

STUDY OF DIFFERENT BIRTHING POSITION AND IT'S OUTCOME IN TERTIARY CARE CENTRE

Dissertation submitted to

THE TAMIL NADU DR. M. G. R MEDICAL UNIVERSITY

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M.D. BRANCH II

OBSTETRICS AND GYNAECOLOGY

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MAY 2022

CERTIFICATE FROM THE INSTITUTION

This is to certify that the dissertation titled “**STUDY OF DIFFERENT BIRTHING POSITION AND IT’S OUTCOME IN TERTIARY CARE CENTRE**” is a bonafide work done by Dr.R.NANDHINI , Post graduate student, Department of Obstetrics and Gynaecology, Thanjavur Medical college, Thanjavur – 04, during the period JANUARY 2020 TO DECEMBER 2020 in partial fulfillment of rules and regulations of The Tamilnadu Dr. M.G.R Medical University, for the award of M.S. Degree Branch II (Obstetrics and Gynaecology) examination to be held in May 2022.

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DECLARATION

I solemnly declare that this dissertation titled “**STUDY OF DIFFERENT BIRTHING POSITION AND IT’S OUTCOME IN TERTIARY CARE CENTRE**” was done by me at the **Department of Obstetrics and Gynaecology, Thanjavur Medical College, Thanjavur**, during year 2019-2022 under the guidance and supervision of **Prof. Dr. R.RAJARAJESWARI, MD., DGO., DNB**. This dissertation is submitted to **The Tamil Nadu Dr. M.G.R. Medical University, Chennai** in partial fulfillment of the University regulations for the award of **M.S. BRANCH II (Obstetrics and Gynaecology)**.

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INTRODUCTION

INTRODUCTION

- ❖ Labour, process of giving birth is a challenging and wonderful experience, only a women can experience. Every mother desires to have joyful birthing experience with a safe and healthy mother and newborn. The ministry of health and family welfare is committed to support the public health system in creating such an environment within the health facilities to ensure every mother and newborn are cared to utmost.
- ❖ LaQshya initiative has been introduced for improving the quality of the care and achieving positive maternal and neonatal outcome. It's goal is to reduce preventable maternal and newborn mortality, morbidity and stillbirths associated with the care around delivery in Labour room and Maternity OT and ensure respectful maternity care. Every mother has the right to give birth in whatever position she feels comfortable. Allowing the mother to give birth in a position she feels comfortable can make her birthing experience more memorable.
- ❖ Allowing the mother to give birth in non conventional posture has advantage like increase in pelvic dimension , minimal risk of aorto caval compression, better alignment of fetus during passage through the pelvis, more efficient uterine contraction. The vertical position may benefit from gravity, thereby able to reduce aorto caval compression.
- ❖ Position adopted by women naturally during birth has been described in 1882 by Engelmann. Different upright postures could be achieved by using holding the women and supporting their back, holding the pillar, slung hammocks, wooden furnitures, a rope, knotted piece of cloth or she could kneel or couch or squat

using bricks stones, a pile sand or a birthing stool. Position in which the women delivers differs in various countries . In India, most of women deliver in a dorsal, semi recumbent or lithotomy position. It is said that the dorsal position enables the obstetrician to continuously monitor the fetus well being better and thereby ensuring a safe birth.

This paper enlightens about how the labour process got improved overtime the period of time, and how it ensures the safety of mother and newborn in each steps. And also it gives about the advantages and disadvantages, and also physical emotions of the mother during labour in different postures during second stage of labour.

AIM AND
OBJECTIVES

AIM OF STUDY

To assess the impact of Non-supine posture during the second stage of labour in the management of labour and to compare

- ❖ Duration of second stage of labour,
 - ❖ Maternal and fetal outcome,
 - ❖ Maternal experience
- with the supine posture.

REVIEW
OF
LITERATURE

REVIEW OF LITERATURE

Even during ancient times, different birthing positions have been tried including squatting, standing, kneeling, semi sitting, lying dorsal or supine. There are many evidences that non supine positions/ non conventional posture during second stage of labour has advantage over dorsal position in terms of gravitational force, maternal satisfaction and reduction in duration of second stage of labour.

Gardosi et al (1) has reviewed about different birthing position and its effect on second stage of labour

Narol et al (9) and Newton et al (10) have reviewed the cross cultural preference for upright posture.

The review of literature aims at finding out not only the subjective comfort for the patient but also the scientific evidence to prove the alteration in the pelvimetry brought out by changes in postures.

Labor is the last few hours of human pregnancy. It is characterized by forceful and painful uterine contractions that effect cervical dilatation and cause the fetus to descend through the birth canal. Extensive preparations take place in both the uterus and cervix long before this. There are four stages of labour.

First Stage. From the onset of true labor to complete dilatation of the cervix. It lasts 6 to 18 hours in a nulliparous woman and 2 to 10 hours in parous women.

Second Stage. From complete dilatation of the cervix to the birth of the baby/babies. It takes 30 minutes to 3 hours in a nulliparous woman and 5 to 30 minutes in a parous

woman. The median duration is slightly under 20 minutes in multiparas and just under 50 minutes for nulliparous women.

Third Stage. From the birth of the baby to delivery of the placenta and permanent contraction and retraction of the uterus. It takes 5 to 30 minutes. Active management of third stage of labour is important since it reduces the chances of PPH(blood loss > 1000ml) and shortens the third stage. The average blood loss is 250 ml to 500ml.

Fourth Stage. From the birth of the placenta to 1 hour postpartum.

SECOND STAGE OF LABOUR:

The second stage of labor lasts from the end of the first stage, when the cervix has reached full dilatation, to the birth of the baby/babies. This is the stage of expulsion of the fetus/fetuses. The duration of the normal second stage of labor is influenced mainly by two factors: parity and the presence of an epidural.(OXORN AND FOOTE)

The median durations of the second stage are given in minutes

Table 1

PARITY	EPIDURAL		NO EPIDURAL	
	MEDIAN	IQ RANGE	MEDIAN	IQ RANGE
0	82	45-134	45	27-76
1	36	20-77	15	10-25
2	25	14-60	11	7-20
3	23	12-53	10	5-16
>4	22	9-30	10	5-15

IQ-INTERQUARTILE RANGE(25% to 75% of population)

Positioning in the Second Stage of Labor :

Women should choose a position that is comfortable for them which enhances their pushing efforts. It has been traditional practice for women to be positioned and to push in the horizontal (dorsal), semi-Fowler's (head and back elevated at 30 degrees), or lithotomy position during the second stage of labor. Use of these positions is often dictated by intervention such as epidural analgesia, electronic fetal monitoring, or intravenous lines and pumps that limit mobility. Upright or vertical positions such as squatting, semi-recumbency, standing, and upright kneeling generate up to 30 percent more intraabdominal pressure and increased anteroposterior and transverse diameters of the pelvic outlet. Positioning may be important when lack of progress is identified in the second stage. Frequent changes in position may help when fetal malposition is identified or to relieve back pain. It is recommended that women should not lie supine or semi-supine during the second stage (in which case a firm wedge should be inserted under the woman's right side to prevent supine hypotension) and should adopt any other position that is comfortable for her and enhances pushing efforts(OXORN AND FOOTE)

The management of the second stage of labour should increase the probability of vaginal delivery while reducing the risk of maternal and fetal morbidity and mortality. The fundamental principles during second stage of labour. There are lack of evidence to support the time limit to end the second stage of labour, hence obstetricians must be aware of benefits and risk of interventions versus continued expectant management in the second stage.

According to S M Menticoglou, . There was no significant relationship between second-stage duration and low 5-minute Apgar score, neonatal seizures, or admission to the neonatal intensive care unit which is similar to this study.(35)

Although no conclusive time limits for the active stage of pushing be made, because of a lack of evidence, it is known that the duration of the active (pushing) phase of the second stage is more important for the fetal and maternal condition than the total duration of the second stage of labor.

OVERCOMING BARRIERS TO CHANGING POSITIONS IN LABOR

A barrier to promoting different position during labor is the lack of the understanding of the physiologic process of birth by both women and their care providers. To achieve the optimal care, those barriers which restrict the women to assume those positions need to be overcome. The term “optimal care” originates from the concept of optimality in maternity care derived from the American college of nurse Midwives (Goer & Romano, 2012). Freedom of movement is one practice in achieving optimal care in labor. Traditionally, childbirth educators have discussed the three Ps—the power of the uterine contractions; the passenger, which is the size and position of the fetus’s presenting part; and the passage way of the mother—as the keys to progress in labor. In *Optimal Care in Childbirth*, Goer and Romano (2012) suggest an alternative list of Ps. Those four factors that must be present to support the laboring women’s autonomy and mobility are permission, physical environment, practices, and people (Goer & Romano, 2012).

Women need to perceive that they have *permission* to move and select the position of their choosing without providers limiting choice unless an actual medical indication occurs. Informed choice is part of a shared decision-making process between a woman and her care provider to review the risks, benefits, and alternatives of a recommended

practice—in this case, a restriction in mobility with which the care provider desired the woman to comply.

Rate at which the descent occurs depends on several factors

- 1.Contractile force of uterus.
- 2.maternal efforts.
- 3.fetal size, position and attitude.
- 4.deformity of fetal head.
- 5.type of pelvis.
- 6.characteristics of pelvic floor.

DURATION OF SECOND STAGE OF LABOUR:

The duration of the 2nd stage is difficult to predict and in multigravidae may last for as little as a few minutes whereas in primigravidae the process may take up to 2 h (Downe 2004, NICE 2007). There is no good evidence available to impose a time limit for this stage of labour and it is more relevant to take decisions on progress with evidence of adequate uterine contractions, descent and continuing good maternal and fetal well-being. However, NICE (2007) advocate referral of a primigravidae if she has not delivered within 2 h or 1 h for a multigravidae.

According to friedmann the mean values of duration of second stage of labour in primigravida and second gravid are 57 mins and 14 mins(4,5) which is similar to studd (6) where the mean values are 41 mins and 17 mins respectively.

The associations between duration of second stage of labor, pushing time and risk of adverse neonatal outcomes are not fully established. Prolonged durations of second stage of labor and pushing are associated with increased RRs of adverse neonatal outcomes. Clinical assessment of fetal well-being is essential when duration of second stage and pushing increases.(7)

PERINRAL TRAUMA:

Perineal trauma in different birthing position has been subjected to number of analysis described in systematic review by Renfrew et al (10), women who gave birth in non supine position more likely to have intact perineum than women who delivered in supine position.

The cochrane review based on women without epidural anaesthesia reported that upright positions were associated with reduced episiotomies (average *RR* 0.75, 95% *CI*:0.61–0.92), possible increased second degree perineal tears (*RR* 1.20, 95% *CI* 1.00–1.44) when compared with supine position during the second-stage of labor, and there was no difference in the third- and fourth-degree tears between them(*RR* 0.72, 95% *CI* 0.32–1.65) Women who delivered in left lateral position has less laceration (11,12). Women who delivered in supine position had more severe lacerations(13,14,15,16). Maternal muscle strength and fetal positions were associated with episiotomy. Maternal bearing down efforts was significantly associated with lacerations.

BLOOD LOSS:

Excessive blood loss in child birth, which is also known as the postpartum hemaorrhage accounts for about majority of the maternal mortality. Delayed and underestimation of the blood loss can result in maternal mortality.

Measurement of blood loss in normal vaginal delivery measured by Kelly's pad.

In the recent times, most concerns raised about the greater blood loss in upright positions during the second-stage of labor, although those positions have been recommended as the most favorable positions to adopt during the second-stage of labor.

A recent cochrane review based on women reported that upright positions were associated with an increased estimated blood loss greater than 500 ml when compared with supine positions, and they also found that there was no clear difference in blood loss between upright positions and supine positions when low quality trials were excluded from the analysis (17).

In regard to specific upright positions, for instance, sitting position with a birth seat may increase blood loss. A randomized controlled trial from Sweden confirmed that the women giving birth with birth seat had blood loss greater than 500 ml when compared with birth in any other position, but there was no difference in bleeding over 1000 ml (18).

MATERNAL PELVIS:

Pelvic inlet: The line between the narrowest bony points formed by the sacral promontory and the inner pubic arch is termed obstetrical conjugate: It should be 11.5 cm or more. This anteroposterior line at the inlet is 2 cm less than the diagonal conjugate (distance from undersurface of pubic arch to sacral promontory). The transverse diameter of the pelvic inlet measures 13.5 cm.

Midpelvis: The line between the narrowest bone points connects the ischial spines; it typically exceeds 12 cm.

Pelvic outlet: The distance between the ischial tuberosities (normally > 10 cm), and the angulation of the pubic arch.

PELVIC TYPES:

Traditional obstetrics characterizes four types of pelvises:

Table 2 CLASSIFICATION OF PELVIS (CALDWELL AND MOLOY)

	Gynecoid	Android	Anthropoid	Platyelloid
INLET				
Sex Type	Normal Female	Male	Apelike	Flat female
Incidence	50%	20%	25%	5%
Shape	Round or transverse oval; transverse diameter is a little longer than the anteroposterior	Heart or wedge shaped	Long anteroposterior oval	Transverse oval
Anteroposterior diameter	Adequate	Adequate	Long	Short
Transverse diameter	Adequate	Adequate	Adequate but relatively short	Long
Posterior sagittal diameter	Adequate	Very short and inadequate	Very Long	Very short
Anterior sagittal diameter	Adequate	Long	Long	Short
Posterior segment	Broad, deep, roomy	Shallow ;sacral promontory indents the inlet and reduces its capacity	Deep	Shallow
Anterior segment	Well rounded forepelvis	Narrow, sharply angulated forepelvis	Deep	Shallow

Table 2 CLASSIFICATION OF PELVIS (CALDWELL AND MOLOY) (Continued)

	Gynecoid	Android	Anthropoid	Patypelloid
PELVIC CAVITY : MIDPELVIS				
Anteroposterior diameter	Adequate	Reduced	Long	Shortened
Transverse diameter	Adequate	Reduced	Adequate	Wide
Posterior sagittal diameter	Adequate	Reduced	Adequate	Shortened
Anterior sagittal diameter	Adequate	Reduced	Adequate	Short
Sacrum	Wide, deep curve; short; slopes backward ;light bone	Flat inclined forward ;long; narrow ;heavy	inclined backward ;narrow ;long	Wide, deep curve ;often sharply angulated with enlarged sacred fossa
Sidewalls	Parallel, Straight	Convergent, funnel pelvis	Straight	Parallel
Ischial spines	Not prominent	Prominent	Variable	Variable
Sacrosciatic notch	Wide;short	Narrow; long; high arch	Wide	Short
Depth :iliopectineal eminence	Average	Long	Long	Short
Capacity	Adequate	Reduced in all diameters	Adequate	Reduced

Table 2 CLASSIFICATION OF PELVIS (CALDWELL AND MOLOY) (Continued)

	Gynecoid	Android	Anthropoid	Patypelloid
OUTLET				
Anteroposterior diameter	Long	Short	Long	Short
Transverse diameter (bituberous)	Adequate	Narrow	Adequate	Wide
Public arch	Wide and round ;90 degree	Narrow ;deep; 70 degree	Narrow or relatively narrow	Very wide
Inferior pubic rami	Short ;concave inward	Straight; long	Long ;relatively narrow	Straight; short
Capacity	Adequate	Reduced	Adequate	Inadequate

Gynecoid: Ideal shape, has incidence of 50%, round or transverse oval in shape, while transverse diameter is a little longer than the anteroposterior.

In this type, Fetal head engages in slight asynclitism; good flexion ; occiput anterior position is common.

Its advantages in labour include, good uterine function , early and complete internal rotation; spontaneous delivery; wide pubic arch decreases perineal tears

Android: Triangular inlet, prominent ischial spines, more angulated pubic arch.

In this type, fetal head engages in transverse or posterior diameter, there will be extreme moulding.

Deep transverse arrest is common, arrest as occiput posterior(OP) position with failure of rotation is common. The narrow pubic arch leads to major and increased perineal tears.

Anthropoid: Inlet transverse is greater than inlet obstetrical diameter.

