blood on average, compared to 100ml in the spontaneous group. When compared to the non-induced group, all of the induced cases had significantly higher mean blood loss.⁽¹⁰⁾

In a study on post-delivery blood loss after misoprostol induced labour, it was observed that the mean blood loss in misoprostol induced labour was 573 ± 208 ml, with a range of 290-1200ml, which was significantly higher than the oxytocin induced group, where the mean blood loss was 473 ± 155 ml, with a range of 190 – 800ml.⁽²⁹⁾

In a research conducted on induction of labour and postpartum blood loss conducted at the University Hospital Zurich, the estimated blood loss between the induced and spontaneous groups was comparable. Induced labour was not associated with higher blood loss, according to the study. This research contradicted the findings of the current study.⁽²⁾

There was a significant fall in post-delivery haemoglobin in the current study between the two groups. The mean change in the haemoglobin between the two groups were significant. The mean change in haemoglobin in the induced and spontaneous group was 2.01 ± 0.76 and 1.12 ± 0.76 respectively, and the p value was <0.001 . This was similar to the study by Shripad H et al where there was a significant difference in haemoglobin after delivery between the two groups, with the induced group having a higher reduction in haemoglobin than the spontaneous group. The mean change in the haemoglobin between the induced and spontaneous groups were 0.96gm/dl and 0.56gm/dl respectively, and p value was 0.002, statistically significant. (8)

In the present study, 3.75% of the participants in the induced group had postpartum haemorrhage and 1.9% of the participants in the spontaneous group had postpartum haemorrhage, which was not statistically significant. In the induced group, 2.5% of the participants had atonic PPH and 1.2% had traumatic PPH. In the spontaneous group, 1.4% of the participants had atonic PPH and 0.49% of the participants had traumatic PPH. Five incidences of PPH were reported in a study by Shripad H et al comparing blood loss in induced vs spontaneous vaginal delivery. (8)

In a study conducted by Khireddine et al on induction of labour and likelihood of postpartum haemorrhage in low risk patients, they observed that patients who underwent induction of labour have a significant risk of postpartum haemorrhage, accounting for 20% of the population. (7) In studies conducted by Selo-Ojeme et al⁽¹³⁾, Khireddine et al⁽⁷⁾, Al-Turaiahi et al⁽³²⁾, Shahzadi et al⁽¹⁵⁾, there was a significant association between induction of labour and post-partum haemorrhage. Only 3.75 percent of the induced population had postpartum haemorrhage in the current study, which can be attributed to the fact that active management of the third

stage of labour was conducted in all cases, and the use of additional uterotonic was significantly higher among the induced group.

Limitations:-To identify the prevalence of postpartum haemorrhage following induction, a multi-centric study with a significantly larger sample size needs to be conducted.

Table 15:- Comparison to the present study

Study	Sample size	Estimated blood loss (ml)	Post-partum haemorrhage
Present study	361	361.69 ± 98.19 ml in induced 189.85 ± 121.69 ml in spontaneous	3.75% in induced 1.9% in spontaneous (p-0.45)
Comparison of blood loss in induced vs spontaneous vaginal delivery using specialized blood collection bag. ⁽⁸⁾	200	202±117ml in induced	5 cases
The impact of induced labour on postpartum blood loss. ⁽¹⁰⁾	517	162.5 in induced (misoprostol)	5.8% in induced
Frequency of postpartum haemorrhage in induced vs spontaneous labour. ⁽¹⁵⁾	88		11.36% in induced

Is induced labour in the nullipara associated with more maternal and perinatal morbidity? ⁽¹³⁾	661		55.3% in induced (p-0.001)
Induction of labour and risk of Postpartum haemorrhage in low risk parturient. ⁽⁷⁾	4477		20% higher risk of PPH among the induced group.
The incidence of PPH after spontaneous and induced vaginal delivery vs elective and emergency caesarean section. ⁽³²⁾	1352		3.1% in induced (p-<0.001)
Induction of labour and postpartum blood loss. ⁽²⁾	965	400ml(300ml-600ml)in induced (p-0.03)	24.7% in induced (p-0.20)

CONCLUSION

Induction of labour is associated with increased postpartum blood loss. A considerable decline in postpartum haemoglobin following induced labour further supports this theory. Increased postpartum blood loss following induction can be due to prolonged labour, uterine atony. Routine use of calibrated drapes aids in the precise assessment of blood loss following delivery. Early recognition of postpartum haemorrhage helps in instituting prompt treatment.

SUMMARY

In this observational study conducted at KLE's DR. Prabhakar Kore Charitable Hospital, Belagavi a total of 361 subjects were enrolled for the study consisting of 160 subjects in induced group and 201 in spontaneous group. In both groups active management of third stage of labour was carried out. The amount of blood loss, change in haemoglobin was noted in both groups. Data regarding socio demographic and clinical characteristics was collected in form of structured questionnaires and analysed statistically. Key findings of this study have been summarized as follows:

- In this study, both groups were matched for age, gravidity, gestational age, body mass index, pre-delivery haemoglobin and birth weight.
- The average blood loss was significantly higher in the induced group ($p < 0.001$).
- Incidence of PPH in induced group and spontaneous group was 3.75% and 1.99% respectively and was not significantly significant ($p = 0.458$).
- There was no significant difference in the incidence of atonic PPH and traumatic PPH between both the groups.
- The mean change in haemoglobin in induced group was significantly more as compared with the spontaneous group ($p < 0.001$).
- Need for additional uterotonics was higher in the induced group as compared to the spontaneous group ($p < 0.001$).

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ANNEXURE I : ETHICAL CLEARANCE

	K.L.E. ACADEMY OF HIGHER EDUCATION AND RESEARCH (Deemed - to- be- University)
	Accredited 'A' Grade by NAAC (2 nd Cycle) Placed in Category 'A' by MHRD (GoI)
JAWAHARLAL NEHRU MEDICAL COLLEGE, NEHRU NAGAR, BELAGAVI-590010 (KARNATAKA-INDIA)	
Website: http://www.jnmc.edu E-Mail : dome@jnmc.edu	Phone: (+ 91-(0)831 Office : 2472550 Principal: 2471701 Fax No. +91 (0)831 – 2470759
Ref: MDC/DOME/ 193	Date: 24/12/2019
To,	
REG NO. B J 0 1 1 9 0 1 4	
PG student in Obstetrics and Gynecology, J.N.Medical College, BELAGAVI.	
Sub: Institutional Ethical Clearance for the study.	
With reference to the above, we wish to inform you that your proposed research project titled "POST PARTUM BLOOD LOSS IN INDUCED Vs SPONTANEOUS VAGINAL DELIVERY – A DESCRIPTIVE OBSERVATIONAL STUDY" , is ethical and justifiable. The proposed research project has been cleared by the JNMC Institutional Ethics Committee on Human Subjects Research.	
 (Dr. Anita Dalal) Member Secretary JNMC Institutional Ethics Committee on Human Subjects Research, J.N.Medical College, Belagavi.	 (Dr. Koopa M Bellad) Chairman, JNMC Institutional Ethics Committee on Human Subjects Research, J.N.Medical College, Belagavi.
7	

ANNEXURE II: WAIVER OF CONSENT



K.L.E. ACADEMY OF HIGHER EDUCATION AND RESEARCH
(Deemed – to- be- University)

Accredited 'A' Grade by NAAC (2nd Cycle) Placed in Category 'A' by MHRD (GoI)

JAWAHARLAL NEHRU MEDICAL COLLEGE,
NEHRU NAGAR, BELAGAVI-590010 (KARNATAKA-INDIA)

Website: <http://www.jnmc.edu>
E-Mail : dome@jnmc.edu

Phone: (+ 91-(0)831 Office : 2472550
Principal: 2471701
Fax No. +91 (0)831 – 2470759

Ref: MDC/DOME/ 300

Date: 24/12/2019

To.

REG NO. B J 0 1 1 9 0 1 4

PG student in Obstetrics and Gynecology,
J.N.Medical College,
BELAGAVI.

Sub: Institutional Ethical Clearance for the study.

With reference to the above, we wish to inform you that your proposed research project titled “POST PARTUM BLOOD LOSS IN INDUCED Vs SPONTANEOUS VAGINAL DELIVERY – A DESCRIPTIVE OBSERVATIONAL STUDY”, does not involve any ethical issues, as the data required for the study will be collected from the medical records and the study does not involve any interaction with cases and no identifiable information will be collected. The waiver of consent has been approved for the proposed research project and has been cleared by the JNMC Institutional Ethics Committee on Human Subjects Research.