In this type, fetal head engages in anteroposterior or oblique position, often it will be occiput posterior position.

During labour, birth face to pubis is common , Delivery will be easy.

Platypelloid: Flat inlet with shortened obstetrical diameter.

In this type, fetal head engages in transverse diameter with marked asynclitism.

During labour, there will be delay at inlet level. Labour will usually be terminated by cesarean section.

“The rhombus of Michaelis (also called the quadrilateral of Michaelis) is a kite-shaped area which includes three lower lumbar vertebrae, the sacrum and that long ligament which reaches down from the base of the skull to the sacrum. This wedge-shaped area of bone moves backwards during the second stage of labour and as it moves back it pushes the wings of the ilea out, increasing the diameters of the pelvis.

PELVIMETRY:

Pelvimetry is of two types which is Clinical pelvimetry and Imaging pelvimetry.

In clinical pelvimetry, there is internal and external pelvimetry. Fetus is the best pelvimeter.

Internal pelvimetry is performed through vaginal examination . External pelvimetry is cumbersome and hence not used now.

Pelvimetry is the assessment of female pelvis in relation to the birth of the baby.

Pelvimetry used to be performed routinely to discern if spontaneous labour was medically advisable. Women whose pelvis were found too small received caesarean sections instead of birthing naturally. Research shows that pelvimetry is not a useful diagnostic tool for

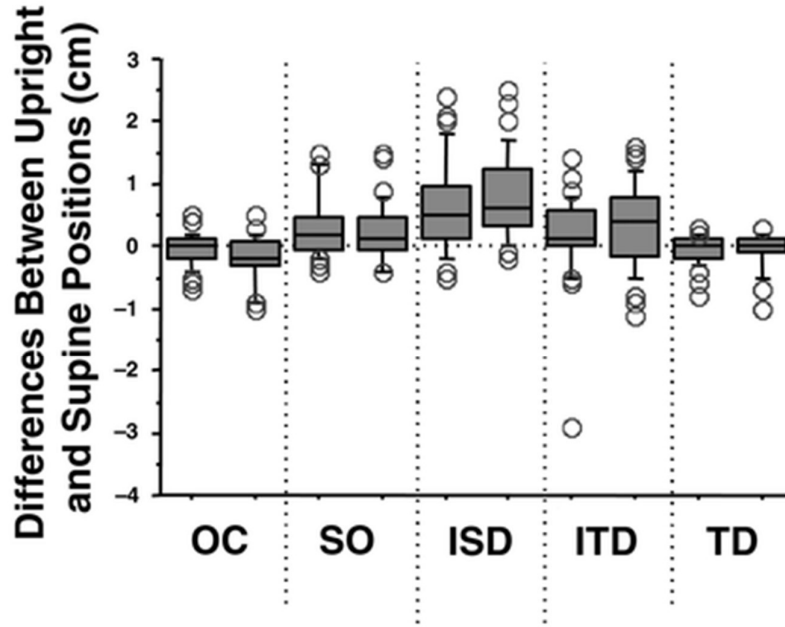
CPD and that in all cases spontaneous labour and birthing should be facilitated. X-RAY Pelvimetry has the risk of radiation exposure to the fetus hence it was not used routinely. MR Pelvimetry is becoming popular in assessing CPD. Women pelvis loosens up before birth (with the help of hormones), and an upright and/or squatting woman can birth a considerably larger baby. A woman in the lithotomy (lying on her back) is more than likely not going to push a larger than average baby out, due to the size of outlet that this position creates.

MR Pelvimetry:

Merits of supine versus upright (e.g., Squatting, hand-to-knee and sitting in birthing stools) birthing positions have been debated for many decades. An accurate impact of posture on pelvic bony dimensions, however, has been lacking, although using conventional outlet radiography, Russell (20) reported that a change from the supine to the sitting position significantly increased interspinous diameter both in the last trimester of pregnancy and 16 weeks after child birth. Today MR imaging become the imaging modality of choice for assessing the maternal body pelvis.

Box plot of pelvimetric differences in changing from supine to hand-to-knee (first bar in each set) to squatting (second bar in each set) positions. OC = obstetric conjugate, SO = sagittal outlet, ISD = interspinous diameter, ITD = intertuberous diameter, TD = transverse diameter

Figure 1. Differences between upright and Supine Positions (cm)



Parameters	Supine		Hand-to-Knee		Squatting	
	Mean \pm SD (cm)	Range (cm)	Mean \pm SD (cm)	Range (cm)	Mean \pm SD (cm)	Range (cm)
Obstetric conjugate	12.4 \pm 0.9	10.7-14.6	12.4 \pm 0.8	10.5-14.0	12.3 \pm 0.8	10.6-13.7
Sagittal outlet	11.5 \pm 1.3	9.5-14.3	11.8 \pm 1.3	9.6-14.6	11.7 \pm 1.3	9.4-14.5
Interspinous diameter	11.0 \pm 0.7	9.7-12.4	11.6 \pm 1.1	10.1-14.4	11.7 \pm 1.0	10.0-14.7
Intertuberous diameter	12.4 \pm 1.1	10.1-15.5	12.5 \pm 0.8	11.2-14.5	12.7 \pm 0.8	11.3-14.6
Transverse diameter	12.9 \pm 0.7	11.7-14.4	12.8 \pm 0.7	11.8-14.0	12.8 \pm 0.8	11.3-14.3

Dimensions in the three positions are listed in Table 2 and plotted in Figure 1 shows:

1. The sagittal outlet was wider in the hand-to-knee and squatting positions than in the supine position (3 ± 5 mm, $p = 0.002$ and 2 ± 5 mm, $p = 0.01$, respectively).
2. The interspinous diameter was greater in the hand-to-knee and squatting positions than in the supine position (6 ± 7 mm and 8 ± 7 mm; $p < 0.0001$ in both cases).
3. Intertuberous diameter was greater in the squatting position than in the supine position (3 ± 7 mm, $p = 0.01$) but not greater than in the hand-to-knee position.
4. The obstetric conjugate was the only parameter to be significantly smaller in the upright squatting position than in the supine position (2 ± 4 mm, $p = 0.01$) but not in the hand-to-knee position.
5. These results indicate that differences in posture can significantly increase female pelvic dimensions and thus provide objective confirmation for time-honored parturient experience of the advantages of changing birthing position to facilitate vaginal birth. Russel et al(20)

According to Cochrane pregnancy and child groups, the use of different birthing position has been associated with following results

1. It shortens the second stage of labour
2. A reduction in assisted deliveries
3. A reduction in episiotomies
4. A possible increase in second degree perineal tears
5. Increased estimated blood loss greater than 500 mL
6. Fewer abnormal fetal heart rate patterns

SUPINE POSITION

ADVANTAGES OF SUPINE POSITION

- It provides the easier access to perineum for obstetrical intervention.
- It enables the obstetrician or nurse to listen to fetal heart rate at frequent intervals
- Makes the maintenance of asepsis easier.
- More comfortable for the person conducting the delivery

DISADVANTAGES OF SUPINE POSITION

With positions that close the birthing canal, such as lying down, there may be increased risk to the baby of:

- need for forceps or vacuum delivery increases
- Excessive head moulding
- Compression of umbilical cord
- Stress on baby
- Poor position/angle of the fetus in relation to the pelvis
- Disruption of the baby's oxygen supply

Increased risk for the mother of:

- Less effective contractions
- Labor slowing and not progressing
- Possible increased hypotension
- Ineffective pushing

- May lead to illusion of cephalo-pelvic disproportion due to reduced pelvic diameters from poor positioning
- Increased risk of need for Cesarean section
- Strain and tearing to the mother's tissues
- Episiotomy

Janet Balaskas the recognized pioneer of natural childbirth and author of “Active Birth” reiterates the danger of being in a supine position:

“In the semisitting position the mother’s weight rests on her coccyx and the pelvic capacity is reduced.”

“In the semireclining position the sacrum is immobile and the pelvic outlet narrows.” “Your coccyx is designed to move out of the way as your baby’s head descends. Sitting on your coccyx during birth restricts the pelvic outlet and can also lead to dislocation of the coccyx, which can be extremely painful for months after the birth.” The sacrococcygeal joint, the joint between the sacrum and the coccyx or tailbone, also softens in pregnancy; it is designed to swing backwards to widen the outlet of the pelvis as the baby emerges. Of course, this is impossible if the mother is sitting on her coccyx.

SQUATTING POSITION:

There is no single position for birth. Labor is a dynamic, interactive process, woman may want to assume various positions for childbirth, and she should be encouraged and assisted in attaining and maintaining the position of her choice (Lowdermilk & Perry, 2003).”

Squatting is effective in facilitating the descent and birth of the fetus. It is considered to be the best position for the second stage of labor (Lowdermilk & Perry , 2003).(21)

According to Fatima dokak et al,

In the squatting position,

- the duration of the second stage of labor was slightly shorter, but the results were not statistically significant.
- The risk of instrumental delivery was reduced, but the number of caesarean sections was higher, which gives a similar probability of spontaneous vaginal delivery in the two groups. The other outcomes were similar between groups.
- There was no statistically significant difference in pain intensity between squatting and non-squatting position
- The risk of retained placenta was decreased in the squatting group

Despite the theoretical advantages of a squatting position during the second stage of labor, this review does not show any beneficial or harmful effect of squatting during childbirth. The increase in caesarean sections is, however, concerning. Since there is no strong evidence for or against squatting position, women should be allowed to adopt the position of their choice during pushing efforts, with neutral counselling from the caregivers.

ADVANTAGES OF SQUATTING POSITION:

Decreases the amount of time mother pushes during labor

- Reduces the necessity for forceps use on infant

- Lessens the use of episiotomy to aid in labor, due to “relaxing and stretching of the pelvic floor muscle”
- “Shortens the depth of mother’s birth canal”
- “Increases pelvic diameter by 10+%”
- “Encourages and strengthens the intensity of contractions, while relieving back pressure” (Weiss, 2003)
- Improves blood circulation of fetus
- Improves health care practitioner’s access to mother’s perineum
- “May increase pelvis diameter by as much as two centimeters”
- “Uses gravity” to assist with birthing process (Perez, 2003)

DISADVANTAGES OF SQUATTING POSITION:

Use of this position is exhausting to mother

- The health care practitioner monitoring the infant may have difficulty hearing fetal heart tones
- This position impairs the mother’s ability “to assist in delivery” (Perez, 2003)

SITTING POSITION:

According to Willemijn D.B. Warmink-Perdijk(22) et al

Women who gave birth in sitting position had a lower episiotomy rate and showed a trend to a higher intact perineum rate compared with women who were in horizontal position during the entire second stage after adjustment for known risk factors for perineal damage.

ADVANTAGES:

- It serves as resting position.
- Gravity facilitates the delivery process
- Electronic fetal monitoring can be done.
- Duration of second stage of labour is shortened
- Uterine pressure and expulsive force is more when compared to supine posture.

SEMI-SITTING POSITION :

Use to maintain good uteroplacental circulation and to enhance the woman's bearing down effort - The episiotomy rate for nulliparas highest in this position - (Shorten, Donsante, & shorten, 2002)

STANDING POSITION:

ADVANTAGES

- This position allows to remain upright.
- It increases the diameter of pelvis by 1 cm due to downward pressure on maternal pelvis.
- It takes advantage of gravity during and between contractions.
- Baby is in line with the angle of pelvis.
- Standing may increase the urge to push in second stage of labour.

DISADVANTAGES

- Most uncomfortable posture for the midwives\obstetricians conducting the delivery.

HANDS AND KNEES POSITION:

Hands and knees position is an effective position for birth because

- It enhances placental perfusion.
- Help rotate the fetus from posterior to an anterior position.
- Facilitate the birth of the shoulders if the fetus is large.
- Reduce perineal trauma.

LITHOTOMY POSITION

ADVANTAGES

- It allows the easiest access to the mother to give episiotomy, for using forceps, for vacuum extraction.

DISADVANTAGES

- It narrows the pelvic outlet.
- It places pressure on the tailbone
- It places undue stress on perineum and increasing the risk of tearing .
- It works against gravity

LEFT LATERAL POSITION:

According to S. Brément et al(23), 562 patients was included in his study in which the childbirth was carried out in dorsal or lateral décubitus, to evaluate the influence of a maternal position for childbearing, the lateral decubitus compared to the dorsal decubitus in second phase of parturition, by studying various parameters such as the rate of intact perineum, the electronic foetal heart rate monitoring during expulsion, the mode of delivery, the quantity of maternal blood losses, and the neonatal status. He observed a

significant increase in the rate of intact perineum, as well as a significant increase in the maternal blood loss, without exceeding the physiological limits, during expulsion in lateral position.

ADVANTAGES :

- Greater control of the fetal head during birth.
- Greater relaxation and less tension of the perineal muscles.
- Fewer perineal lacerations and decreased need for episiotomy.
- A familiar, comfortable position for the woman which is conducive to rest between contractions and the preservation of her dignity.
- Facilitates the management of shoulder dystocia.
- Increases fetal oxygenation by avoiding the supine hypotensive syndrome.
- Perineum is constantly under observation and accessible during delivery.
- Vaginal exam and perineal inspection are facilitated.
- Easily assumed, adaptable position for delivery.
- Decreases some delivery complications.

DISADVANTAGES

- Large episiotomy is difficult to cut.
- Unsuitable for the application of difficult forceps.

Meta-analyses of different birthing position studies states that the advantages of upright posture include a shorter duration of second stage of labor, reduction in assisted deliveries, and a reduced episiotomy rate but an increased risk of severe blood loss . The benefits of the traditional supine and left lateral positions include easy accessible to patients by obstetrician. It can also be physically difficult for the patient to maintain squatting position for long time.

MATERIALS
AND
METHODS

MATERIALS AND METHODS

STUDY DESIGN

Prospective observational study.

PATIENT SELECTION

From January 2020 to december 2020, total maternity admissions was 20,042, of which total deliveries were 13,662 (normal deliveries were 6444 and caesarean deliveries were 6453)

Of which about 500 woman in labour ward of Raja mirusudhar Hospital are studied for assessing the labour outcome in different birthing position.

Table. 4

POSTURE	NO OF CASES	PRIMIGRAVIDA	MULTIGRAVIDA
SUPINE	228	127	101
SQUATTING	129	63	66
SITTING	91	49	42
LEFT LATERAL	52	24	28

All subjects are matched according to age and parity.

MATERIALS AND METHODS

1. Manually adjustable delivery table
2. Second stage monitoring by partograph
3. Tocodynameter for fetal heart rate monitoring.
4. Pain assessment by visual analog scale.
5. Patient experience.
6. Incidence of lowback in postpartum period.

INCLUSION CRITERIA :

- Primigravida
- Multigravida
- Singleton pregnancy with cephalic presentation
- Gestational age 37-42 weeks
- BMI 18 TO 30 kg/m²
- Age- 19 to 35 yrs
- Ht greater than 145 cm
- No contraindication for vaginal delivery.
- No contraindication for any position.
- No medical /surgical complication.

EXCLUSION CRITERIA :

- Gestational age less than 37 weeks
- Multiple pregnancy
- Presentation other than cephalic.
- Teenage pregnancy
- Elderly gravida
- Short statured women
- Bad obstetric history
- Contraindication for any of the positioning
- Contraindication for vaginal delivery
- Medical or surgical complications
- History of pregnancy associated complications like PPH, retained placenta.
- Labour induction and augmentation.

METHODOLOGY

This is a prospective observational study of 500 women in labour that took place in Government Raja Mirasudhar Hospital, Thanjavur between January 2020 to January 2020. Women who are involved in this study were given freedom of choice to choose the position of the birth either supine or nonsupine posture. Women in this study are of low risk with no obstetric or neonatal complications present or expected women in this study are explained of this study about the birthing process. The study was explained to them in vernacular and informed consent obtained for conducting delivery at any position.

228 women chooses the supine position while other 272 women chooses non supine position that are squatting, sitting and left lateral .Written consent were obtained for the preferred postures. As the women come in spontaneous labour the details were reviewed. Both primi and multigravida were included. Majority of the women in the study are primigravida.