(Dr. Anita Dalal)
Member Secretary
JNMC Institutional Ethics Committee
on Human Subjects Research,
J.N.Medical College, Belagavi.

(Dr. Roopa M Bellad)
Chairman,
JNMC Institutional Ethics Committee
on Human Subjects Research,
J.N.Medical College, Belagavi.

ANNEXURE III: SCREENING FORM

Screening number:

IP number:

Date of screening (dd-mm-yyyy) - -

First name:

Middle name:

Last name:

Age (years):

Husband's name:

Address: H.no-

Street-

Taluk-

District-

Phone number :

Phone number (Husband's):

Landline(optional):

Registered	
Unregistered	

Eligibility 1=Yes 2=No

- Placental Abnormality-

- Placenta previa
- Invasive placenta
- Abruptio placentae
- Previous Caesarean delivery
- History of uterine surgery
- Eclampsia
- HELLP syndrome
- Previous PPH
- Non-cephalic presentation
- Intra uterine fetal death
- Fetus with congenital malformation
- Multiple Pregnancy
- Hemoglobin <9.9gm/dl or transfusion of blood or blood products before delivery
- Active genital herpes infection
- Cephalopelvic disproportion
- History of any anticoagulants
- Known case of cardiovascular/renal/liver disorders
if yes, specify _____
- Known case of bleeding disorder
if yes, specify _____

The woman is eligible only if the answers to the above questions are NO

1=yes 2=no

Is she eligible?

If eligible,

Enrollment done

Investigator's name:

Signature

ANNEXURE IV: DATA COLLECTION INSTRUMENT

Screening Id □□□□

Enrollment number □□□□

Age □□

Present Pregnancy

- Last menstrual period- □□-□□-□□□□
- Estimated date of Delivery(EDD) by LMP- □□-□□-□□□□
- Corrected Estimated date of Delivery (if any)- □□-□□-□□□□
- Period of Gestation- □□weeks □□days
- Obstetric score- Gravida□ Para□ Living□ Abortion□ Death□

Antenatal Risk Factors: 1=yes 2=no

- Gestational Diabetes Mellitus □
- Gestational Hypertension □
- Pre-Eclampsia □
- Others, specify _____

General Physical Examination

- Height □□□cms
- Weight □□□kg
- BMI □□□

Systemic Examination-P/A

- Uterine height □□
- Presentation _____
- FHR □□□bpm

Obstetric Ultrasound:-

- Date of scan- □□-□□-□□□□
- Placental location-
- EFW- □□□□gms

Modified Bishop's Score (at the time of admission)

Bishop's Score	P/V finding	0	1	2	3
0-5 unfavorable	Dilatation of cervix	Closed	1-2cm	3-4cm	≥5
6-13 favorable	Length of cervix	>4	2-4cm	1-2cm	<1cm
	Station	-3	-2	-1/0	+1/+2
	Consistency	Firm	Medium	Soft	-
	Position	Posterior	Midline	Anterior	-

Total score:-□□

Reactive NST □

1= yes 2=no

Labor Details:-

1) Mode of onset of labor? □

1=Spontaneous 2=Induced

If spontaneous, go to question 2

If induced,

a) Indication for induction:- _____

b) Mode of labour induction? 1=yes 2=no

- PGE-2(Dinoprostone) □
- PGE-1(misoprostol) □
- Oxytocin intravenous infusion □
- PGE-2(Dinoprostone)+ PGE-1(misoprostol) □

c) Duration of labor?

- First stage of labor-□□
 - Latent phase□□□
 - Active phase□□□
- Second stage of labor-□□□

d) Instrumental delivery? 1=yes 2=no

- Ventouse □
- Forceps □
- Both □

e) Baby weight - □□□□kgs

f) Blood loss- □□□□ml

2) If spontaneous labor ,

a) Duration of labor?

- First stage of labor □□□
 - Latent phase□□□
 - Active phase□□□
- Second stage of labor□□□

b) Instrumental delivery? 1=yes 2=no

- Ventouse □
- Forceps □
- Both □

c) Baby weight-□□□□kgs

d) Blood loss-□□□□ml

Indication for Induction of Labor 1=yes 2=no

- Pre-eclampsia □
- Oligohydramnios □
- IUGR □

- Post-dated pregnancy
- Premature rupture of membranes
- Gestational hypertension
- Gestational Diabetes Mellitus
- Decreased fetal movements
- Others specify _____

Intrapartum complications 1=yes 2=no

- Uterine atony
- Retained placenta
- Perineal tear

Use of additional uterotonics 1=yes 2=no

Investigations-

	Pre-delivery	Post-delivery
Date		
Hemoglobin		

Investigator's name:

Signature

Screening no	Enrollment No	IP No	Registered/un registered	Age	BMI	Obs score	POG	Bisho ps score	Spontaneous/Induced	Method of delivery	PGE2	PGE1	Mode of delivery	Indication for induction	Blood loss	Pre delivery Hb	Post delivery Hb	Mean change in Hb	Birth weight	Duration of labour	Latent phase	Intrapartum complication	Additional uterotonic yes or no
1	1	1000214	1	25	28.04	2	40.1	2	2	1	1	0	1	4	420	11.9	9.4	2.5	2.4	6	3.5		N
2	2	1000177	1	28	23.8	1	39.4	2	2	3	2	5	1	6	440	13.2	10.7	2.5	3	20	17		N
3	3	1000478	2	27	23.2	1	37.1	2	2	2	0	3	1	5	370	12.1	10.6	1.5	2.8	14	12		N
4	4	1000482	1	25	30.9	2	40.1	7	1	0	0	0	1	0	150	12.4	12.1	0.3	3.2	7	4		N
5	5	1000492	1	26	26.1	2	39.2	2	2	1	1	0	1	6	400	12.6	10.4	2.2	3.1	9	6.5		N
6	6	1001316	1	22	24.6	2	40.1	5	2	1	1	0	1	2	200	13.3	12.4	0.9	2.6	10	7		N
17	11	1005404	1	23	25.2	1	38.5	6	2	2	0	3	1	5	450	11.9	9.4	2.5	2.7	15	12		N
24	15	1005735	1	20	25.7	1	38.8	6	1	0	0	0	1	0	240	12.7	12	0.7	2.7	7	5		N
25	16	1005746	1	27	25.2	2	39.2	7	2	2	0	3	2	5	350	12.4	10.8	1.6	2.2	14	10		N
29	19	1005851	1	27	24.4	1	38.7	6	1	0	0	0	2	0	250	12.5	12	0.5	2.9	7	4		N
30	20	1005967	2	20	28.6	1	40.5	10	1	0	0	0	1	0	300	12.1	11.4	0.7	2.7	4	2		N
32	21	1006027	2	27	26.1	2	40.1	9	1	0	0	0	1	0	300	11.9	10.2	1.7	2.8	9	5		N
33	22	1006069	2	24	24.6	2	38	5	1	0	0	0	1	0	320	10.7	9.9	0.8	3.7	6	4		N
34	23	1005970	2	23	25.2	2	39.1	7	2	2	0	2	1	5	350	10.8	9.6	1.2	3.2	9	5.5		N
37	25	1006204	1	27	25.7	2	38.1	7	1	0	0	0	1	0	260	12.3	10.4	1.9	2	5	3.5		N
38	26	1006336	1	24	25.2	2	40.8	4	2	1	1	0	2	7	220	12.9	11.6	1.3	3.7	8	6		N
39	27	1006067	2	23	24.4	1	36.5	2	2	3	2	2	1	2	300	11.9	10	1.9	2.1	15	12		N
40	28	1006405	2	21	28.6	1	40.2	3	1	0	0	0	1	0	190	10.9	10.4	0.5	2.9	8	4		N
54	35	1007623	1	20	24.8	2	39	2	2	3	2	5	1	8	700	11.3	9.4	1.9	2.1	20	16	atonic pph	Y
61	37	1008421	1	20	29.4	1	40.8	5	1	0	0	0	1	0	550	11	8.3	2.7	2.8	6	4	atonic pph	Y
64	38	1008575	1	23	25.4	2	40.1	6	1	0	0	0	1	0	50	12	11.4	0.6	3.7	5	3		N
66	39	1008590	1	23	27.2	1	38.1	3	1	0	0	0	1	0	150	12.1	10.7	1.4	1.9	9	4.5		N
71	41	1008667	2	24	27.1	1	38.1	8	1	0	0	0	1	0	130	12.6	11.8	0.8	2.7	6	3		N
76	44	1008767	2	23	25.7	1	34.2	9	1	0	0	0	1	0	800	11.2	9.2	2	2.1	5	3	atonic pph	N
78	45	1010426	1	20	23.2	1	40.2	5	2	3	1	1	1	1	450	11.9	9.8	2.1	2.7	10	5.5		N
86	48	1010502	2	30	29.2	2	41.1	4	2	1	1	0	1	4	450	12.2	9.7	2.5	3.5	9	5		Y
87	49	1010512	2	27	24.6	1	40.5	2	2	1	2	0	1	2	250	12.6	12	0.6	2.9	11	7		N
88	50	1010506	1	33	26.5	2	37.8	3	1	0	0	0	1	0	200	10.7	10.2	0.5	2.6	8	5		N
89	51	1010519	1	27	29.5	1	36.7	6	1	0	0	0	1	0	100	10.6	8.2	2.4	2.7	5	3		N
90	52	1010463	1	18	20.4	1	34.2	7	1	0	0	0	1	0	100	12.5	11.8	0.7	1.5	6	4		N
91	53	1010452	1	26	25.7	2	39.2	9	1	0	0	0	1	0	300	11.6	9.8	1.8	3.5	3	2		Y
92	54	1010455	1	25	26.4	2	37.5	7	1	0	0	0	1	0	150	10.5	10.1	0.4	2.4	4	2.5		N
93	55	1010545	2	20	27.4	1	40	5	1	0	0	0	1	0	150	11.9	10.4	1.5	3.1	8	5.5		N
96	56	1010570	2	21	22.4	1	40.1	4	2	1	1	0	1	8	400	12	10.4	1.6	4	8	5		N
97	57	1010620	2	18	26.4	1	39.1	8	1	0	0	0	1	0	100	12.7	12.4	0.3	2.8	7	4		N
98	58	1010617	1	28	23.2	1	39	6	1	0	0	0	1	0	250	12.6	11.2	1.4	2.7	6	4		N
99	59	1010560	1	27	28	1	38	6	1	0	0	0	1	0	100	11.6	10.9	0.7	3.1	8	6		N
101	60	1010702	2	26	29.4	1	38.7	2	2	3	2	5	1	3	120	11.5	10.2	1.3	2.5	19	15		Y
103	61	1010855	1	23	27.8	1	38.4	5	1	0	0	0	1	0	100	10.2	9.8	0.4	2.6	7	4.5		N
104	62	1010826	2	24	26.2	1	39.5	6	1	0	0	0	1	0	80	12.1	11.8	0.3	2.2	6	4		N
105	63	1010938	2	21	33	1	41	6	2	1	1	0	1	4	900	10.9	8	2.9	2.7	9	6	traumatic pph	Y
110	66	1010961	2	28	28.7	1	39.5	3	1	0	0	0	1	0	150	12.2	11.4	0.8	3.2	8	5		N
111	67	1010977	1	28	28.1	1	39.1	6	1	0	0	0	1	0	450	12.1	10.2	1.9	2.6	6	4.5		Y

112	68	1010996	1	20	29.7	1	39.8	9	1	0	0	0	1	0	350	11.3	10.4	1.2	2.5	7	5	N
113	69	1011051	1	20	24.6	1	40	2	2	3	1	1	1	9	300	13	11.1	1.9	2.6	10	7	Y
115	71	1011133	1	22	26.1	1	35.4	2	2	2	0	2	1	9	270	11.3	10.8	0.5	2.3	10	7.5	Y
116	72	1011163	2	24	24.6	1	38.8	2	1	0	0	0	1	0	100	13.3	12.6	0.7	2.2	9	5.5	N
121	74	1011297	1	25	25.2	1	38.8	3	2	2	0	4	2	5	350	12.8	11.2	1.6	2.5	14	11	N
125	77	1011418	1	21	25.7	1	37.4	2	2	3	3	5	1	6	400	10.4	8.7	1.7	2.4	24	20	N
126	78	1011427	2	20	25.2	1	40.2	1	2	3	3	6	1	3	370	12.3	9.5	2.8	2	26	22.5	N
129	80	1011491	1	27	24.4	2	37.7	1	2	1	2	0	1	6	100	13.7	10	3.7	2	12	9	N
130	81	1011513	2	22	28.6	2	38.2	7	1	0	0	0	1	0	250	11	10.3	0.7	2.3	4	2	N
131	82	1011460	1	21	23.5	1	34.5	7	1	0	0	0	1	0	150	11.9	10.2	1.7	2.8	5	3	N
132	83	1011463	1	23	26.1	2	39.7	10	1	0	0	0	1	0	400	12	9.1	2.9	3.5	4	1.5	Y
134	84	1011547	1	22	25.2	2	39.5	6	2	2	0	1	1	5	420	11.2	8.3	2.9	3.5	7	5	Y
135	85	1011571	2	21	21.2	1	40.1	6	1	0	0	0	1	0	200	11.3	10.9	0.4	2.9	7	4	N
136	86	1011560	2	22	26.8	1	34.4	6	1	0	0	0	1	0	450	11.4	8.3	3.1	2.5	8	5.5	Y
139	89	1011684	2	28	27.4	1	41.4	5	1	0	0	0	1	0	300	10.3	9.1	1.2	3.2	9	6	N
140	90	1011692	1	26	28.4	1	40.5	8	1	0	0	0	1	0	200	12.3	11.2	1.1	2.8	6	3	N
142	91	1011812	1	25	28.6	1	37.5	5	2	2	0	3	1	5	350	12.3	10.4	1.9	2.7	10	6.5	N
146	95	1012009	1	23	24.2	1	39.5	2	2	3	3	2	1	7	400	12.6	10.4	2.2	2.2	16	12	N
148	97	1012003	1	22	24.1	1	37.5	2	2	1	1	0	1	3	350	12	10.9	1.1	2.2	9	5	N
149	98	1012008	1	25	25.4	1	39.2	6	1	0	0	0	1	0	200	12	11.8	0.2	3.3	6	3	N
154	101	1012237	1	23	27.2	1	37.1	5	2	2	0	4	1	5	300	11.4	10	1.4	2.5	11	7	N
156	103	1012227	2	20	26.2	1	37.1	8	1	0	0	0	2	0	400	12.3	11.6	0.7	2.7	7	4	N
158	104	1012252	2	22	25.7	1	35.1	8	1	0	0	0	1	0	250	12.3	11.6	0.4	2	6	4	N
159	105	1012279	2	20	23.2	1	39.7	5	1	0	0	0	1	0	200	11.3	11	0.3	2.5	9	6	N
162	108	1012434	2	29	29.2	2	37	1	2	3	3	6	1	3	400	10.5	7.9	2.6	2.5	25	21	Y
163	109	1012478	1	21	24.6	1	37.4	1	2	3	2	2	1	9	350	11.1	9.5	1.6	2.9	17	13.5	N
164	110	1012396	1	27	26.5	2	39	4	1	0	0	0	1	0	200	12.3	11.6	0.7	2.8	10	7	N
165	111	1012407	1	20	22.8	1	37	2	2	1	1	0	1	3	150	12.3	11.5	0.8	2.5	9	6.5	N
166	112	1012422	2	19	20.5	1	38.2	7	1	0	0	0	1	0	200	11.8	10.8	1	2.9	7	4	N
167	113	1012435	1	21	24.8	1	39	5	1	0	0	0	1	0	200	10.9	9.5	1.4	3.4	9	5.5	N
168	114	1012504	2	26	24.4	2	39.2	6	1	0	0	0	1	0	100	11.6	11	0.6	2.1	8	5	N
169	115	1012600	2	21	28.6	1	39.4	5	1	0	0	0	1	0	50	12.4	11.8	0.6	2.9	9	6	N
174	118	1012764	2	22	25.7	1	39.2	1	2	3	2	2	1	2	350	11.3	8.5	2.8	3.2	16.5	13	N
177	119	1012881	1	23	27.2	2	40.1	2	2	3	3	3	1	9	370	11.8	8.9	2.9	2.7	15	12	Y
178	120	1012770	1	23	27.4	1	38.7	7	1	0	0	0	1	0	200	11.3	10.8	0.5	2.8	6	4	N
179	121	1012874	1	24	28.2	1	37.2	5	2	2	0	2	1	5	300	13.7	12.6	1.1	2.7	11	8	N
180	122	1012973	1	26	26.4	1	39.5	2	1	0	0	0	1	0	200	10.6	10	0.6	2.9	10	6	N
181	123	1012945	1	20	23.2	2	39.1	2	2	1	2	0	1	8	400	12.1	10	2.1	3.1	11	7	N
185	128	1013443	1	30	28	2	41.1	10	1	0	0	0	2	0	200	12.2	9	3.2	3.2	3	2	Y
186	129	1013450	1	21	29.4	1	35.1	5	1	0	0	0	1	0	100	11.9	11.2	0.7	1.5	11	7	N
189	132	1013587	2	28	27.8	1	37.2	1	2	1	1	0	1	6	350	10.2	9.4	0.8	2.7	8	6	N
191	134	1013689	2	29	26.2	2	39.4	10	1	0	0	0	1	0	100	12.1	11.7	0.4	3.2	3	1.5	N
192	135	1013570	2	20	25.2	1	40	5	1	0	0	0	2	0	450	12.3	10.6	1.7	3.5	9	6	N
193	136	1013592	1	20	23.4	1	40.2	7	1	0	0	0	1	0	200	12.1	11.6	0.5	2.9	5	3	N
195	137	1013845	1	21	23.2	1	39.8	5	1	0	0	0	1	0	300	12.9	11.6	1.3	3.9	11	7	N
196	138	1013808	2	24	26.3	1	37.2	10	1	0	0	0	1	0	200	10.2	9.5	0.7	2.5	4	2	N