Birth companion is encouraged and the patients in both groups had physical and moral support from the family members. Until the beginning of the second stage of labour the management of the groups was identical with women being encouraged to walk, sit and recline. In both groups fetal monitoring was done according to the standard practice of interval auscultation and conventional CTG was done as per hospital protocol and partograph was plotted.Routine management of labour was unchanged. No analgesics were used through out the procedure.

SUPINE :

For supine posture delivery was conducted in delivery table (Figure 2) accompanied by birth companion as per LaQshya norms.



Figure 2 : Delivery Table

SQUATTING:

Delivery table used for squatting position shown in figure 3. Table is adjusted so that the mother can assume squatting posture during contractions and can rest between contractions by reclining on the back rest. Birth companion supports her on both sides or behind her thereby keeping her steady as she squatted during contraction and as she beared down, women giving birth was encouraged to sit back and rest in between contractions. During delivery perineum can be supported or episiotomy can be given. The infant is delivered in the same posture and given to the mother for routine care. After the delivery of the baby mother is asked to assume the supine position the placenta was delivered in supine position. Any perineal laceration or episiotomy was sutured in the usual manner in obstetric table with the patient in lithotomy position.



Figure 3

SITTING :

Delivery in sitting posture was conducted in the table shown in figure . This table has got adjustable features for back rest movements so that it reduces the operator strain. First stage of labour is managed routinely, during the second stage of labour, patient is made to assume the sitting posture on the delivery table shown. During contractions patient is asked to bear down and to rest in between the contractions. Fetal heart rate monitoring is done as per protocol. She rests by lying down in delivery table or in any position of her choice. Episiotomy can be given if required with good perineal support the infant is delivered in the same posture. Perineal laceration or episiotomy can be easily sutured by putting the patient in lithotomy position in the same table .



Figure 4

LEFT LATERAL POSITION:

The women about to give birth may find it helpful to be in left lateral position before the time of birth. The surface on which the birth will take place should be flat – delivery table or birthing bed. Head is only slightly elevated, if the head is elevated higher, a lateral curve is created in women's spine which can inhibit the progress of descent during second stage. The women's torso should be aligned in a c shaped curve to allow the pushing efforts to follow the curve of Carus which will assist the fetus through the birth canal during the second stage. This position is facilitated by flexing the women's hips and bending the knees to the degree that is comfortable to her. The women may grasp her right knee or leg for pushing or she can grasp her birth companion. Her buttock should be placed at the edge of bed of the table. The women's leg need not be separated too much for the birth of the infant. Birth companion can also support the right leg or it can be held by stirrups. Hand placement for left lateral birth The practitioner attending the birth may find that the usual placement of the hands for birth in the left lateral position is awkward, due to the 90 degree rotation of the woman's body. With the woman in the left lateral position, the practitioner faces the woman's perineum and places the right hand on the infant's head, with the fingers directed toward the woman's suprapubic area. Great care must be taken not to place the fingers on the delicate vaginal tissues, which can lead to periurethral lacerations. Before crowning, the pads of the righthand fingertips are placed on the vertex with enough pressure to maintain flexion, with the entire right hand in a cupped position. As the head proceeds to crown, the fingertips are moved towards the occiput and the head becomes entirely cupped in the right hand. Pressure is released slowly on the head as the face is born over the perineum. The left hand is placed in a position to support the perineum and to determine the size of the head. A sterile gauge is placed over the rectum to prevent contamination. The thumb and forefinger of the left

hand are spread apart and placed on the perineal tissues in such a way as to allow full view of the midline perineum. Placed in this fashion, the right hand exerts gentle pressure to help maintain flexion of the fetal head and controls the speed of extension of the head, while the left hand provides perineal support and can control the speed of birth of the head, if necessary. This hand placement helps the head to be born with the narrower suboccipitobregmatic diameter presenting at the time of crowning while allowing for complete visualization and assessment of the condition of the perineum during the birth process. As the baby is born, the face is cleaned of excess mucus, and the nose and mouth are suctioned, if necessary. The shoulders are assisted in the usual manner. Third stage of labour is managed by putting the patient in the supine position.

Data on the following variables are collected

- 1 Duration of second stage of labour
- 2 Need for episiotomy
- 3 perineal lacerations
- 4 NICU admission
- 5 Blood loss
- 6 Maternal perception of pain by visual analog scale.
- 7 Maternal mental satisfaction

Maternal perception of pain was analysed using visual analog scale

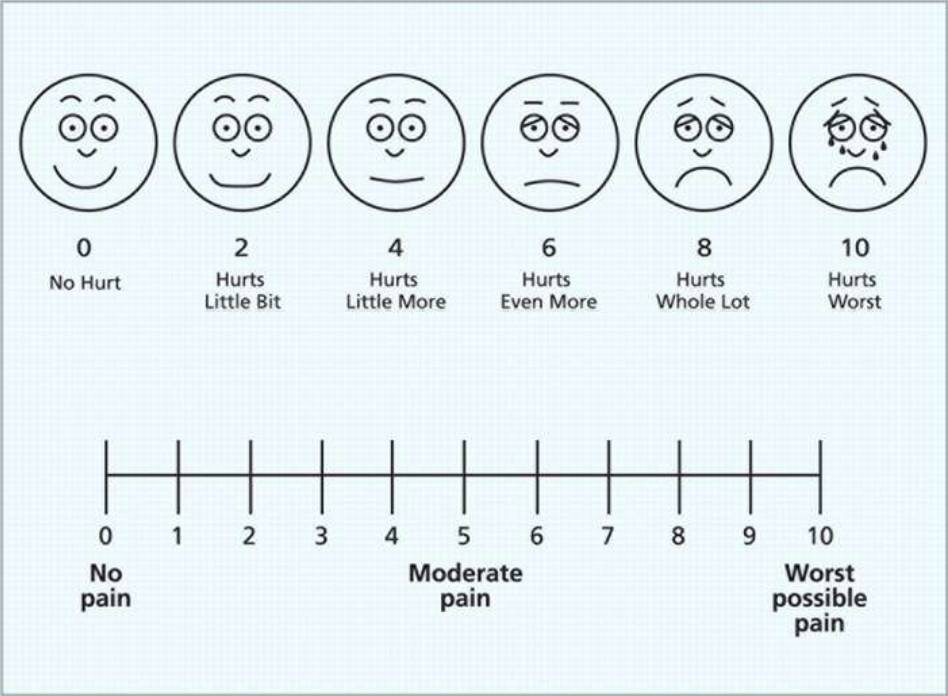


Figure : 5 Visual Analog Scale

OBSERVATION
AND RESULTS

OBSERVATION AND RESULTS

Table 5: Age Distribution

Age (In years)	Cases	
	No	%
20-24 years	245	49
25-29 years	195	39
30-34 years	60	12
Total	500	100

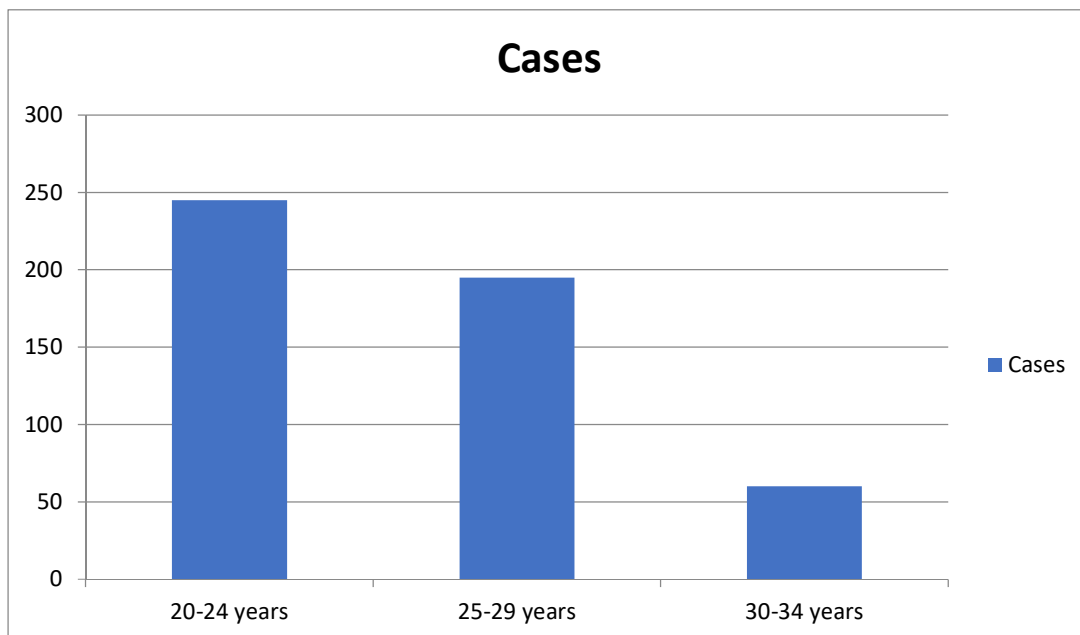


Fig 6: Bar Diagram Showing Age Distribution

Table 6 : Comparison of Age with different birthing position

Age	Posture				
	Supine N (%)	Squatting N (%)	Sitting N (%)	Left lateral N (%)	Total
20-24 years	111 (48.7)	71 (55)	44 (487.4)	19 (36.5)	245
25-29 years	86 (37.7)	45 (34.9)	36 (39.6)	28 (53.8)	195
30-34 years	31 (13.6)	13 (10.1)	11 (12.1)	5 (9.6)	60
Total	228	129	91	52	500

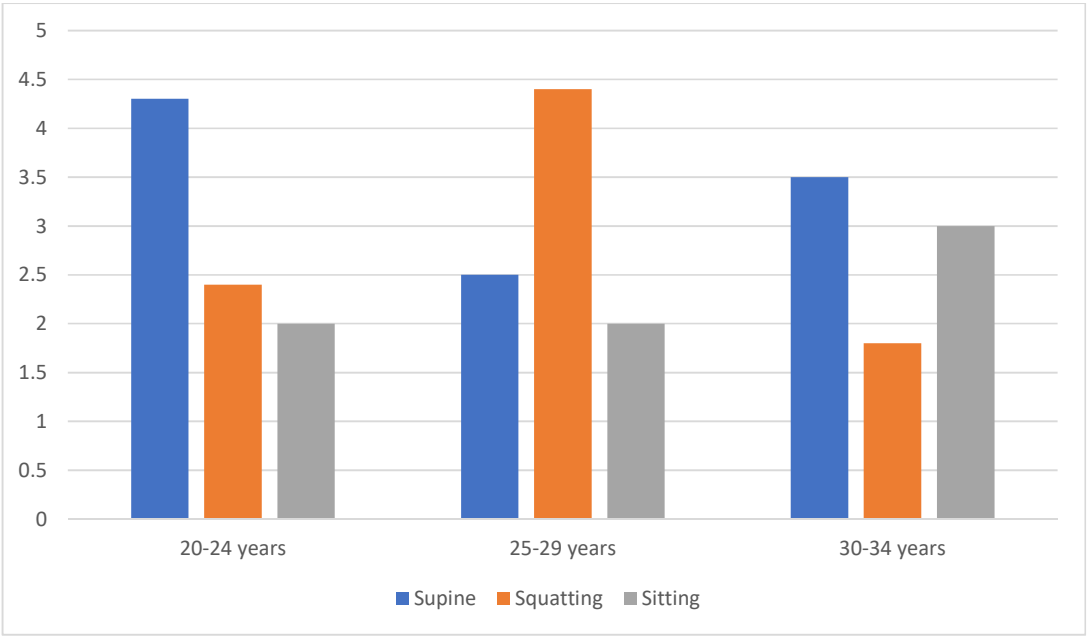


Fig 7: Comparison of Age with different birthing position

Table 7: Parity distribution

Parity	Cases	
	No	%
Primi	263	52.6
Multi	237	47.4
Total	500	100

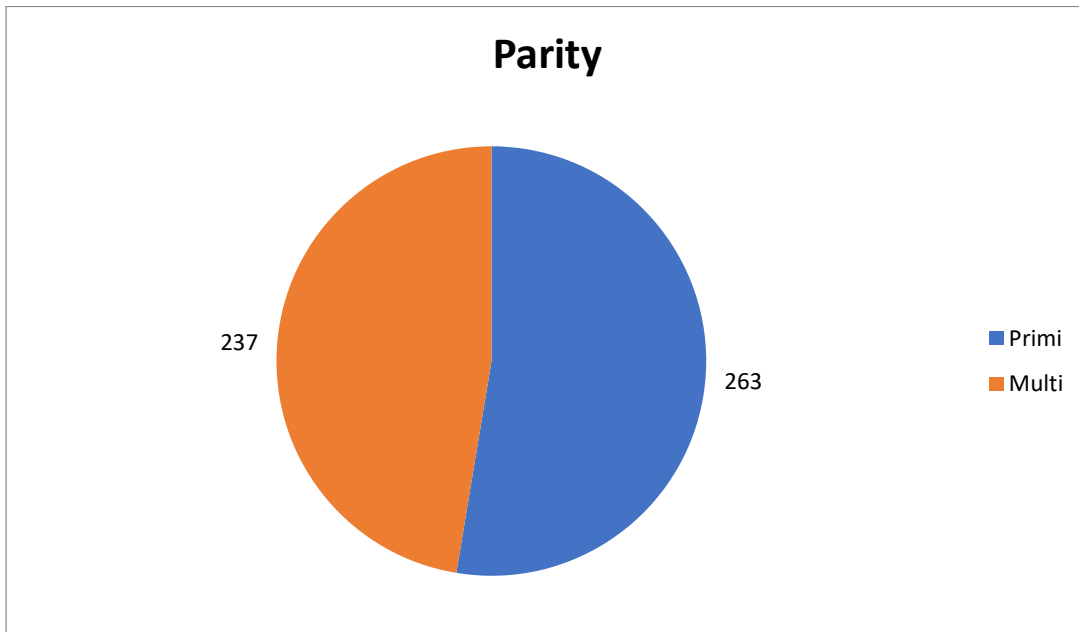


Fig. 8: Pie Diagram Showing Distribution of Parity

Table 8: Comparison of Parity among different birthing position

Parity	Posture				
	Supine N (%)	Squatting N (%)	Sitting N (%)	Left lateral N (%)	Total
Primi	127 (55.7)	63 (48.8)	49 (53.8)	24 (46.2)	263
Multi	101 (44.3)	66 (51.2)	42 (46.2)	28 (53.8)	237
Total	228	129	91	52	500

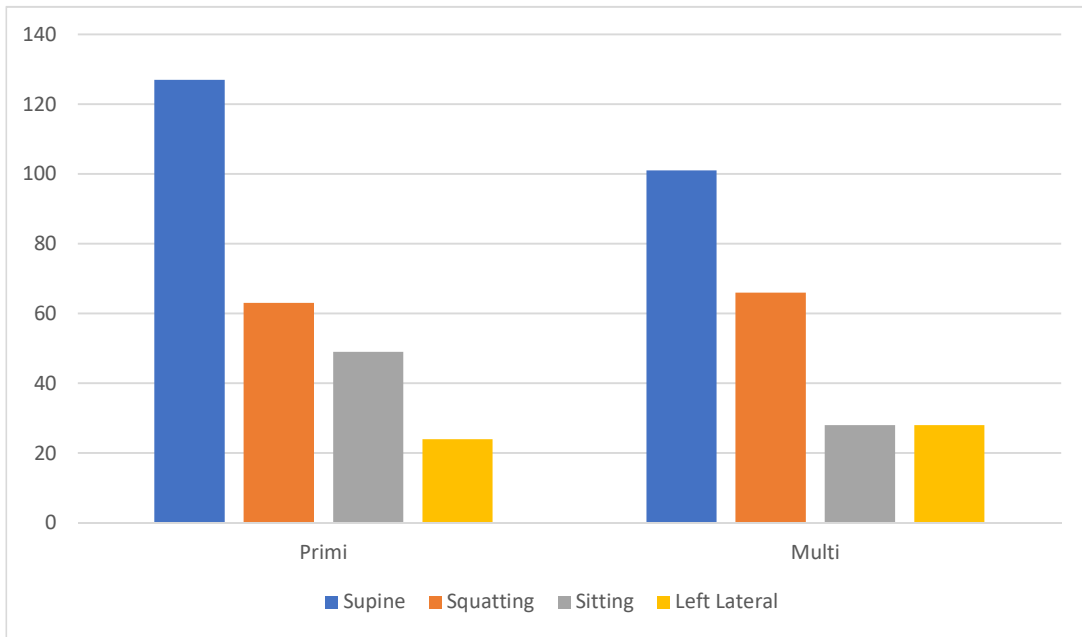


Fig. 9: Comparison of Parity with posture among different birthing position

Table :9 Distribution of Gestational age

Gestational age (wks)	Cases	
	No	%
37-40	434	86.8
>40	66	13.2
Total	500	100

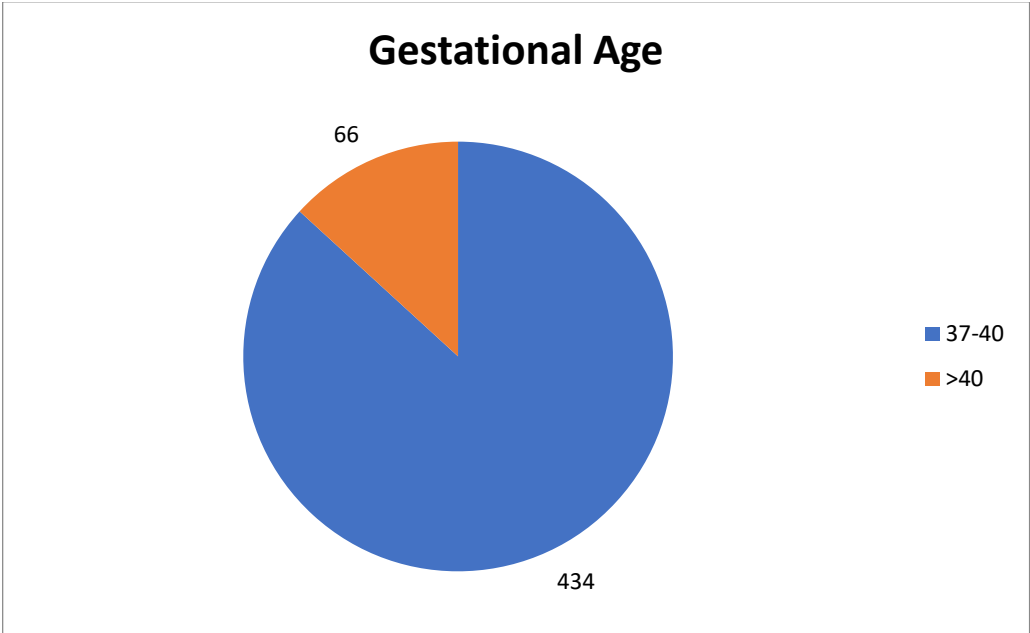


Fig.10: Pie Diagram Showing Distribution of Gestational AGE

Table 10 : Comparison of Gestational age with posture among different birthing position

Gestational Age	Posture				
	Supine N (%)	Squatting N (%)	Sitting N (%)	Left lateral N (%)	Total
37-40	207 (90.8)	109 (84.5)	75 (83.3)	43 (82.7)	434
>40	21 (9.2)	20 (15.5)	16 (16.7)	9 (17.3)	66
Total	228	129	91	52	500

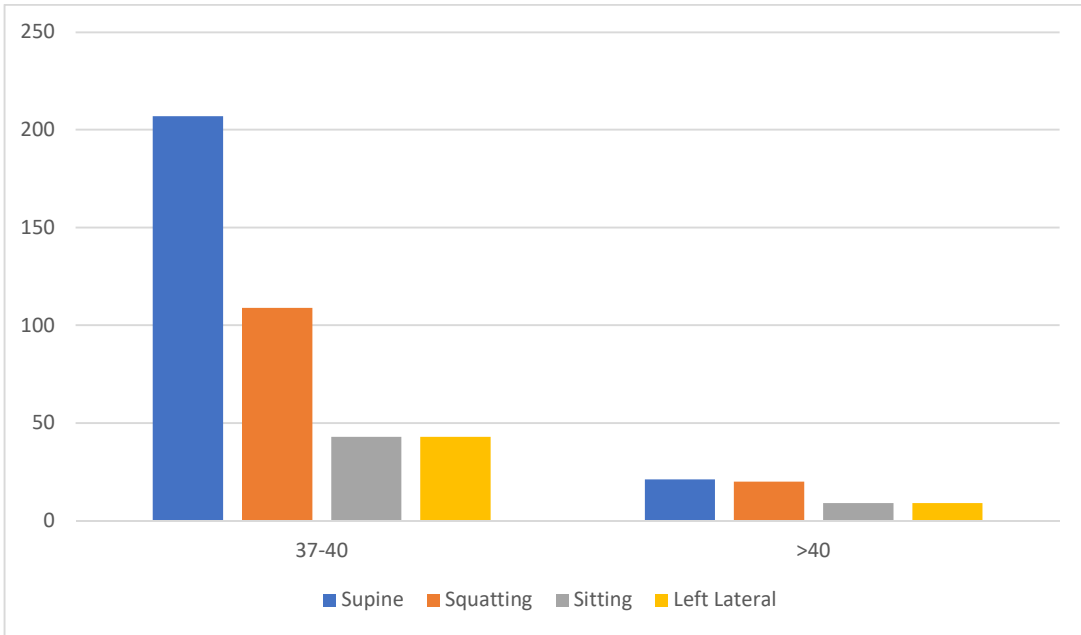


Fig. 11: Bar diagram of Comparison of Gestational age with posture among different birthing position

Table 11: Distribution of Posture

	Cases	
	No	%
Supine	228	45.6
Squatting	129	25.8
Sitting	91	18.2
Left lateral	52	10.4
Total	500	100

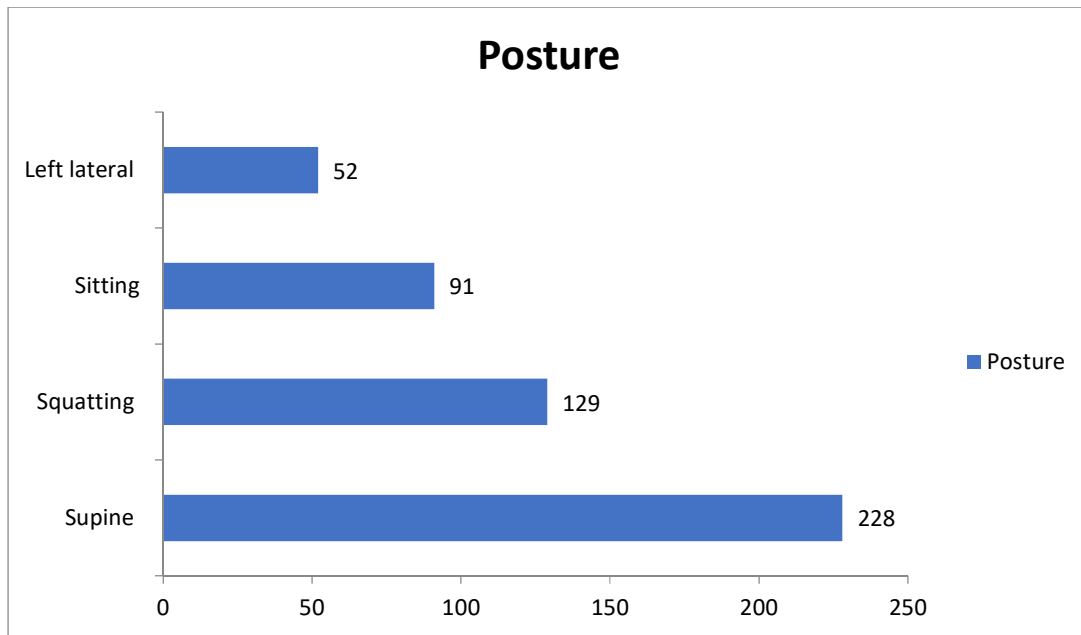


Fig.12: Bar Diagram Showing Distribution of Posture

Table 12: Duration of Labour

	Cases	
	No	%
<10 min	189	37.8
10-20 min	212	42.4
20 min -1 hr	99	19.8
Total	500	100

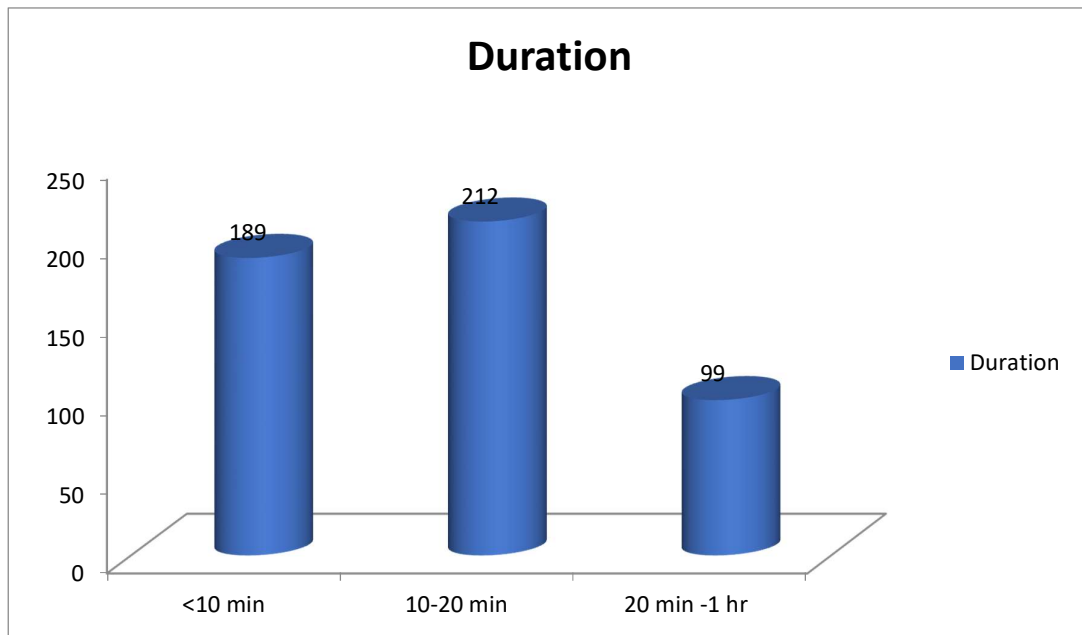


Fig.13: Bar Diagram Showing Distribution of Duration of Labour

Table 13 : Comparison of Duration of 2ND stag of Labour with posture among different birthing Position

	Posture					P value
	Supine N (%)	Squatting N (%)	Sitting N (%)	Left lateral N (%)	Total	
<10 min	63 (27.6)	68 (52.7)	53 (58.2)	5 (9.6)	189	< 0.05* (S)
10-20 min	103 (45.2)	48 (37.2)	34 (37.4)	27 (51.9)	212	
20 min -1 hr	62 (27.2)	13 (10.1)	4 (4.4)	20 (20.5)	99	
Total	228	129	91	52	500	

*P value <0.05 significant by applying Chi Square Test

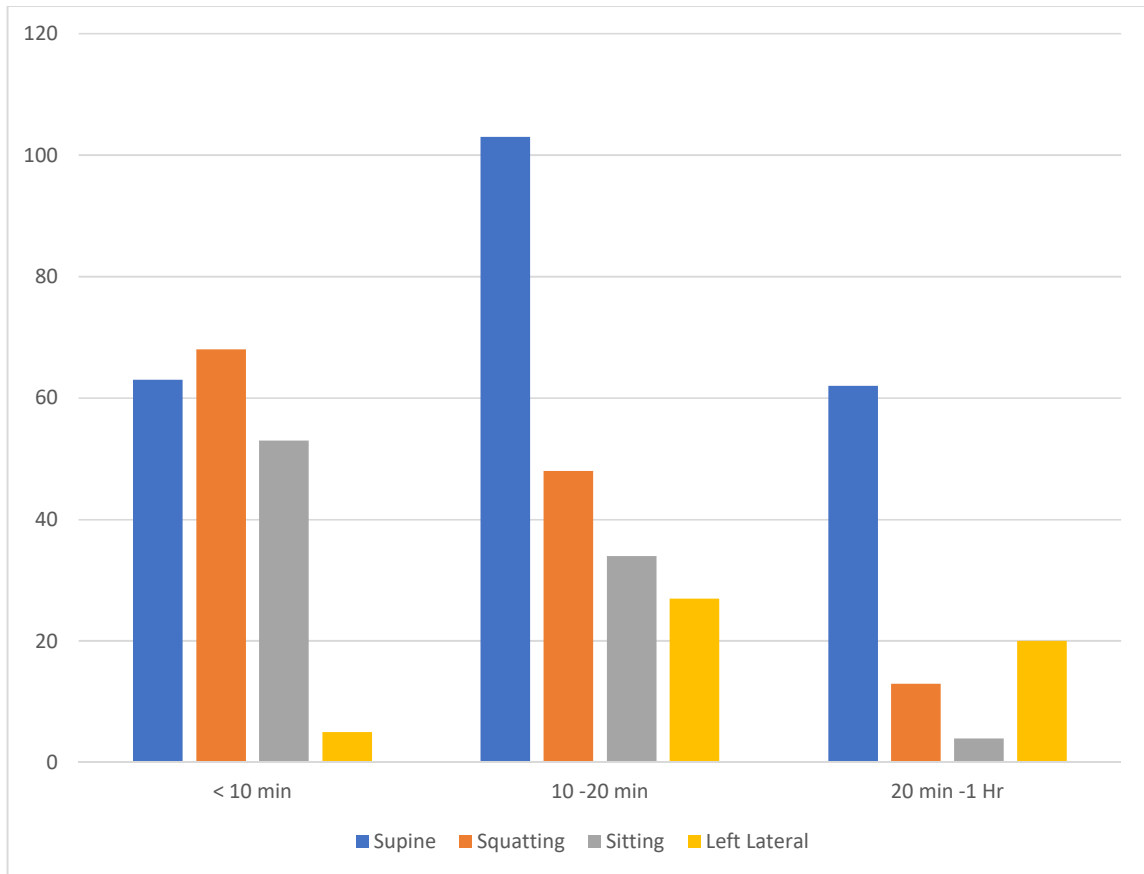


Fig.14 Bar diagram of Comparison of Duration of 2ND stag of Labour with posture among different birthing Position

**Table 14 : Comparison of Duration of 2ND stag of Labour with posture among
Supine versus Non supine Groups**

	Posture			P value
	Supine N (%)	Non Supine N (%)	Total	
<10 min	63 (27.6)	126 (46.4)	189(37.8)	< 0.05* (S)
10-20 min	103 (45.2)	109 (40)	212(42.4)	
20 min -1 hr	62 (27.2)	37(13.6)	99(19.8)	
Total	228	272	500	

The duration of second stage of labour is reduced considerably in non-conventional postures. Among the conventional supine postures , 27.6% of the women delivered in 10 minutes, 45.2% delivered at the end of 20 minutes and 27.2% delivered at the end of 30 minutes.

In Non supine posture 46.4% delivered in 10 minutes, 40% delivered in 20 minutes, 13.6% delivered at the end of 30 minutes. Among the non conventional postures duration of 2nd stage of labour is reduced in both sitting and squatting posture.