199	140	1013999	1	23	24.5	1	39.2	1	2	1	3	0	1	3	450	13.6	12.8	0.8	2.4	13	10		N
200	141	1013974	1	24	24.4	1	38.8	10	1	0	0	0	1	0	100	12.6	12.2	0.4	2.8	4	1.5		N
201	142	1013876	2	24	28.4	2	39.5	5	1	0	0	0	1	0	150	10.6	10.2	0.4	2.7	7	5		N
203	144	1014108	1	24	27.2	1	37.8	7	1	0	0	0	1	0	200	10.8	9.6	1.2	3	8	4		N
204	145	1014145	1	22	23.8	1	38.2	5	1	0	0	0	1	0	150	12.6	12.5	0.1	2.4	11	7		N
218	155	1015124	1	29	30.4	2	39	2	2	1	1	0	1	0	200	11.3	10.2	1.1	3.5	9	6		N
219	156	1015304	2	19	21.5	1	39	10	1	0	0	0	1	0	100	12.5	10.2	2.3	2.4	4	2		N
220	157	1015432	2	30	26.1	2	38.8	10	1	0	0	0	1	0	100	12.2	12	0.2	2.4	3	2		N
224	161	1015456	1	24	24.6	2	39.7	2	2	2	0	1	1	5	350	12	10.4	1.6	3.4	7	4		N
225	162	1015465	1	28	25.2	1	35.4	5	2	2	0	2	1	9	300	11.8	9.6	2.2	2.5	11	8		N
226	163	1015476	2	21	25.7	1	40	5	2	2	0	2	1	5	450	11.8	9.2	2.6	2.8	10	6.5		Y
227	164	1015599	2	21	25.2	1	39.7	5	1	0	0	0	1	0	170	12.1	10.7	1.4	2.7	10	7		N
233	168	1015765	1	21	24.4	1	41.4	2	1	0	0	0	1	0	100	12.4	11.3	1.1	2.8	11	8		N
234	169	1015700	1	21	24.2	1	39.5	5	1	0	0	0	1	0	140	11.9	10.6	1.3	2.4	9	5		N
235	170	1015722	1	27	30.4	2	39.7	5	1	0	0	0	1	0	150	10.3	9.6	0.7	3	7	5		N
240	174	1015963	2	20	26.2	1	39.7	5	1	0	0	0	1	0	200	12.3	11.2	1.1	3	8	5		N
246	179	1016216	2	23	25.2	1	39.5	4	1	0	0	0	1	0	400	11.3	8.3	3	2.8	12	9		Y
247	180	1016186	2	26	27.2	1	39.8	2	1	0	0	0	2	0	150	13.2	12.8	0.4	2.8	10	6		N
262	191	1017079	1	25	28.4	1	38	6	1	0	0	0	1	0	100	11.7	10.4	1.3	2.8	7	5		N
263	192	1017007	1	24	25.6	1	39.1	6	1	0	0	0	1	0	650	13.1	10.1	3	3.7	6	3		Y
265	195	1017252	1	25	28.4	2	40.7	9	1	0	0	0	1	0	100	12.8	12	0.8	2.5	4	2		N
267	197	1017253	1	24	25.8	1	38.4	2	2	1	3	0	1	3	300	11.4	10.8	0.6	2.3	12	8		N
268	198	1017276	2	25	27.8	1	38.4	9	1	0	0	0	1	0	150	11.6	10.7	0.9	2.7	6	3		N
271	201	1017379	2	26	23.8	2	37.5	5	1	0	0	0	1	0	100	11.9	10.8	1.1	2.6	8	5		N
274	202	1017518	2	28	23.2	1	37.4	2	2	3	1	1	1	6	300	12	10.5	1.5	3	8	6		N
277	205	1017429	1	28	30.9	1	39.1	5	1	0	0	0	1	0	200	12.4	8.7	3.7	2.7	10	6		Y
282	209	1017758	1	23	26.1	1	38	5	1	0	0	0	1	0	100	11.8	10.9	0.9	2.8	9	6		N
283	210	1017725	1	25	24.6	1	38	9	1	0	0	0	1	0	100	12.1	11.6	0.5	2.5	7	4		N
285	212	1017859	2	24	25.2	2	38.2	10	1	0	0	0	1	0	100	10.6	10.2	0.4	2.8	4	2		N
289	215	1017929	1	25	25.7	1	38	8	1	0	0	0	1	0	100	10.9	10.2	0.7	2.5	7	5		N
292	217	1018111	2	23	25.2	2	40.4	11	1	0	0	0	1	0	75	12.6	12.1	0.5	2.5	3	2		N
295	219	1018264	1	22	24.4	1	40.4	2	2	3	3	1	1	9	350	13.1	11.2	1.9	3.5	14	10		Y
296	220	1018271	1	20	28.6	1	37	5	2	2	0	4	1	5	400	11	8.7	2.3	2.8	13	11		Y
299	222	1018365	1	24	26.4	1	37.5	5	1	0	0	0	1	0	200	12.7	10.8	1.9	2.7	10	6		N
300	223	1018400	2	18	20.8	1	38	2	2	3	1	2	1	8	400	10.4	9.2	1.2	2.8	11	7		N
302	225	1018500	2	25	24.4	2	40.4	2	2	1	1	0	1	6	450	13.9	10	3.9	3.4	8	6		Y
303	226	1018506	1	23	24.2	1	40	6	1	0	0	0	1	0	100	13.9	11.4	2.5	3.4	9	5		N
308	229	1018564	1	22	30.4	2	39.8	5	1	0	0	0	1	0	200	12.7	11.8	0.9	3	6	4		Y
309	230	1018502	2	21	26.2	1	39	2	2	1	2	0	1	3	500	11.8	7.1	4.7	2.5	10	6	traumatic pph	Y
310	231	1018674	1	20	25.2	1	35.5	3	2	2	0	1	1	9	350	10.8	9	1.8	2.3	7	5		N
312	233	1018745	2	23	27.2	2	36	4	2	3	2	1	1	2	360	10.2	8.7	1.5	2.5	14	11		Y
313	234	1018756	1	29	28.4	1	39.5	3	2	3	2	3	1	3	350	13	10.8	2.2	2.4	18	15		N
315	235	1018784	2	26	25.6	1	39.8	5	1	0	0	0	1	0	100	11.6	9.8	1.8	3.5	9	5		N
318	237	1018774	1	29	28.4	1	41	2	2	3	3	4	1	4	450	12.3	9.7	2.6	3.1	22	18		N
319	238	1018925	1	22	23.4	1	35.8	4	1	0	0	0	1	0	50	11.5	11	0.5	2.4	10	6		N
320	239	1018963	1	22	23.4	1	38.5	4	1	0	0	0	1	0	150	12.6	12.2	0.4	2.5	9	5		N