Table 17: PERINEAL TEAR

	Cases	
	No	%
Episiotomy	67	13.4
Intact	127	25.4
1 st Degree	120	24
2 nd Degree	179	35.8
3 rd Degree	7	1.4
Total	500	100

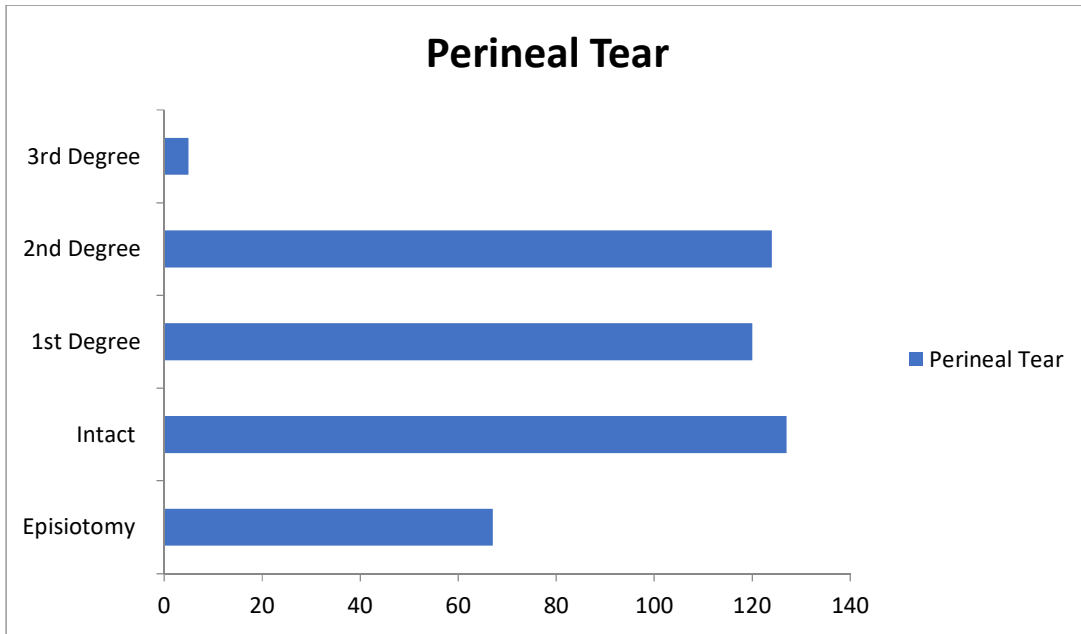


Fig. 15: Bar Diagram Showing Distribution of Perineal tear

Table 16 : Comparison of Perineal tear with posture among Supine versus Non supine Groups

	Posture		Total	P value
	Supine N(%)	Non Supine N (%)		
Episiotomy	35(15.4)	32 (11.8)	67(13.4)	<0.05* (S)
Intact	40 (17.5)	87 (32)	127(25.4)	
1 st Degree	24 (10.5)	96 (35.2)	120(24)	
2 nd Degree	124 (54.4)	55 (20.3)	179(35.8)	
3 rd Degree	5(2.2)	2 (0.7)	7(1.4)	
Total	228	272	500(100)	

Table 17 : Comparison of Perineal tear with posture among different birthing position

	Posture					P value
	Supine N(%)	Squatting N(%)	Sitting N(%)	Left lateral N(%)	Total	
Episiotomy	35(15.4)	20(15.5)	2(2.2)	10(19.2)	67	<0.05* (S)
Intact	40 (17.5)	39(30.2)	38(41.7)	10(19.2)	127	
1 st Degree	24 (10.5)	29(22.5)	40(44)	27(52)	120	
2 nd Degree	124(54.4)	40(31)	11(12.1)	4 (7.6)	170	
3 rd Degree	5(2.2)	1(0.8)	0	1 (2)	7	
Total	228	129	91	52	500	

*P value <0.05 significant by applying Chi Square Test

Need for episiotomy is 15.4% in conventional supine group and 11.8% in non supine group. More women in the non-conventional group had intact perineum and first degree lacerated perineum whereas women in conventional group had higher degrees of perineal lacerations which is statistically significant .

Among the non-supine group women in sitting posture had more number of intact perineum and least number had episiotomy. Women in squatting posture had more number of 2nd degree perineal tears.

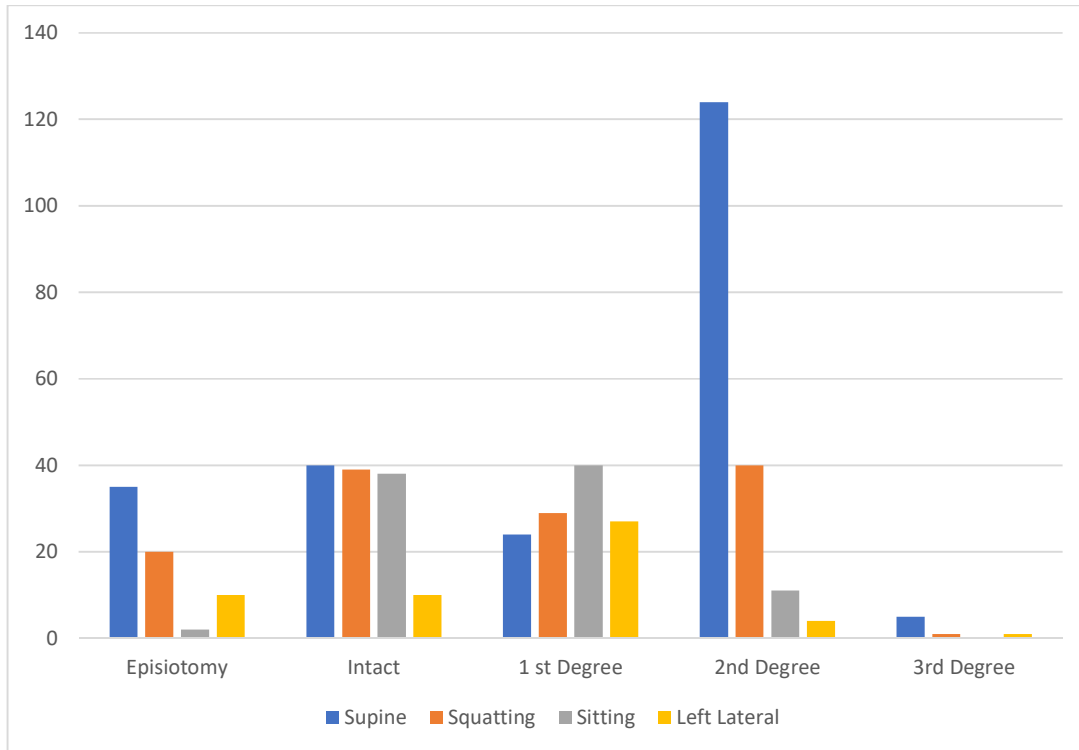


Fig. 16 Bar Diagram of Comparison of Perineal tear with posture among different birthing position

Table 18: DISTRIBUTION OF BIRTH WEIGHT

Birth Weight (in kgs)	Cases	
	No	%
2-2.5	86	17.2
2.5-3	248	49.6
>3 kg	166	33.2
Total	500	100.0

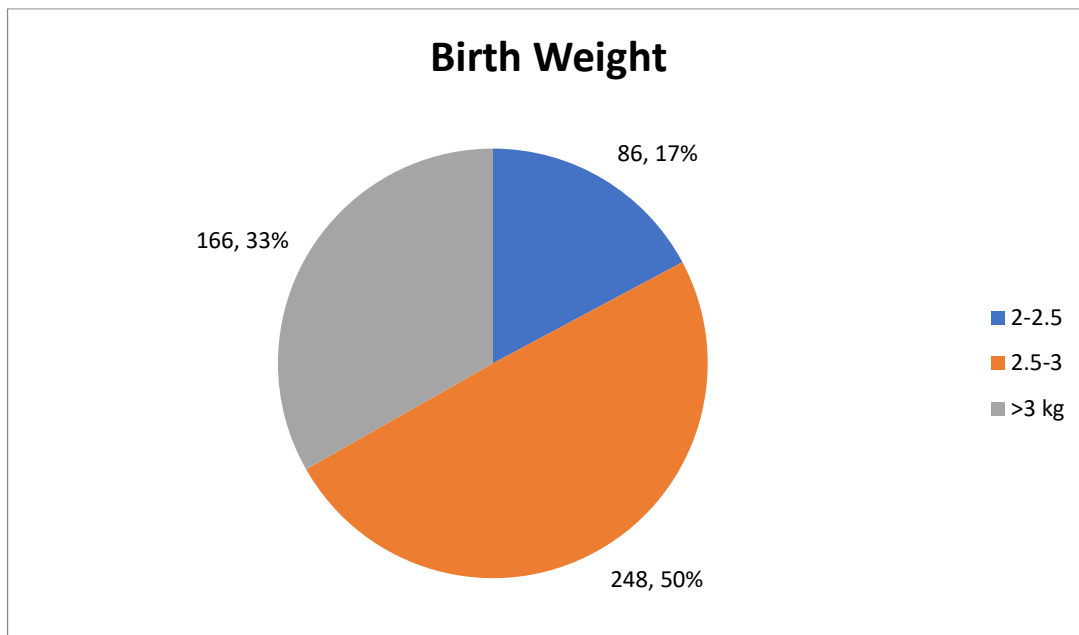


Fig.17: Pie Diagram Showing Distribution of Birth weight

Table 19: Distribution of Maternal Perception of Pain

	Cases	
	No	%
Mild	61	12
Moderate	173	35
Severe	166	33
Extreme	100	20
Total	500	100

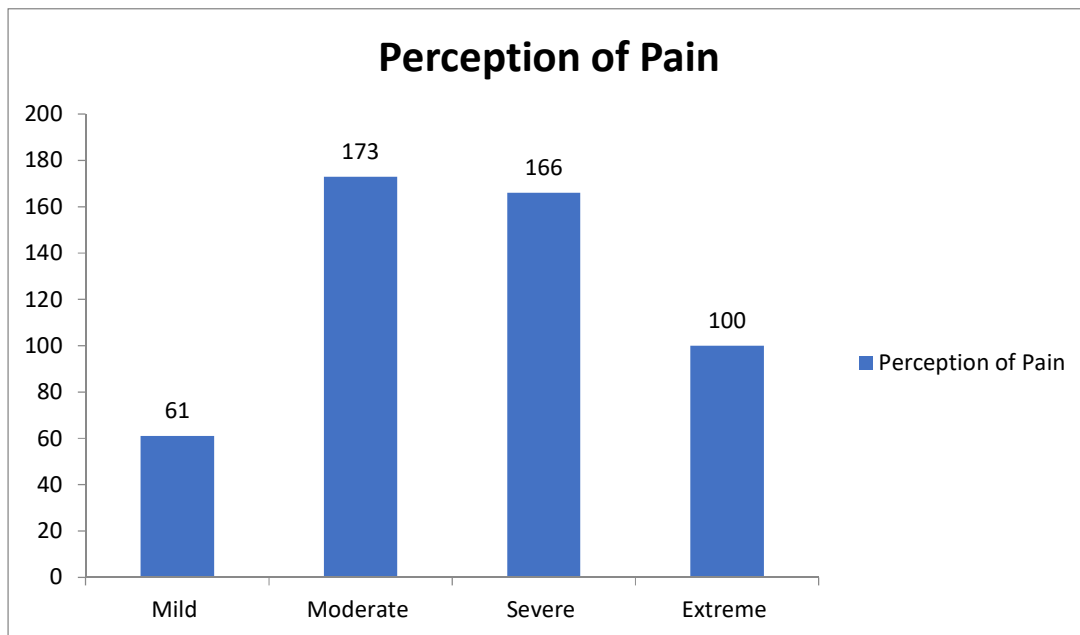


Fig.18: Bar Diagram Showing Distribution of Maternal Perception of Pain

Table 20 : Comparison of Maternal Perception with posture among supine versus non supine groups

	Posture		Total	P value
	Supine N(%)	Non Supine N (%)		
Mild	22 (9.6)	39 (14.4)	61	<0.05* (S)
Moderate	32(14.1)	141 (51.8)	173	
Severe	104(45.6)	62 (22.8)	166	
Extreme	70(30.7)	30 (11)	100	
Total	228	272	500	

Table 21 : Comparison of Maternal Perception with posture among different birthing positions

	Posture					P value
	Supine N(%)	Squatting N(%)	Sitting N(%)	Left lateral N(%)	Total	
Mild	22(9.6)	14(10.8)	21(23.1)	4(7.7)	61	<0.05* (S)
Moderate	32(14.1)	62(48.1)	47 (51.6)	32 (61.6)	173	
Severe	104 (45.6)	35 (27.1)	17 (18.7)	10(19.2)	166	
Extreme	70(30.9)	18(14)	6(6.6)	6(11.5)	100	
Total	228	129	91	52	500	

*P value <0.05 significant by applying Chi Square Test

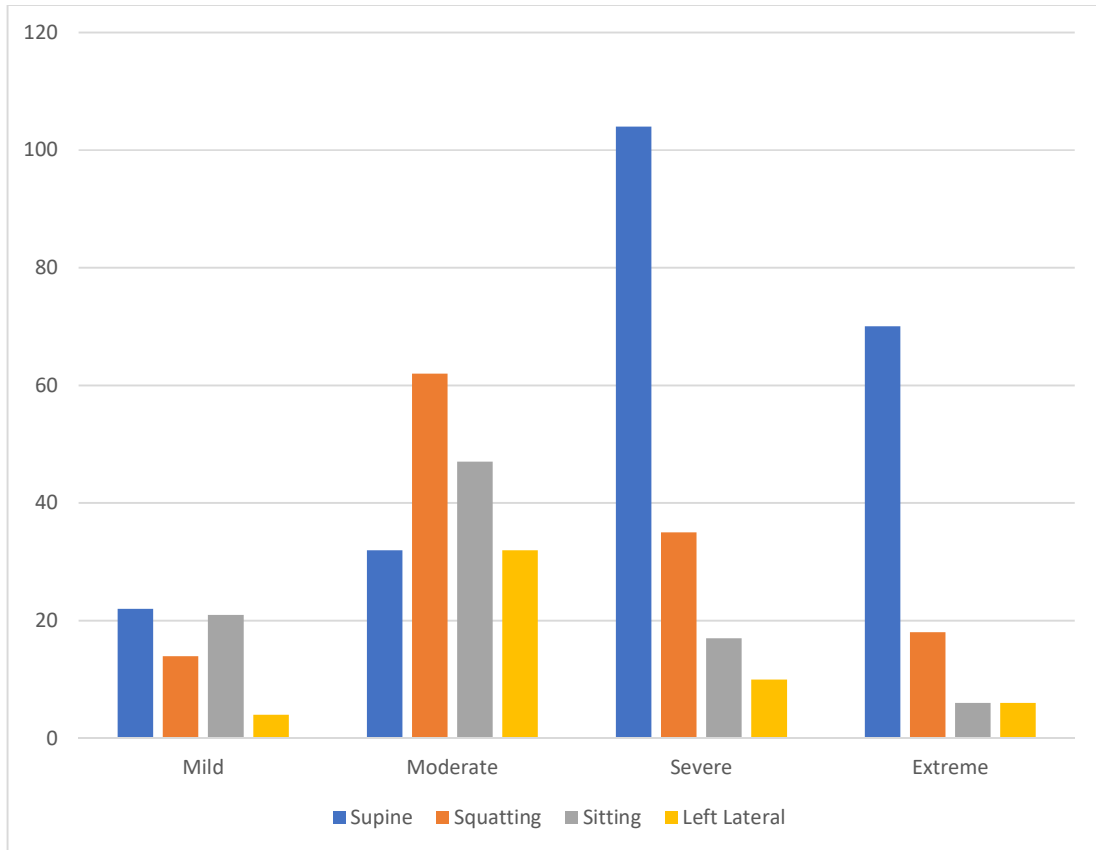


Fig.19 Bar Diagram of Comparison of Maternal Perception with posture among different birthing positions

The pain perception using the visual analog scale was found to be more in the supine posture. Nearly 33% of them perceived the pain to be severe of which 45.6% belonged to supine group and 22.8% belonged to non supine group and 20% of women perceived the pain to be extreme of which 30.9% belonged to supine group, and 11% belonged to be non supine group. It also showed a statistical significance(<0.05).

Table 22: DISTRIBUTION OF NICU ADMISSION

NICU	Cases	
	No	%
Yes	38	7.6
No	462	92.4
Total	500	100

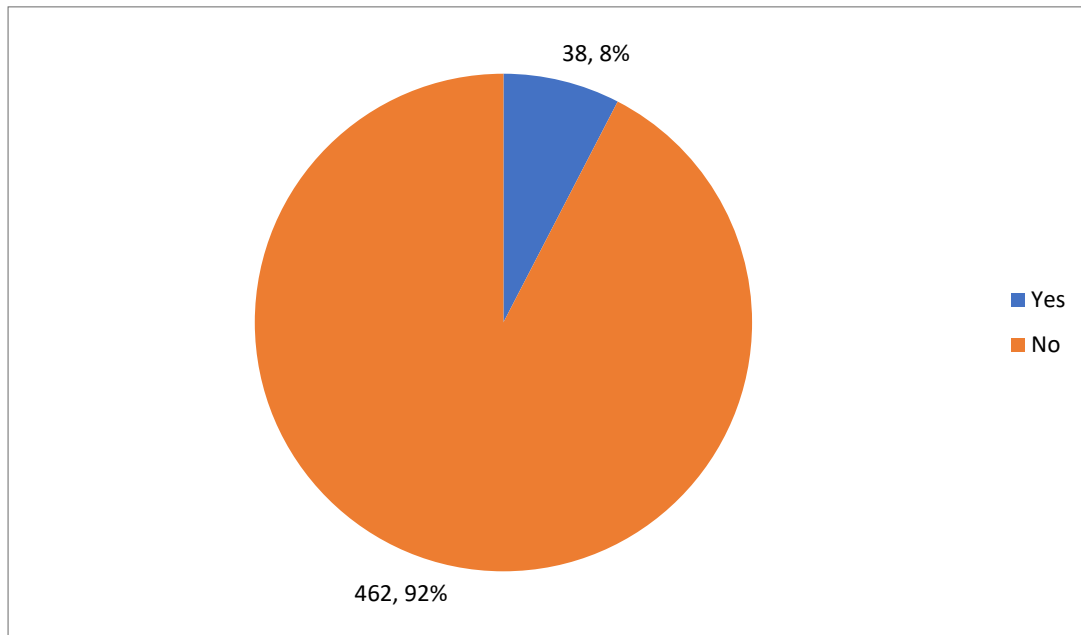


Fig.20: Pie Diagram Showing Distribution of NICU Admission

Table 23 : Comparison of NICU admission with posture among different Birthing positions

NICU	Posture					P value
	Supine N (%)	Squatting N (%)	Sitting N (%)	Left lateral N (%)	Total	
Yes	24 (10.5)	5 (3.9)	3 (3.3)	6 (11.5)	38	>0.05*
No	204 (89.5)	124 (96.1)	88 (96.7)	46 (88.5)	462	
Total	228	129	91	52	500	

*P value >0.05 not significant by applying Chi Square Test

According to S M Menticoglou, . There was no significant relationship between second-stage duration and low 5-minute Apgar score, neonatal seizures, or admission to the neonatal intensive care unit which is similar to this study.

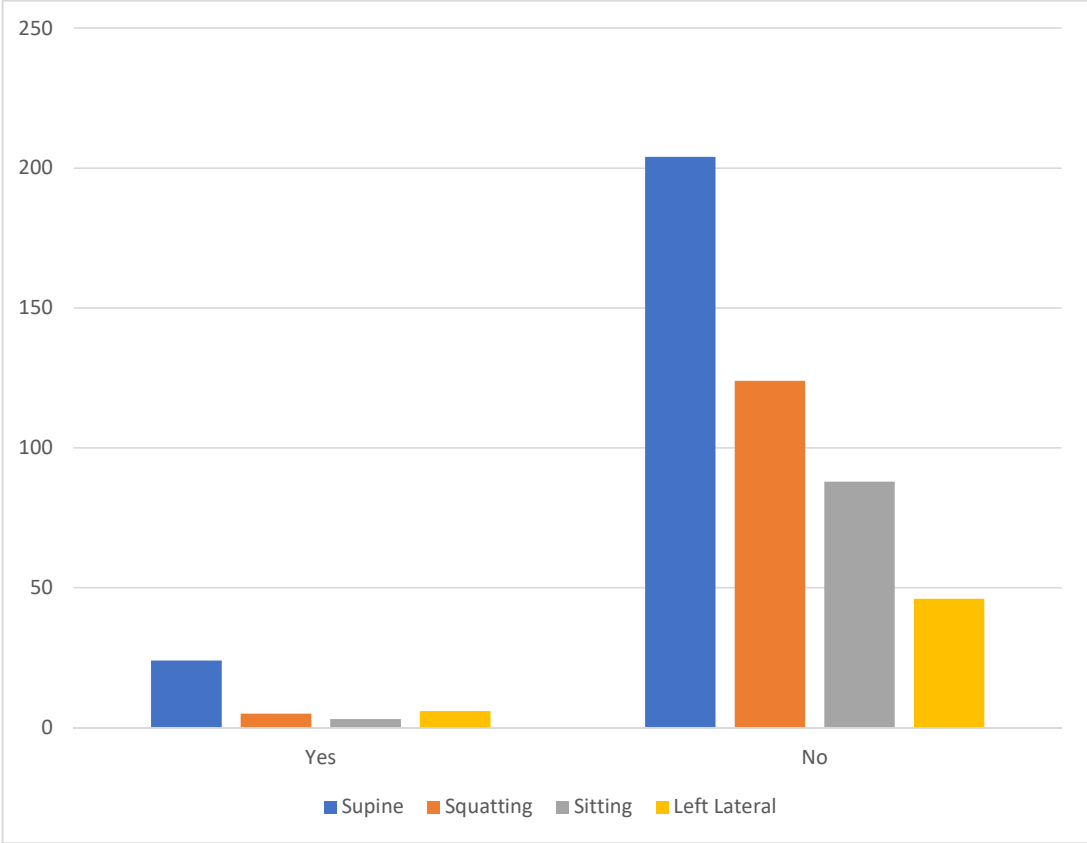


Fig.21 : Bar diagram of Comparison of NICU admission with posture among different Birthing positions

BLOOD LOSS

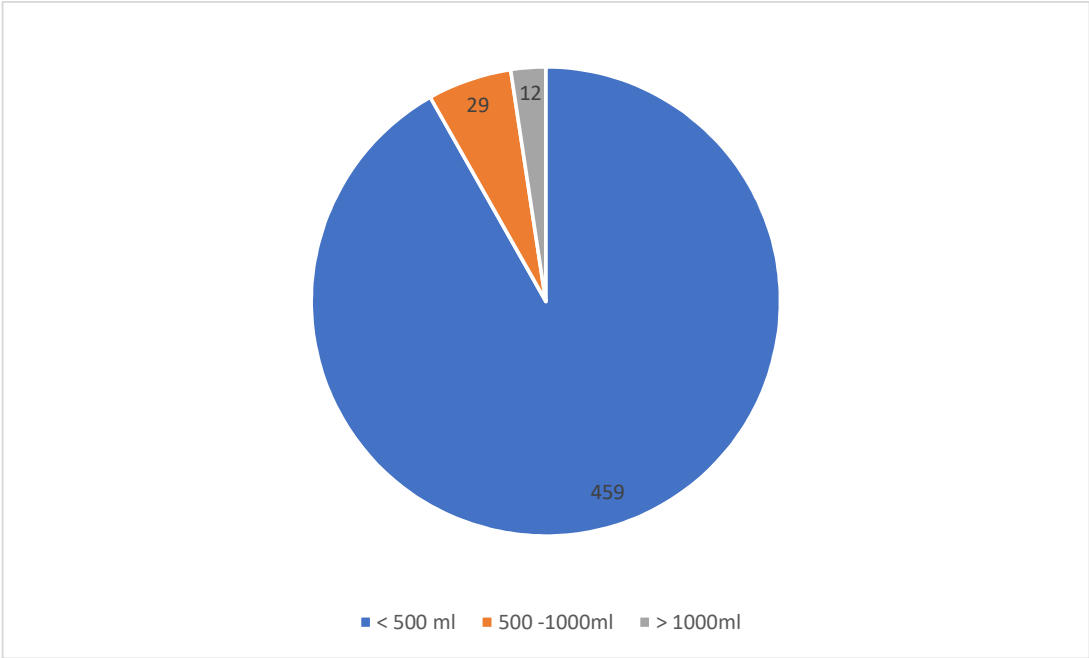


Fig.22 : Pie Diagram showing blood loss

Table 24: Comparison of blood loss in different postures among supine versus non supine groups

BLOOD LOSS	Posture		Total	P value
	Supine N(%)	Non Supine N (%)		
<500ML	213(93.4%)	246(90.4%)	459(91.8%)	<0.05* (NS)
500-1000ML	10(4.4%)	19(7.0%)	29(5.8%)	
>1000ML	5(2.2%)	7(2.6%)	12(2.4%)	
Total	228	272	500	

Table 25: Comparison of Blood Loss among Different Birthing Position

BLOOD LOSS	Posture					P value
	Supine N (%)	Squatting N (%)	Sitting N (%)	Left lateral N (%)		
<500ML	213(93.4%)	118(91.5%)	79(86.9)	49(94.2)	459(91.8 %)	> 0.05* (NS)
500-1000ML	10(4.4%)	9(7%)	8(8.8)	2(3.9)	29(5.8%)	
>1000ML	5(2.2%)	2 (1.5%)	4(4.3%)	1(1.9%)	12(2.4%)	
Total	228	129	91	52	500	

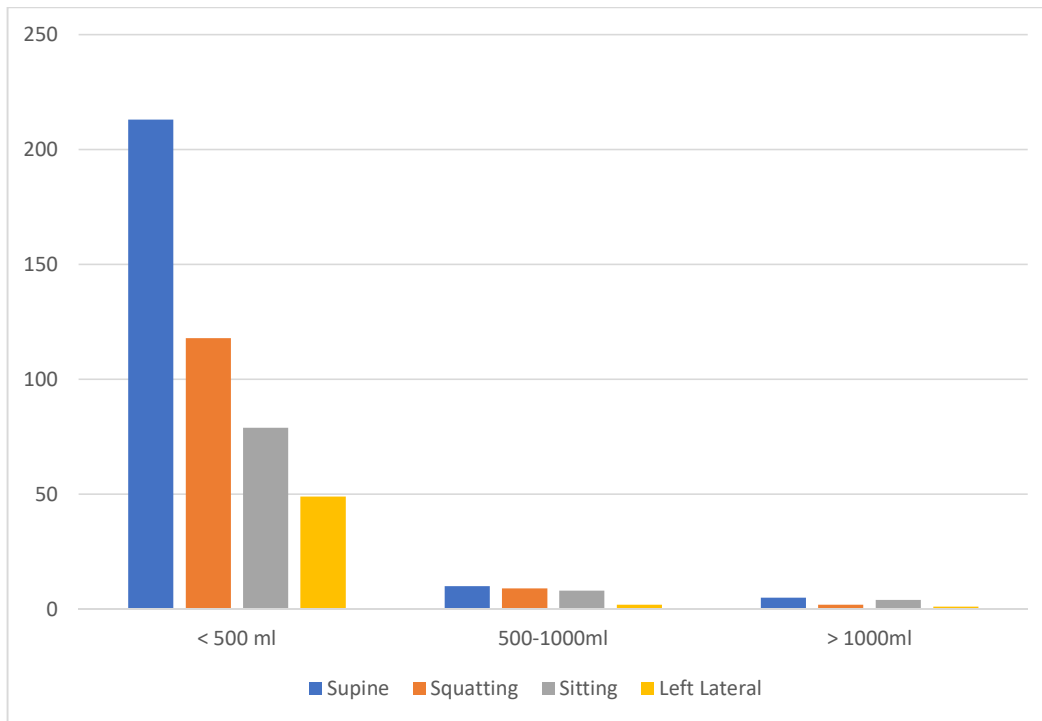


Fig .23 : Bar Diagram showing Comparison of Blood Loss among Different Birthing Position

Among two study groups, about 91.8% of women had blood loss of about less than 500ml, 5.8% of women had blood loss of about 500 to 1000ml, and 2.4% of women had blood loss of about more than 1000ml.

About 93.4% of women in supine posture and 90.4% of women in non supine group had blood loss of less than 500ml. About 7.0% of women in non supine group, has blood loss of about 500 to 1000ml, which is more when compared with the supine group.

Table 26

OVERALL MATERNAL MENTAL SATISFACTION IN VARIOUS POSTURE

OVERALL MATERNAL MENTAL SATISFACTION	Posture		P value
	Supine N (%)	Non supine N (%)	
VERY UNHAPPY	5 (2.2)	2 (0.8)	< 0.05* (S)
SLIGHT UNHAPPY	15 (6.5)	5 (1.8)	
SATISFIED	78 (34.2)	56 (20.6)	
VERY SATISFIED	80 (35.1)	85 (31.2)	
VERY HAPPY	50 (22)	124 (45.6)	
	228	272	

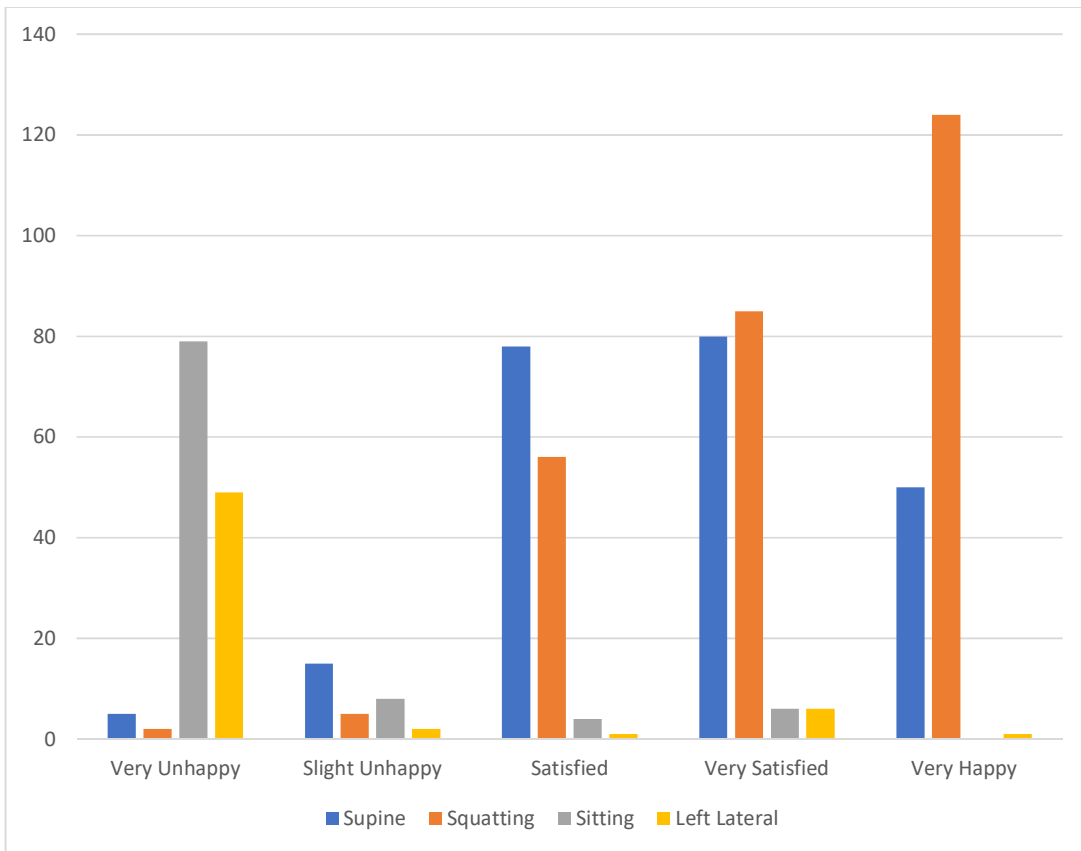


Fig. 24 Bar Diagram of Overall Maternal mental satisfaction in various posture

Table 27: OVERALL MATERNAL MENTAL SATISFACTION AMONG DIFFERENT POSTURES

OVERALL MATERNAL MENTAL SATISFACTION	Posture				P value
	Supine N (%)	Squatting N (%)	Sitting N (%)	Left lateral N (%)	
VERY UNHAPPY	5 (2.2)	2 (1.6)	00	0	< 0.05* (S)
SLIGHT UNHAPPY	15 (6.5)	3 (2.3)	1 (1.1)	1 (2)	
SATISFIED	78 (34.2)	40 (31)	8(8.8)	8 (15.3)	
VERY SATISFIED	80 (35.1)	25 (19.4)	42 (46.1)	18 (34.6)	
VERY RHAPPY	50 (22)	59 (45.7)	40 (44)	25 (48.1)	
Total	228	129	91	52	

The overall satisfaction was good in both groups but more women experienced very happy (45%) in non-supine group compared to 22% in the conventional group. However the satisfactory level was more in the conventional supine group (34.2%) than in the non-conventional group.(20.6%). The satisfactory levels were statistically significant .