321	240	1019029	2	22	23.2	2	37.2	5	1	0	0	0	1	0	100	12	11.4	0.6	1.9	8	5		N
326	244	1019100	2	20	26.3	1	40.4	2	2	1	1	0	1	2	400	11	8.8	2.2	2.7	8	6		N
327	245	1019102	1	22	24.5	2	40.2	5	1	0	0	0	1	0	200	12.7	11.2	1.5	3.6	7	6		Y
328	246	1019139	1	23	27.2	2	40.1	5	1	0	0	0	1	0	50	12.6	12	0.6	2.6	6	4		N
331	248	1018748	2	22	23.8	1	37	3	2	3	3	2	1	6	300	13	10.8	2.2	2.2	18	15		N
332	249	1019212	2	24	26.1	2	37	5	1	0	0	0	1	0	150	12.4	10.8	1.6	2	5	3		N
333	250	1019209	1	28	33	2	38.8	3	1	0	0	0	1	0	100	10.5	9.6	0.9	3	9	6		N
336	252	1019423	1	23	30.4	1	41	2	2	3	1	1	1	4	400	10.3	8.8	1.5	2.7	10	7		Y
352	260	1019886	1	22	21.5	1	41.2	3	2	1	1	0	1	6	450	12.3	9.6	2.7	3.5	9	7		N
354	261	1019942	1	33	23.4	2	38.5	3	1	0	0	0	1	0	100	12	11.4	0.6	2.5	10	7		N
356	262	1019949	1	21	27.8	2	39.4	5	1	0	0	0	1	0	500	12	10.3	1.7	2.6	7	5	traumatic pph	Y
358	264	1019958	1	27	28.1	2	40.5	3	2	1	1	0	1	2	350	10.8	8.6	2.2	2.6	8	6		Y
374	269	1020625	2	22	25.8	2	39.8	4	1	0	0	0	1	0	200	10.4	9.9	0.5	2.4	7	5		N
375	270	1020645	1	27	29.8	1	38.1	4	2	2	0	1	1	5	350	12.5	10.5	2	2.9	8	6		N
385	277	1021076	2	25	28.6	2	38.2	7	1	0	0	0	1	0	150	12.3	11.8	0.5	3	4	2		N
386	278	1021095	1	26	24.6	2	37	3	1	0	0	0	1	0	450	10.4	9.6	0.8	3	9	6		N
387	279	1021111	2	24	25.2	1	36.1	4	1	0	0	0	1	0	300	12.6	10.4	2.2	2.2	12	9.5		N
398	285	1021452	1	26	25.7	2	39.4	6	1	0	0	0	1	0	100	10	9.8	0.2	2.5	5	3		N
400	286	1021532	1	24	25.2	1	38.5	7	1	0	0	0	1	0	150	12.5	11.6	0.9	2.2	7	5		N
404	287	1021642	1	22	24.4	1	40.1	6	2	3	3	1	1	6	300	13.1	10.8	2.3	2.9	16	12		N
410	289	1021733	1	19	28.6	1	39.4	3	2	1	1	0	1	2	350	10.3	8.6	1.7	2.6	8	6		N
415	293	1021974	2	27	24.4	2	41.5	5	2	1	2	0	1	4	300	12.1	11	1.1	2.4	14	11		N
418	294	1022031	2	23	24.5	1	40.5	5	2	3	3	4	1	6	350	10.3	8.6	1.7	2.8	24	20		N
419	295	1022041	2	19	27.2	1	38.7	9	1	0	0	0	1	0	400	10.2	8.4	1.8	2.4	5	3		N
421	296	1022177	1	21	23.8	2	34.4	5	2	2	0	2	1	9	260	11.6	9.5	2.1	1.5	11	8		N
425	299	1022234	2	20	26.1	1	37.7	1	2	3	2	2	1	3	300	10.7	8.4	2.3	2.1	18	15		Y
426	300	1022278	1	30	33.8	2	35.4	5	1	0	0	0	1	0	100	12.1	10.6	1.5	2.4	6	4		N
429	302	1022592	1	28	23.2	1	38.7	8	1	0	0	0	2	0	200	13.1	10.8	2.3	2.5	6	3		N
430	303	1022719	1	32	28.6	2	37.1	2	2	1	2	0	1	3	300	11.4	10.5	0.9	2	12	10		Y
434	306	1022849	1	22	29.7	1	34.8	4	2	2	0	2	1	9	100	13.1	12.4	0.7	2.1	11	8.5		N
435	307	1022896	2	31	26.5	2	35.5	4	1	0	0	0	1	0	50	11.3	10.8	0.5	2.4	7	4		N
436	308	1023028	2	25	24.8	2	40	8	1	0	0	0	1	0	200	12.2	11.6	0.6	3.1	4	3		N
437	309	1023048	2	22	28.9	1	38.1	5	1	0	0	0	1	0	400	12.3	10.6	1.7	2.9	8	6		Y
439	311	1023061	2	27	33.4	1	39.1	9	1	0	0	0	1	0	100	11.4	11	0.4	3	6	4.5		N
442	313	1023206	1	32	32.6	2	39.3	9	1	0	0	0	1	0	150	12.8	11.8	1	3.8	5	3		N
443	314	1023209	1	27	29.2	1	35.5	5	2	2	0	2	1	9	450	11.2	8.4	2.8	2.1	12	10		N
445	315	1023302	1	20	24.6	1	35.8	4	2	2	0	4	1	9	350	10.2	8.6	1.6	1.7	19	15		N
446	316	1023335	1	23	24.8	1	39.1	10	1	0	0	0	1	0	200	11	10.1	0.9	3	4	2		N
447	317	1023438	1	23	26.3	1	37.7	4	2	2	0	2	1	5	250	10.9	9.2	1.7	3	11	8		N
448	318	1023552	2	25	24.8	2	37.7	4	1	0	0	0	1	0	150	10.3	9.8	0.5	2.9	4	2.5		N
449	319	1023583	2	27	26.2	2	41.4	4	2	3	1	2	1	4	350	12.2	10.6	1.6	2	16	13.5		N
453	321	1023726	2	24	29.8	1	38.1	1	2	3	3	4	2	6	450	11	9.2	1.8	3.5	21	17		N
454	322	1023798	2	27	26.4	2	39.8	2	1	0	0	0	1	0	100	12.2	11.4	0.8	2.7	5	3		N
455	323	1023814	1	23	23.2	1	35.5	8	1	0	0	0	1	0	150	12.4	11.9	0.5	2.5	5	2.5		N
456	324	1023862	1	19	28	1	39.1	5	2	3	1	1	1	6	350	11.4	10	1.4	2.4	9	6		N
458	325	1024131	2	20	29.4	2	35.5	5	2	2	0	2	1	9	300	11.6	10.4	1.2	2.2	10	7		N