Table 28 : INCIDENCE OF LOWBACK ACHE AMONG DIFFERENT POSTURES

LOW BACK ACHE	Posture			
	Supine	Squatting	Sitting	Left lateral
	N (%)	N (%)	N (%)	N (%)
	182(79.8%)	82(63.4%)	52(57.1%)	10(19.2%)
TOTAL	228	129	91	52

Women in the postpartum period when followed about 79.8% in supine group experienced back discomfort, while only 19.2% experienced back discomfort in left lateral position.

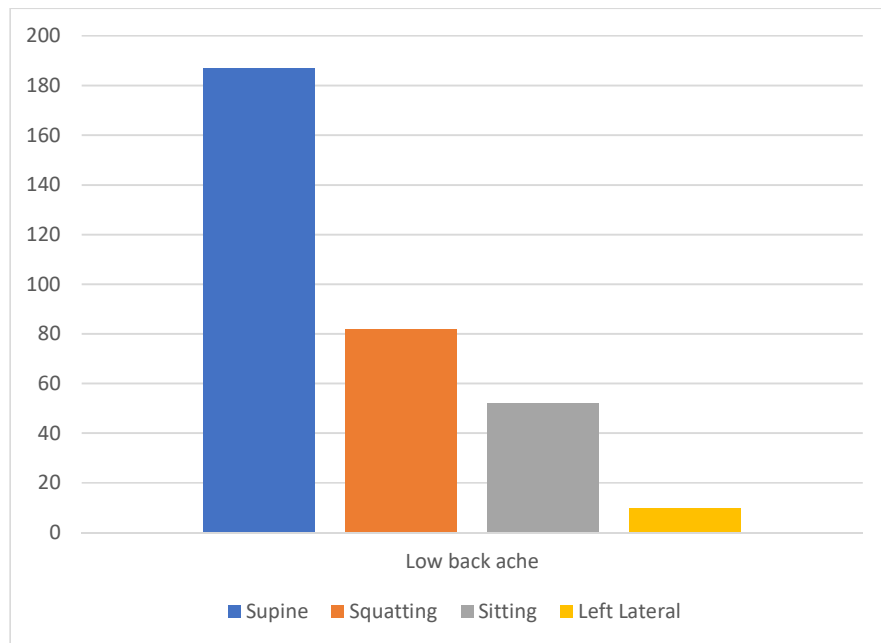


Fig.25 Bar Diagram of Incidence Of Lowback Ache Among Different Postures

DISCUSSION

DISCUSSION

Women undergoing birthing process wish to be involved in making decision during childbirth, many women feels that upright position is comfortable and appealing.

In a publication by the World Health Organization (WHO) called “Care in Normal Birth,” the WHO concludes that women in labor should adopt any position they like, while preferably avoiding long periods lying supine (WHO, 1996). They recommend that birth attendants need training in supporting births in other positions than supine, since much of the positive effect of upright birthing positions depends on the birth attendant’s experience with the position and willingness to support the mother’s choice of position.

The data that were collected in this study includes duration of second stage of labour, perineal tears, Birth weight, APGAR/NICU admission, maternal perception of pain , blood loss, maternal mental satisfaction in all position and the results were combined to obtain the following results

1) 500 women included in this study were of age group from 20 to 34 years of age, of which 49% of women included in 20 to 24 years of age, 39% of women included in the age 25 to 29 age group, 12% of women included in the 30 to 34 years of age

2) 52.6% of women were primigravida, and 47.4% of women included in the multigravida

3) Among postures, 45.6% choose supine position, 25.8% choose squatting position , 18.2% choose sitting position, and 10.4% of women choose left lateral position, according to this, most women prefer for non supine posture, of which many of them preferred for squatting posture.

4) Among the duration of labour, about 37.8% of women delivered at the end of 10 mins, and 42.4% of them delivered at the end of 10 to 20 mins, and 19.8% of them delivered at the end of 20 min to 1 hour.

In this study, the duration of the second stage of labour is reduced in nonsupine posture

Among the conventional supine postures, 27.6% of the women delivered in 10 minutes, 45.2% delivered at the end of 20 minutes and 27.2% delivered at the end of 30 minutes. In non-conventional posture 46.4% delivered in 10 minutes, 40% delivered in 20 minutes, 13.6% delivered at the end of 30 minutes. Among the non-conventional postures, the duration of the 2nd stage of labour is reduced in both sitting and squatting postures due to more frequent and sustained uterine contractions and good expulsive forces in these postures.

The review showed that using a flexible sacrum position can reduce the duration of the second stage of labor by 21.12 min. The reduction was contributed mainly by a large reduction in the three studies of the birthing ball, flexible sacrum and squatting positions, which reduced 25.9, 29.7 and 34.38 min respectively [24,25,26]. The reduction in duration is in line with other reviews and meta-analyses conducted both in the UK at different times, in contrast to other meta-analyses done in Australia and the UK, which didn't show any reduction in the duration of the second stage [17,27] similar to this study.

According to Marta Berta et al, the flexible sacrum birthing position has an effect on the reduction in the duration of the second stage of labor, with a considerable variation reported. This reduction in the duration of the second stage of labor should be discussed among health care providers who care for women during labor and childbirth (28) similar to this study.

In a randomized controlled trial by P.R. de Jong et al (29) the duration of the 2nd stage of labour in two groups was similar, which contradicts this study.

In the study by Chin et al(30) the duration of second stage of labour is shorter in sitting posture due to increased uterine pressure in this posture which was similar to this study.

In a randomised study by Gupta et al(31) duration of second stage of labour is reduced in squatting posture when compared to supine posture which was similar to this study.

5) In this study, about 13.4% of women needed episiotomy , 25.4% had intact perineum, 24% of women had 1st degree perineal tear, 35.8% of women had 2nd degree perineal tear, and 1.4% had 3rd degree perineal tear.

Among the conventional supine posture,

More women in the nonconventional group had intact perineum(32%) and first degree lacerated perineum(35%) whereas women in conventional group had higher degrees of perineal lacerations which is statistically significant.

Among the non-conventional group women in sitting posture had more number of intact perineum (41.7%)and 2 women had episiotomy, this is because this posture had good access of perineum and is more convenient in giving good support to the perineum . Women in squatting posture had more number of 2nd degree perineal tears(31%) this is due to less access to the perineum and inadequate perineal support. More number of episiotomies among the non conventional group is in squatting position.

In a non-randomised controlled trial on post partum outcomes in supine and non supine deliveries by Terry etal (32) almost 3 times as many women delivering in non supine were left with intact perineum compared with women in supine group. 22% perineal lacerations in non supine group were limited primarily to the first degree tears – 30%

whereas women in the supine group sustained more severe lacerations - 67% which is similar to this study.

Study by P.R.de Jong et al(29) , women in the upright group were subjected to fewer episiotomies than women delivering in the supine position which is similar to this study.

In a randomized controlled trial By Mazloom. R.S et al(33) incidence of episiotomies and perineal lacerations are less in left lateral position as compared to supine position . This posture is safe method of delivering and recommended for protection of perineum which is similar to this study.

Table 29

	CONVENTIONAL SUPINE POSTURE	NON SUPINE POSTURE
Episiotomy	31.2%(maria simmaro et al) 59.6%(Rodney olson et al) 15.4% (in this study)	17.8%(maria simmaro et al) 45%(Rodney olson et al) 11.8% (in this study)
Intact	13.8%(Rodney olson et al) 17.5% (in this study)	28.7%(Rodney et al) 32% (in this study)
1 st Degree	10.5% (in this study)	22%(Terry et al) 35.2% (in this study)
2 nd Degree	67%(terry et al) 11.7%(Rodney olson et al) 54.4% (in this study)	21.1%(Rodney olson et al) 20.3% (in this study)
3 rd Degree	14.9%(Rodney olson et al) 2.2% (in this study)	12.5%Rodney olson et al) 0.7% (in this study)

6) In this study the blood loss in the non supine posture is similar to the blood loss in the conventional posture.

This is comparable to the study done by Terry et al(32), involving 198 women, in which the average estimate of blood loss for women delivering in the supine position was 358 ml, compared with 295 ml for women who delivered in nonsupine positions.

Nikodem(34) found an increased rate of post partum haemorrhage with the birthing chair due to increased venous pressure and engorgement of perineum which would cause greater blood loss with perineal trauma in a randomized study involving 50 parturients in sitting posture. In this study involving 85 parturients in sitting posture there is no incidence of post partum haemorrhage with the chair lifted up and with good perineal support.

According to de jonge et al, mean blood loss and incidence of blood loss greater than 500 ml and 1000 ml were increased in semi sitting and sitting position which is comparable to this study where blood loss of more than 1000ml is more in sitting position.

Table 30

	Conventional group	Non supine group
Terry et al	358 ml	295ml
De jonge et al	34.9%(>500ml) 7.9%(>1000ml)	50.4%(>500ml) 13.4%(>1000ml)
In this study	93.4% (< 500ml) 4.4% (500-1000ml) 2.2% (>1000ml)	90.4% (< 500ml) 7.0 % (500-1000ml) 2.6 % (>1000ml)

7) In this study most of the women in non supine group experienced mild to moderate pain. Where as severe and extreme pains were perceived mostly by women in the conventional group.

In this study the most comfortable posture for women is sitting. They had less perception of intrapartum pain and less back discomfort. This posture is also more convenient for the person conducting the delivery than the other supine posture. 30 out of 129 women in squatting posture found it difficult to squat, but managed to deliver in

squatting posture, by resting in between contractions. The women who delivered in left lateral position were also very satisfied with this posture.

8) In this study about 45.6% of women in non supine group while 22% of women in supine group were very happy, and women in non supine posture have favourable response to the experience. Of about 48.1% of women in left lateral position experienced very happy which is the most favourable position in this study.

In a study by Ela –Joy Lehrman(36) most women who have given birth in the left lateral position have a favorable response to the experience. Most are amazed that back discomfort is diminished. Left lateral position may be more highly adaptable to both the normal and complicated birth . Women may be more comfortable and retain their dignity in giving birth in this posture which is comparable to the present study.

According to Terry et al(32) in postpartum outcome of supine delivery vs nonsupine delivery , perception of pain , postnatal back discomfort were much less in non supine postures. The perception of intrapartum and postpartum pain in these two studies were similar to the present study.

According P.R.de Jong et al(29) intrapartum pain is much less in upright posture and requirement of analgesia is also less with upright posture. Women who delivered in sitting posture are more satisfied with this posture.

There is no difference in birthweight and NICU admissions, 5 minute APGAR between the two groups in this study and is similar to study by terry et al.(32)

SUMMARY

SUMMARY

1. In this study, more number of women of age group 20 to 24 were involved.
2. In this study, more number of primigravida were present, where as in multigravida more number of women chooses the non supine posture.
3. In this study, majority of women choose to experience non supine posture, of which squatting position is the most favourable posture.
4. In this study, duration of the labour is reduced in non supine posture, of which sitting and squatting position is the best due to the more frequent and sustained uterine contraction and good expulsive forces in these postures.
5. In this study, more women in non supine posture, had more intact perineum and first degree lacerated perineum,of which sitting position had more number of intact perineum and only 2 number of women needed episiotomy, as this posture has good access to the perineum and convenient in giving support.
6. In this study, blood loss of in both supine and non supine posture had no significant difference.
7. In this study, most of the women in non supine group, experienced mild to moderate pain, of which 48.1% of women in squatting position and 51.6% of women in sitting experienced moderate pain , and 10.8% of women in squatting position and 23.1% of women in sitting position experienced mild pain , which conveys that women in non supine posture, had better birthing experience.

8. In this study, more women in non supine position experienced very happy of which 48.1% of women is in left lateral position, which is the favourable position in this study, because this position also enable sthe women to take rest in between the contractions.
- 9) In this study, Incidence of lowbacke ache is low in non supine posture when followed up postnatally.
- 10) There is no difference in birthweight and NICU admissions between supine and non supine position.

CONCLUSION

CONCLUSION

- Duration of 2nd stage of labour is reduced in the sitting, squatting and left lateral posture.
- Need for episiotomy and 3rd degree perineal tears are reduced in non-supine postures when compared to the conventional postures.
- Maternal perception of pain is reduced in non-supine postures.
- Overall maternal mental satisfaction is more in non supine postures.
- Based on the results of the study of this study, mother can be encouraged to assume the position of her choice during labour, hence making her birthing process a memorable one.
- The bottom line is that people giving birth with or without an epidural have the right to push and give birth in whatever position is most comfortable for them.
- Evidence and ethical guidelines support this. Both the Committee on Ethics of the American College of Obstetricians and Gynecologists (ACOG) and the American Nurses Association (ANA) have issued statements affirming the importance of patient autonomy.

ANNEXURE

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BIBLIOGRAPHY

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PROFORMA

NAME OF THE PATIENT:

AGE:

IP.NO:

ADDRESS:

D.O.A:

D.O.DELIVERY:

OCCUPATION:

HEIGHT:

WEIGHT:

OBSTETRIC CODE:

LMP:

EDD:

DETAILED HISTORY OF PRESENTING ILLNESS:

PAST HISTORY AND PERSONAL HISTORY:

OBSTETRIC HISTORY:

PER ABDOMINAL EXAMINATION:

PER VAGINAL EXAMINATION AT THE TIME OF ADMISSION:

POSTURE:

TIME OF ONSET OF 2ND STAGE OF LABOUR:

TIME OF DELIVERY:

DURATION OF 2ND STAGE OF LABOUR:

STATE OF PERINEUM:

DELIVERY OUTCOME(ALIVE/STILL BIRTH)

BIRTH WEIGHT:

GENDER OF THE BABY:

APGAR SCORE:

SNN ADMISSION:

INTRALABOUR PAIN(VISUAL ANALOG SCALE SCORE)

BLOOD LOSS

MATERNAL MENTAL SATISFICATION:

INCIDENCE OF LOW BACK ACHE

CONSENT FORM

PATIENT INFORMATION SHEET

I, Dr. Nandhini.R, MD(OG) 1st Year Post Graduate conducting a study 'STUDY OF DIFFERENT BIRTHING POSITION AND IT'S OUTCOME IN TERTIARY CARE CENTRE' to assess the impact of the conventional posture and non conventional posture in labour process, and giving freedom to give birth in position of your choice, thereby making your birthing process a memorable experience. You are expected to participate in the study during admission in GRMH till the date of discharge. You may benefit from this study, by assuming position of your choice, decreasing the duration of labour, reducing labour pain, reduced conversion to cesarean delivery. Overall it gives you the right to choose position thereby improving the quality of health care. You are free to withdraw from the study at any point of time.

Dr.Nandhini.R
Post Graduate
in Obstetrics and Gynaecology
Department of Obstetrics and Gynaecology,
Government Raja Mirasudhar Hospital,
Thanjavur Medical College,
Thanjavur.