459	326	1024133	2	26	27.8	2	38.7	1	2	3	1	1	1	8	450	10.2	8.6	1.6	3.4	15	13		N
461	327	1024223	1	21	26.2	1	39.4	5	1	0	0	0	1	0	200	12.1	11.4	0.7	3	11	7		N
462	328	1024246	2	23	33	2	40	5	1	0	0	0	1	0	150	13	12.2	0.8	2.8	6	5		N
464	330	1024422	1	23	28.7	1	40.5	8	1	0	0	0	1	0	150	12.3	10.8	1.5	2.6	7	5		N
470	332	1024430	2	26	28.1	2	41.5	6	2	3	1	1	1	4	360	13	11.4	1.6	3.4	13	10		Y
471	333	1024571	2	22	29.7	1	41	2	2	3	2	3	1	4	350	11.4	9.6	1.8	2.8	20	16		Y
473	334	1024622	2	22	24.6	1	38.5	2	2	3	1	1	1	6	470	10.3	8.2	2.1	2.6	13	11		Y
475	336	1024662	1	19	25.2	1	39	9	1	0	0	0	1	0	100	11.4	10.8	0.6	2.7	6	3		N
477	337	1024746	1	29	24.4	2	36.8	5	1	0	0	0	1	0	100	13.3	12.4	0.9	2.2	6	3.5		N
482	340	1025592	1	20	28.6	1	38.2	5	1	0	0	0	1	0	200	12.9	11.2	1.7	3	10	7		N
488	346	1026097	1	37	27.4	2	39.4	5	2	1	2	0	1	6	400	11.4	8.4	3	2.7	15	12		Y
489	347	1026150	1	34	23.8	2	38.7	3	2	1	2	0	1	7	360	14	12.4	1.6	3	14	11		N
490	348	1026167	1	26	24.8	2	41	2	2	1	1	0	1	1	300	11.9	10.2	1.7	2.4	10	8		N
491	349	1026264	1	22	30.2	2	38.1	8	1	0	0	0	1	0	200	12.3	10.2	2.1	2.7	4	2		N
493	351	1026423	2	24	26.4	2	41	4	2	3	1	1	1	4	260	12.5	10.4	2.1	3.3	13	11		N
494	352	1026422	1	20	24.6	1	41	5	2	3	3	1	1	4	350	11.8	9.6	2.2	2.6	21	16.5		N
495	353	1026455	2	27	24.8	2	39.5	10	1	0	0	0	1	0	200	11.8	9.8	2	2.6	3	2		N
497	354	1026789	2	27	25.7	1	37.1	10	1	0	0	0	1	0	100	11.9	10.8	1.1	2	5	2.5		N
498	355	1026891	1	22	27.5	2	37.7	4	1	0	0	0	1	0	150	11.4	10.2	1.2	2.5	7	4		N
499	356	1026894	2	22	24.6	2	37.1	5	2	1	1	0	1	3	350	10.8	9.2	1.6	2	10	7.5		N
500	357	1026870	2	23	28.1	1	41	3	2	1	2	0	1	4	300	10.9	9.4	1.5	2.5	15	12		N
501	358	1026899	2	25	25.4	1	38.7	3	2	1	3	0	2	6	400	10.7	8.2	2.5	2.7	20	17		Y
505	361	1027131	1	28	26.8	2	40.4	7	1	0	0	0	1	0	200	10.2	9.6	0.6	3.4	6	4.5		N
508	364	1027428	2	27	23.6	2	34.8	6	1	0	0	0	1	0	150	12.4	10	2.4	2.1	5	3		N
509	365	1027497	1	21	24.4	1	39.2	2	2	1	2	0	1	7	450	11.5	8.9	2.6	2.8	14	11		Y
513	366	1027595	1	22	29.5	1	41	2	2	1	1	0	1	4	300	10.6	9	1.6	2.7	9	7		N
514	367	1027687	1	24	25.8	1	37.5	6	1	0	0	0	1	0	200	12.5	10.8	1.7	2.4	9	5		N
518	370	1027899	2	24	26.4	1	39.7	2	2	1	2	0	1	6	300	10.7	9.2	1.5	2.8	15	11		N
522	374	1028006	2	25	27.5	1	39.8	8	1	0	0	0	1	0	100	10.8	10.1	0.7	2.2	7	5		N
524	375	1028336	1	26	23.9	1	41	4	2	3	1	1	1	4	300	11.1	9.6	1.5	2.5	13	10.5		N
527	376	1028546	1	29	24.4	2	39.5	7	1	0	0	0	1	0	200	12	10.5	1.5	3	5	3		N
530	379	1028745	1	24	21.5	2	39.2	4	1	0	0	0	1	0	100	10.1	8.8	1.3	2.8	7	4.5		N
531	380	1028816	2	20	26.1	1	39.2	5	2	2	0	1	1	5	300	11.5	10.4	1.1	2.6	8	6		N
532	381	1028761	2	24	24.6	1	39.4	3	2	3	1	1	2	1	300	12.3	9.2	3.1	3	14	11		Y
533	382	1028990	1	26	25.2	1	38.1	3	2	1	2	0	1	1	400	13.5	10.5	3	2.2	15	11.5		Y
534	383	1029083	2	25	25.7	1	38.7	6	2	2	0	1	1	5	300	12.9	10.2	2.7	2.6	7	4		N
535	384	1029445	1	28	25.2	2	38.2	6	2	1	1	0	1	9	260	11.9	10.6	1.3	2	9	5.5		N
536	385	1029340	2	25	24.4	2	37	1	2	3	3	1	1	3	350	11	9.4	1.6	1.8	16	13		N
543	387	1029840	2	32	28.1	2	38.7	6	2	2	0	1	1	5	300	11.5	9.8	1.7	3.3	8	6		N
544	388	1029864	1	25	28.6	2	39.8	9	1	0	0	0	1	0	100	11.4	10.6	0.8	3.2	4	2		N
545	389	1030343	1	23	24.1	1	37.8	8	1	0	0	0	1	0	300	12.7	11.6	1.1	2.8	7	4		N
547	391	1030507	1	26	24.8	1	37.2	4	2	2	0	1	1	5	300	14.5	10.1	4.4	2.4	8	5		Y
550	393	1030939	1	32	29.5	2	40.4	9	1	0	0	0	1	0	150	13.5	12.6	0.9	2.9	5	3		N
560	403	1031311	1	21	24.7	2	39.8	6	1	0	0	0	1	0	100	13.1	11.6	1.5	2.5	7	5		N
561	404	1031552	1	27	28.1	2	39.4	3	2	1	1	0	1	2	450	12.1	10.2	1.9	2.9	10	6		N
566	408	1031612	1	27	27.2	2	40.1	10	1	0	0	0	1	0	200	11.8	10	1.8	2.9	3	2		N

568	410	1031955	1	21	25.7	1	40	3	2	2	0	1	1	5	150	12.4	11.2	1.2	3	9	6.5		N
569	411	1031961	1	22	23.2	2	40.1	4	1	0	0	0	1	0	150	12.3	11	1.3	2.8	7	4		N
570	412	1031962	2	30	28.1	1	34.2	5	2	2	0	1	1	9	250	12	10.5	1.5	1.7	10	6.5		N
572	414	1032563	1	22	27.1	1	39.5	3	1	0	0	0	1	0	600	12.4	9.7	2.7	2.9	12	9.5	atonic pph	Y
573	415	1032565	1	23	24.6	2	39.1	10	1	0	0	0	1	0	200	10.2	9.6	0.6	2.7	4	2		N
574	416	1032699	2	20	22.4	1	36.2	5	2	2	0	1	1	9	600	13.2	8.2	5	2.6	7	5	atonic pph	Y
575	417	1032743	2	20	20.8	1	33.8	10	1	0	0	0	1	0	200	12.8	10.3	2.5	1.7	5	3		Y
577	419	1032956	2	20	23.2	1	38	5	1	0	0	0	1	0	200	11.9	10.4	1.5	2.3	9	6		N
579	421	1033324	1	23	25.6	1	40.4	5	1	0	0	0	1	0	200	12.2	9.8	2.4	2.8	8	5		N
583	422	1033451	1	27	29.2	2	41	2	2	3	1	2	1	4	300	11	9.4	1.6	3.3	15	12.5		N
591	429	1034143	1	25	30.4	2	39.7	5	1	0	0	0	1	0	150	12	11.8	0.2	3.4	5	3		N
592	430	1034287	1	21	27.1	1	39	3	1	0	0	0	1	0	600	10.4	8.2	2.2	2.8	11	9		N
593	431	1034387	1	20	28	1	37.5	9	1	0	0	0	1	0	150	12.2	11.4	0.8	2.7	8	5		N
599	437	1034644	2	21	24.6	1	37.4	1	2	1	2	0	1	3	400	13.8	11.2	2.6	2.1	14	11		N
600	438	1034672	1	21	29.2	2	38.5	1	2	1	1	0	1	1	300	10.1	8.8	1.3	2.8	8	6		N
601	439	1034738	1	27	30.8	2	38	8	1	0	0	0	1	0	100	11.7	10.8	0.9	2.5	6	4		N
602	440	1034772	2	26	29.5	2	38.5	8	1	0	0	0	1	0	200	11.8	10.4	1.4	2.6	6	4		N
603	441	1034780	1	22	28.6	2	37.5	5	1	0	0	0	1	0	200	10.9	9.4	1.5	2.8	7	5		N
604	442	1034781	1	20	27.2	1	39.4	5	2	2	0	1	1	5	400	10.7	8.2	2.5	2.4	10	7		N
609	447	1035089	2	21	23.8	1	40.1	7	1	0	0	0	1	0	100	11.5	10.4	1.1	2.8	8	6		N
610	448	1035102	1	25	26.5	2	39	7	1	0	0	0	1	0	200	10.7	9.2	1.5	3.3	5	3		Y
611	449	1035153	1	19	25.2	1	39.1	7	1	0	0	0	1	0	250	11.5	10.2	1.3	2.5	9	6.5		N
614	452	1035359	1	21	27.1	2	40.2	4	1	0	0	0	1	0	200	12.3	12	0.3	2.9	5	3		Y
615	453	1035355	2	20	22.5	1	38.7	4	1	0	0	0	1	0	150	12.1	11.1	1	2.6	10	6		N
616	454	1035385	2	19	20.8	1	35.8	4	2	2	0	5	1	9	450	11.9	8.6	3.3	1.2	21	17		Y
618	456	1035652	2	22	27.8	1	39	5	1	0	0	0	1	0	300	12.8	11.2	1.6	2.5	7	5		N
624	460	1036413	1	24	29.4	2	39.1	8	1	0	0	0	1	0	200	12.8	11.4	1.4	2.9	4	2		N
625	461	1036416	1	30	25.4	2	39.5	3	2	2	0	2	1	5	450	12.7	10.5	2.2	2.8	12	9.5		Y
628	464	1036864	1	31	27.2	2	37.8	4	2	1	1	0	1	9	400	11.8	9.4	2.4	2.7	10	6		Y
631	466	1037131	2	23	27.1	2	38.7	6	1	0	0	0	1	0	150	10.5	9.8	0.7	3.1	5	3		N
632	467	1037349	1	20	25.7	2	40.2	7	1	0	0	0	1	0	200	10.8	9.4	1.4	2.8	5	3		N
647	475	1038901	1	18	23.2	1	37.5	5	1	0	0	0	1	0	200	10.7	9.6	1.1	2.6	9	7		N
648	476	1039056	2	25	29.2	2	40.1	2	2	1	2	0	1	4	400	10.6	9	1.6	3.3	15	11		N
650	479	1039078	2	21	24.6	1	39	9	1	0	0	0	1	0	100	11.1	10.4	0.7	2.7	7	4		N
662	489	1039569	1	20	26.5	1	39.5	4	1	0	0	0	1	0	100	12.5	11.4	1.1	2.5	11	7		N
663	490	1039828	2	24	29.5	2	37.7	5	1	0	0	0	1	0	150	13.2	11.8	1.4	2.9	7	5		N
665	493	1039972	1	31	32.6	2	39.8	8	1	0	0	0	1	0	300	12.2	9.1	3.1	3.4	9	6		Y
666	494	1040286	2	25	27.1	2	38.1	2	2	1	1	0	1	3	400	13.2	10.4	2.8	2.2	9	5		Y
667	495	1040310	2	20	25.7	1	41.2	2	2	1	1	0	1	3	350	11.6	10.2	1.4	2.1	10	7		N
672	498	1040475	2	40	33	2	41	2	2	1	1	0	1	4	350	12.3	10.6	1.7	2.9	9	6		N
676	501	1041050	1	24	28.6	2	39	2	2	1	1	0	1	6	350	10.4	8.8	1.6	3	11	8		N
677	502	1041089	1	24	27.1	1	38.2	7	1	0	0	0	1	0	300	12	11.2	0.8	2.6	8	6		N
678	503	1041139	1	25	28.4	2	39.8	10	1	0	0	0	1	0	100	12.3	11.4	0.9	2.8	4	2		N
679	504	1041406	1	22	23.8	1	38.5	5	1	0	0	0	1	0	75	12.7	11.8	0.9	2.7	9	6.5		N
680	505	1041707	1	21	23.2	1	39.2	7	1	0	0	0	1	0	200	12.3	11.8	0.5	2.5	8	6		N
683	508	1042604	1	30	30.9	2	40.2	4	2	1	1	0	1	8	400	12.9	10.5	2.4	2.9	10	7		Y

691	515	1042923	1	21	26.1	2	38.7	6	1	0	0	0	1	0	300	10.6	9.8	0.8	4.1	6	3		N
692	516	1042983	2	27	24.6	2	37.2	2	1	0	0	0	1	0	150	12.1	10.8	1.3	2.6	7	5		N
693	517	1043199	2	25	25.2	2	37	4	2	1	2	0	1	7	350	12.2	10.4	1.8	3	15	11		N
696	518	1043383	2	27	25.7	2	41.1	5	2	1	3	0	1	4	300	12.8	10.6	2.2	3.2	14	12		N
701	523	1043524	1	21	25.2	1	39	5	1	0	0	0	1	0	300	12	11.4	0.6	3.2	9	7		N
702	524	1043613	2	25	24.4	1	40.2	4	2	3	1	1	1	9	350	12.8	10.1	2.7	2.8	14	11		N
703	525	1043628	1	31	28.6	2	38.1	3	2	2	0	4	1	5	350	11.7	10.1	1.6	3.4	20	15.5		N
709	531	1044048	2	25	25.7	1	39.1	10	1	0	0	0	1	0	170	12.6	11.8	0.8	2.7	5	3		N
710	532	1042149	2	20	27.2	1	38	2	2	1	2	0	1	2	350	11.4	10.3	1.1	2.9	16	12		N
711	533	1044330	2	22	27.4	1	39.2	5	1	0	0	0	1	0	200	11.4	10.6	0.8	2.9	9	6		N
712	534	1044457	2	22	28.2	1	39.1	5	1	0	0	0	1	0	200	13.4	12.6	0.8	3.4	10	6		N
713	535	1044757	1	19	26.4	1	38.4	5	1	0	0	0	1	0	150	12.4	10.2	2.2	2.9	8	5.5		N
714	536	1044765	1	24	23.2	2	40	5	1	0	0	0	1	0	190	11.2	10.8	0.4	2.2	7	5		N
722	541	1045618	1	23	28	1	39.2	6	1	0	0	0	1	0	150	13.4	12.8	0.6	2.6	11	7.5		N
723	542	1045744	1	25	29.4	1	38.5	7	1	0	0	0	1	0	300	12	11.1	0.9	2.9	9	6		N
724	543	1045841	1	27	27.8	2	38.7	1	2	1	1	0	1	7	300	12.3	10.4	1.9	3.4	10	7		N
726	544	1046022	1	21	26.2	2	39.8	4	1	0	0	0	1	0	150	11.6	10.8	0.8	3.3	5	3		Y
730	548	1046338	1	20	33	1	38.4	1	2	1	3	0	1	2	350	12.7	10.2	2.5	2.4	18	15.5		N
731	549	1046551	2	23	28.7	2	38.5	2	2	1	2	0	1	3	300	12	10.2	1.8	2.6	15	12		N
732	550	1045652	2	32	28.1	2	39.1	3	1	0	0	0	1	0	200	12.6	11.2	1.4	3.3	7	5		N
733	551	1046550	2	26	29.7	1	37.7	2	2	1	2	0	1	8	350	12.3	10.1	2.2	2.3	15	11		N
734	552	1046604	2	24	24.6	1	37.4	2	2	1	1	0	1	8	400	11.4	9.8	1.6	3	11	7		N
740	557	1044943	1	22	25.2	1	38.7	2	2	3	3	1	1	9	360	11	9.4	1.6	2.5	25	20		N
747	560	1046886	1	29	28.1	1	40.4	4	1	0	0	0	1	0	100	13.3	12.2	1.1	3.3	11	7		N
748	561	1046989	1	19	28.6	1	38.8	7	1	0	0	0	1	0	100	11.8	10.2	1.6	3.2	8	6		N
749	562	1047204	1	21	24.1	1	38.2	2	2	3	2	2	1	3	300	12.1	9.8	2.3	2.3	22	17		Y
750	563	1047443	1	23	26.1	1	39.4	3	2	3	3	1	1	3	400	13.2	10.6	2.7	2.4	24	19		N
751	564	1047277	1	20	24.6	1	39.7	5	1	0	0	0	1	0	150	10.7	9.6	1.1	2.8	11	8		N
752	565	1047433	1	21	25.2	1	41.2	2	2	1	1	0	1	4	350	13	10.6	2.4	2.2	9	7		N
755	567	1047694	2	27	25.7	1	38.7	8	1	0	0	0	1	0	200	12.3	11.8	0.5	3.5	9	6		N
756	568	1048043	2	23	25.2	1	37.7	10	1	0	0	0	1	0	100	12.7	11.6	1.1	2.6	6	4		N
758	569	1047844	2	24	24.4	1	39.5	8	1	0	0	0	1	0	50	12.7	12.3	0.4	2.7	8	5		N
761	572	1048008	2	23	28.6	1	37.8	10	1	0	0	0	1	0	150	12	11.6	0.4	2.6	6	4		N
767	578	1048317	1	27	29.5	2	39.4	8	1	0	0	0	1	0	100	12.2	11.8	0.4	4.3	5	3		N
768	579	1048381	2	23	32.6	1	39.1	2	2	3	3	2	1	8	800	12	8	4	3	20	14	atonic pph	Y
769	580	1048411	1	27	27.1	2	39.5	6	1	0	0	0	1	0	150	12.5	12.2	0.3	3.2	6	4		N
770	581	1048421	2	28	25.7	2	39.1	4	2	2	0	2	1	5	350	13.2	10.4	2.8	3	13	10		Y
771	582	1048507	1	19	32.6	2	38.8	3	2	1	1	0	1	6	350	12.9	11.2	1.7	2.9	9	6		N
772	583	1048563	1	27	28.6	2	38.7	6	1	0	0	0	1	0	150	13.2	12.8	0.4	2.6	5	3		N
780	587	1048987	1	21	27.1	1	37.8	8	1	0	0	0	1	0	100	13.6	13.2	0.4	2.6	9	5		N
781	588	1049025	1	25	26.8	2	39.1	4	2	2	0	2	1	5	600	13.3	8.2	5.1	3.4	13	9	atonic pph	Y
783	590	1049454	2	32	23.8	1	38.2	3	2	1	2	0	1	6	400	12	11.1	1.9	3.2	15	11		N
784	591	1049467	1	19	23.2	1	37	6	1	0	0	0	1	0	100	10.2	9	1.2	2.7	11	9		Y
785	592	1049595	1	25	26.8	2	38.7	4	1	0	0	0	1	0	200	12.6	11.4	1.2	2.6	7	5		Y
787	593	1049658	2	20	24.2	1	40	7	1	0	0	0	1	0	200	10.2	9.1	1.1	3.2	10	7		N
788	594	1049670	2	28	30.4	2	38.2	4	2	2	0	3	1	5	350	12.2	10.6	1.6	2.6	16	13		N

789	595	1049860	2	29	29.7	1	38.5	5	1	0	0	0	1	0	200	12.4	11.8	0.6	2.3	13	9	N
792	598	1049941	1	26	28.2	2	39.8	6	1	0	0	0	1	0	100	11.6	11.2	0.4	2.6	8	4	Y
793	599	1050010	1	38	33.9	2	41	2	2	1	2	0	1	4	400	11.1	9.2	1.9	2.9	17	15	N
794	600	1050053	1	32	30.6	2	39.7	8	1	0	0	0	1	0	100	10.2	9.6	0.6	3.3	6	3	N
795	601	1050087	1	23	27.2	1	38.4	3	2	3	3	1	1	7	350	12	10.8	1.2	3.1	22	17	N
796	602	1050036	2	23	24.2	1	40.1	10	1	0	0	0	1	0	100	13.5	12.8	0.7	3.1	8	6	N
802	608	1050743	2	25	28.1	1	39	4	2	3	2	3	1	7	300	12.2	10.1	2.1	2.8	24	20	N
803	611	1051269	1	22	25.4	1	38.2	2	2	3	1	1	1	6	250	12.7	10.8	1.9	2.9	14	11	N
806	612	1051620	2	22	27.1	1	38.5	2	2	3	1	1	1	6	650	10.8	8.2	2.6	2.9	15	10	Y
807	613	1051806	1	34	23.6	2	38	3	2	1	1	0	1	6	450	11.1	9.8	1.3	3	10	5	N
809	618	1051855	2	28	24.4	2	38.7	5	1	0	0	0	1	0	100	12.1	11.6	0.5	3.1	5	3	N
811	619	1051948	2	24	29.5	1	41.1	3	2	3	1	1	1	4	320	10.2	8.5	1.7	3	13	10	Y
813	625	1052038	1	22	25.8	1	38.2	4	2	2	0	3	1	4	310	12.3	10	2.3	2.4	15	11	N
814	626	1052060	1	23	26.4	1	41.4	2	2	3	2	2	1	4	700	13.2	9.4	3.8	2.8	24	19	Y
817	627	1052137	1	22	23.2	1	41	1	2	3	2	2	1	4	400	11.2	9	2.2	3	22	18	N
820	628	1052321	1	27	28	1	40	1	2	3	2	2	1	4	350	12.3	9.1	3.2	3.2	23	19	Y
821	630	1052366	2	20	29.4	1	40.1	6	1	0	0	0	1	0	120	13	12.7	0.3	2.8	9	5	N
823	634	1052525	2	21	27.8	1	40.1	5	1	0	0	0	1	0	100	12.8	12.2	0.6	2.8	11	7	N
825	641	1053060	1	28	26.2	1	38.5	4	2	2	0	4	1	5	400	11.8	9.2	2.6	2.5	20	16	Y
827	642	1053064	1	21	32.1	1	38	5	1	0	0	0	1	0	100	11.8	10.6	1.2	2.5	10	7	N
828	643	1053191	2	25	28.7	1	39.8	2	2	3	1	1	1	8	450	11.8	9.2	2.6	2.6	12	8	N
831	644	1053295	1	29	28.1	2	37.4	5	1	0	0	0	1	0	100	11.2	10.8	0.4	3.1	7	5	Y
834	645	1053314	1	31	29.7	2	39.4	4	2	1	1	0	1	6	350	11.4	9.8	1.6	2.8	9	6	N
835	650	1053447	1	24	24.6	2	38.2	1	2	3	2	3	1	3	400	12.3	10.2	2.1	2	23	19	N
837	651	1053470	2	32	28.5	2	41.5	4	2	3	1	1	1	4	300	10.8	9.2	1.6	2.9	12	8	N
838	652	1053671	2	22	27.2	2	40	3	2	1	1	0	1	8	450	11.8	9	2.8	2.9	9	5	Y
840	655	1053803	2	25	24.7	2	37.5	2	2	1	2	0	1	9	300	11.5	9.2	2.3	3	15	11	N
841	656	1053880	1	22	30.4	1	40.4	2	2	3	1	2	1	6	400	12.5	9.3	3.2	2.8	20	16	Y
842	657	1053755	1	20	20.4	1	37.2	4	2	2	0	3	1	5	350	12.2	10.1	2.1	2.3	16	13	N
844	658	1053893	1	20	23.1	1	38.5	6	1	0	0	0	1	0	100	10.8	10.1	0.7	2.8	9	5	N
846	659	1053942	1	20	25.2	1	38.5	10	1	0	0	0	1	0	210	12.2	11.8	0.4	3.1	10	6	N
847	661	1054059	2	22	24.4	1	41.2	2	2	3	1	3	1	4	400	11.8	9	2.8	3.5	19	15	Y
849	662	1054136	2	28	28.6	1	39.2	5	1	0	0	0	2	0	200	12.1	11.6	0.5	2.5	10	7	N
851	663	1054164	2	25	27.4	2	41.1	7	1	0	0	0	1	0	50	10.3	10.2	0.1	2.8	5	3	N
852	664	1054180	1	22	23.8	2	40.4	10	1	0	0	0	1	0	50	12	11.6	0.4	3.3	4	2	Y
853	665	1054240	1	21	23.2	2	41.8	4	2	3	1	2	1	4	400	12.2	10.1	2.1	3	18	15	N
855	666	1054264	1	21	30.9	1	41	2	2	3	2	1	1	4	350	13.1	11	2.1	2.8	20	15	N
857	671	1054391	1	25	26.1	1	38.5	3	2	2	0	2	1	5	300	13	11.2	1.8	2.8	11	7	N
860	679	1054612	1	22	24.6	1	39.5	6	1	0	0	0	2	0	250	10.2	9.8	0.4	2.5	8	4	N
864	683	1054649	1	28	25.2	2	40.7	4	2	1	1	0	1	4	300	11.2	9.8	1.4	2.7	9	5	N
866	684	1054620	1	20	25.7	1	40.4	2	2	3	1	2	1	6	350	10.8	9.2	1.6	3.2	16	11	N
869	685	1054867	1	20	26.4	1	39.2	8	1	0	0	0	1	0	100	11.4	11	0.4	2.8	9	5	N