CONSENT FORM

PARTICIPANT CONSENT FORM

Participants name :

Address :

Title of the study:

‘STUDY OF DIFFERENT BIRTHING POSITION AND IT’S OUTCOME IN TERTIARY CARE CENTRE’

The details of the study have been provided to me in writing and explained to me in my own language. I confirm that I have understood the above study and had the opportunity to ask questions. I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving any reason, without the medical care that will normally be provided by the hospital being affected. I agree not to restrict the use of any data or results that arise from this study provided such a use is only for scientific purposes. I have been given an information sheet giving details of the study. I fully consent to participate in the above study

Signature of the participant :

Date :

Signature of the witness :

Date :

Signature of the investigator :

Date :

ஒப்புக்கை படிவம் நோயாளிகளுக்கான தகவல் படிவம்

வெவ்வேறுநிலையில் குழந்தைபிரசவிப்பதையும் அதன் விளைவுகள் தொடர்பாகவும் ஆய்வு (STUDY OF DIFFERENT BIRTHING POSITION AND ITS OUTCOME IN TERTIARY CARE CENTRE)

ஆராய்ச்சியாளர் பெயர்

மரு. இர.நந்தினி

ஆராய்ச்சியின் நோக்கம்

வெவ்வேறுநிலையில் குழந்தைபிரசவிப்பதன் மூலம் பிரசவிக்க எடுத்துக் கொள்ளும் நேரம் குறைகிறது. மேலும் மற்ற விளைவுகளை பற்றியும் ஆராய்வதற்காக.

ஆராய்ச்சியின் செய்முறை பங்கேற்பாளர்கள்

இராஜாமிராசதார் மருத்துவமனையில் அனுமதிக்கப்பட்டுள்ள கர்ப்பிணி பெண்கள்.

எதிர்பார்க்கப்படும் நோயாளிகளின் பங்களிப்பு காலம்

மருத்துவமனையில் இருந்த நாட்கள்

ஆராய்ச்சியில் இருந்து நோயாளிகளுக்க எதிர்பார்க்கப்படும் நன்மைகள்
கர்ப்பிணி பெண்களுக்கு பிடித்த நிலையில் குழந்தை பிரசவிக்க முடிகிறது.

ஆராய்ச்சி நோயாளிகளுக்கு எதிர்பார்க்கப்படும் ஆபத்துக்கள்

ஏதும் இல்லை

நோயாளியின் மருத்துவப்பதிவுகள் இரகசியப் பாதுகாப்பு

உண்டு

ஆராய்ச்சியின் பங்களிப்பு

இல்லை

ஆராய்ச்சியில் எதிர்பார்க்கப்பட்ட மற்றும் எதிர்பார்க்கப்படாத

ஆபத்துக்களினால் ஏற்படும் உயிரிழப்பிற்கான இழப்பீடு

இல்லை

ஆராய்ச்சினால்கிட்டும் நன்மைகளை இழக்காமல் ஆராய்ச்சியில் இருந்து விலக முடிசுதந்திரம் உண்டு.

ஆராய்ச்சியினால் ஏற்படும் நன்மைகளை மற்ற நோக்கத்திற்காக பயன்படுத்தவும் மற்றவர்களுக்கு ஒப்புதல் அளிப்பு உண்டு.

ஆராய்ச்சியாளர் / வழிகாட்டியின் முகவரி மற்றும் கைபேசி எண்

மரு. இர.நந்தினி

மகப்பேறு மற்றும் பெண் நோயியல்

முதலாம் ஆண்டு பட்டமேற்படிப்பு

தஞ்சை மருத்துவக்கல்லூரி,

தஞ்சை.

நோயாளியின் தகவல் படிவத்தில் ஆராய்ச்சியாளரின் கையொப்பம்.

ஒப்புக்கை படிவம்
பங்கேற்பவரின் ஒப்புக்கை படிவம்

பங்கேற்பவரின் பெயர்:

விளக்கவுரை ஆய்வின் தலைப்பு:

வெவ்வேறு நிலையில் குழந்தை பிரசவிப்பதையும் அதன் விளைவுகள் தொடர்பாகவும் ஆய்வு (STUDY OF DIFFERENT BIRTHING POSITION AND ITS OUTCOME IN TERTIARY CARE CENTRE)

இந்தவிளக்கவுரை ஆய்வு குறித்த அத்துனை விடயங்களும், விளக்கங்களும் எனக்கு எழுத்துப்பூர்வமாகவும், வாய்மொழியாகவும் எனது தாய்மொழியில் நன்கு விளக்கிக்கூறப்பட்டது.

மேலே கூறப்பட்ட விளக்கவுரை ஆய்வு குறித்து நான் நன்கு புரிந்து கொண்டேன் என்று உறுதி அளிக்கின்றேன். மேலும் நான் இந்த விளக்கவுரை ஆய்வில் தன்னார்வத்தின் பேரில் யாருடைய கட்டாயமும் இன்றி கலந்துகொள்கின்றேன்.

பின்வரும் காலங்களில் நான் இந்த விளக்கவுரை ஆய்வில் இருந்து எனக்கு முறையே கிடைத்து வரும் சிகிச்சைகள் எவையும் பாதிக்காவண்ணம் எப்பொழுது வேண்டுமானாலும் சொந்த விருப்பத்தின் பேரில் எந்தகாரணமும் இன்றி விலகிக்கொள்ளலாம் என்பதனையும் நான் அறிவேன்.

இந்த ஆய்வில் கிடைக்கும் தகவல்கள் மற்றும் முடிவுகளை அறிவியல் சார்ந்த ஆய்விற்கு பயன்படுத்திக்கொள்ள நான் எந்த வகையிலும் தடை செய்யமாட்டேன் என்றும் இந்த விளக்கவுரை ஆய்வு குறித்த நோயாளிகளுக்கான தகவல் படிவம் எனக்கு கொடுக்கப்பட்டது என்றும் இந்த ஆய்வில் என்னை ஈடுபடுத்திக்கொள்ள என்னுடைய பரிபூரண இசைவையும் ஒப்புதலையும் அளிக்கின்றேன்.

பங்கேற்பாளர் கையெப்பம்:

தேதி:

சாட்சியாளர் கையெப்பம்:

தேதி:

ஆய்வாளர் கையெப்பம்:

தேதி:

ABBREVIATION

OT- OPERATION THEATRE

PPH- POSTPARTUM HEMORRHAGE

IQ-INTERQUARTILE RANGE

ACNM -AMERICAN COLLEGE OF NURSE MIDWIVES

RR- RELATIVE RISK

CPD- CEPHALOPELVIC DISPROPORTION

MR PELVIMETRY- MAGNETIC RESONANCE PELVIMETRY

OC = OBSTETRIC CONJUGATE,

SO = SAGITTAL OUTLET,

ISD = INTERSPINOUS DIAMETER,

ITD = INTERTUBEROUS DIAMETER,

TD = TRANSVERSE DIAMETER

CTG- CARDIO TOCOGRAPHY

LAQSHYA- LABOUR ROOM AND QUALITY IMPROVEMENT
INITIATIVE.

NICU- NEONATAL INTENSIVE CARE UNIT

WHO-WORLD HEALTH ORGANIZATION

ACOG- AMERICAN COLLEGE OF OBSTETRICIANS AND
GYNECOLOGISTS

ANA -AMERICAN NURSES ASSOCIATION

KEY TO MASTER CHART

1.AGE

SCORE 1- 20 TO 24 YEARS

SCORE 2-25 TO 29 YEARS

SCORE 3-30 TO 34 YEARS

2.PARITY

SCORE 1-PRIMIGRAVIDA

SCORE 2-MULTIGRAVIDA

3.GESTATIONAL AGE

SCORE 1- 37 TO 40 WEEKS

SCORE 2- > 40 WEEKS

4.POSTURE

SCORE 1-SUPINE POSITION

SCORE 2- SQUATTING POSITION

SCORE 3- SITTING POSITION

SCORE 4-LEFT LATERAL POSITION

5.DURATION OF LABOUR

SCORE 1- <10 MINUTES

SCORE 2- 10 TO 20 MINUTES

SCORE 3- 20 MINUTES TO 1 HOUR

6.PERINEAL TEAR

SCORE 1-EPISIOTOMY

SCORE 2-INTACT

SCORE 3-FIRST DEGREE PERINEAL TEAR

SCORE 4-SECOND DEGREE PERINEAL TEAR

SCORE 5-THIRD DEGREE PERINEAL TEAR

7.DISTRIBUTION OF BIRTH WEIGHT

SCORE 1- 2 TO 2.5 KG

SCORE 2- 2.5 TO 3 KG

SCORE 3- MORE THAN 3 KG

8.MATERNAL PERCEPTION OF PAIN

SCORE 1- MILD

SCORE 2- MODERATE

SCORE 3- SEVERE

SCORE 4-EXTREME

9.DISTRIBUTION OF NICU ADMISSION

SCORE 1- YES

SCORE 2- NO

10.BLOOD LOSS

SCORE 1- LESS THAN 500ML

SCORE 2- 500 TO 1000ML

SCORE 3- MORE THAN 1000ML

11.OVERALL MATERNAL SATISFICATION

SCORE 1- VERY UNHAPPY

SCORE 2-SLIGHT UNHAPPY

SCORE 3- SATISFIED

SCORE 4-VERY SATISFIED

SCORE 5-VERY HAPPY.

12.INCIDENCE OF LOWBACK ACHE

SCORE 1-YES

SCORE 2- NO

MASTER CHART

SL.NO	NAME	AGE	OBSTETRIC CODE	GESTATIONAL AGE	POSTURE	DURATION OF 2ND STAGE OF LABOUR	PERINEAL TEAR	BIRTH WEIGHT	APGAR/ NICU ADMISSION	MATERNAL PERCEPTION OF PAIN	BLOOD LOSS	MATERNAL MENTAL SATISFACTION	INCIDENCE OF BACKACHE
1	ELLAKIYA	2	1	1	1	3	4	3	2	1	1	1	1
2	AKILANDEESHWARI	1	2(G3)	1	1	2	2	2	2	1	1	1	1
3	SHARMILA	1	1	1	2	1	2	2	2	3	1	5	2
4	RAMA	2	2	2	3	1	4	2	2	2	2	2	1
5	VAIDA	2	2	1	4	2	4	1	2	2	1	2	2
6	GAYATHRI	2	1	1	2	1	4	2	2	2	1	5	1
7	SENTHAMARAI	1	1	1	3	3	3	2	2	3	1	4	2
8	BANUPRIYA	2	1	1	4	3	3	2	2	4	1	5	2
9	SUBASHINI	2	1	2	1	2	4	2	2	2	1	1	1
10	JANSIRANI	1	2	2	1	2	3	2	2	3	1	1	2
11	PUGALENDHU	3	2	1	1	2	2	2	2	2	1	1	1
12	SARANYA	1	1	1	1	3	1	1	2	2	3	2	2
13	BOOPATHI	2	1	1	2	1	1	2	2	2	1	5	2
14	TAMILSELVI	1	1	1	2	2	2	2	2	1	1	2	1
15	SELVI	3	2	1	3	1	4	3	1	1	2	3	1
16	PARIMALA	2	2	1	3	2	3	2	2	2	1	4	2
17	RAJASUDHA	2	2	1	2	1	2	2	2	1	1	5	1
18	MYTHILI	2	2	1	4	2	4	3	2	2	1	5	2
19	SATHYA	2	2	1	4	2	4	2	2	2	1	3	2
20	MUTHULAKSHMI	1	1	1	2	2	2	3	2	1	1	5	2
21	ELAMATHI	1	1	1	3	2	3	2	2	3	1	3	1
22	KALAIVANI	1	1	1	4	2	2	2	2	2	1	5	2
23	KOWSALYA	2	1	1	2	1	1	2	2	2	1	2	1

24	SHARMILA	3	1	1	2	2	2	2	2	2	1	5	1
25	JENNITA	1	1	1	2	3	2	3	2	2	1	5	1
26	VELLAIYAMMAL	1	2	2	2	2	2	3	2	2	1	5	1
27	UMERA	1	1	1	3	3	3	1	2	2	2	4	2
28	PUNITHA	2	1	1	4	3	3	3	1	2	1	3	2
29	PARAMESHWARI	3	1	1	1	3	4	3	2	2	1	2	1
30	MEENA	1	1	1	2	2	4	3	2	2	1	5	2
31	GAYATHRI	2	1	2	3	3	3	2	2	2	1	3	1
32	MEGALA	1	1	1	4	2	3	2	2	2	1	5	2
33	MEENA	2	2	1	3	2	3	3	2	2	2	4	2
34	KAVITHA	2	2	1	4	3	2	1	1	2	1	3	2
35	PARVEENA BEEVI	2	2(G5)	2	2	1	2	1	2	1	1	1	1
36	PRAGADEESHWARI	3	1	1	1	2	1	1	1	2	1	2	2
37	VIJAYA	2	2	1	1	2	3	1	1	2	3	2	2
38	RAGINI	1	1	1	2	2	2	2	2	1	1	5	2
39	RADHIKA	2	2(G3)	1	2	1	3	2	2	1	1	1	1
40	MEGARU NISHA	2	1	1	3	2	3	2	2	2	1	4	1
41	SUBANANDHINI	1	1	1	4	3	3	2	2	2	1	5	2
42	KANIMOZHI	3	2	1	2	2	2	2	1	2	1	4	1
43	SHARMILA	2	2	1	3	2	3	2	2	2	2	4	2
44	SIVASHANKARI	2	1	1	2	2	4	1	2	2	1	4	2
45	KARTHIGA	1	1	2	2	1	2	2	2	2	1	2	1
46	SANGEETHA	2	1	1	2	2	2	3	2	2	1	5	1
47	SIDHIK FATHIMA	3	2(G3)	1	3	1	3	1	2	1	1	4	2
48	VIDHYA	2	1	1	4	3	2	2	1	2	1	3	2
49	VIDHYA	1	1	1	1	2	1	2	2	2	1	2	1
50	SOUNDARYA	1	1	1	1	2	4	1	2	2	1	2	2
51	VANITHA	1	2	1	4	2	2	1	2	2	2	5	2
52	EZHILARASI	3	1	1	1	3	4	2	2	2	1	2	2

53	MEENA	1	1	1	1	2	4	2	2	2	1	2	1
54	MAHALAKSHMI	2	2(G3)	1	4	1	3	2	2	2	1	5	2
55	VASANTHI	2	1	1	2	2	2	1	2	2	1	5	1
56	BALAMBIGA	3	2	1	1	2	4	2	2	2	1	2	2
57	MEGHRAJ BEGUM	1	1	1	1	1	4	1	1	1	1	2	2
58	MANIMEGALAI	1	1	2	2	2	4	2	1	2	1	4	1
59	ANANDHI	1	1	2	2	1	4	2	2	2	1	5	1
60	NADHIYA MARY	1	1	1	4	2	3	2	2	2	1	3	2
61	JAYANTHI	2	2(G2)	1	1	2	4	2	2	1	1	2	1
62	PASAMALAR	3	2(G2)	1	3	3	3	3	2	4	2	4	1
63	REKHA	2	2(G2)	1	2	2	3	3	2	4	1	4	1
64	BHARATHI	3	2(G2)	1	2	1	3	2	2	1	1	5	2
65	SATHYA	2	2(G3)	1	4	1	2	3	1	2	1	5	2
66	VIJI	1	2	2	1	3	2	2	2	2	1	2	1
67	KARTHIKA	3	1	1	1	3	4	2	2	2	1	2	2
68	PRASANNA	2	2	1	2	2	2	1	2	2	1	5	2
69	ROSHINI	1	1	1	1	3	4	3	2	2	1	2	2
70	ABIRAMI	1	2(G3)	2	3	2	2	2	2	1	1	4	2
71	SANGEETHA	1	1	1	1	3	4	1	2	4	1	2	1
72	JAYASHEELA	1	2	1	2	1	3	2	2	1	1	4	1
73	PRIYANKA	2	2	1	4	2	3	3	2	4	1	5	2
74	ANANTHI	2	2(G4)	1	2	1	2	3	2	4	1	5	1
75	PREETHI	1	1	1	1	3	4	3	2	4	1	3	1
76	SUGANTHIRA	3	2(G3)	1	1	2	2	2	2	1	3	3	2
77	NAGALAKSHMI	1	2	1	3	1	3	3	2	2	2	5	1
78	NATHIYA	1	1	1	1	3	4	3	2	1	1	3	1
79	SRIDEVI	2	1	1	2	2	4	2	2	4	1	4	1
80	SHOBANA	2	1	1	1	2	4	3	2	1	1	3	2
81	PRIYADHARSHINI	3	2(G3)	1	1	2	2	1	2	1	1	3	2

82	MALATHI	3	2(G3)	1	1	1	3	1	2	1	1	3	1
83	MAHALAKSHMI	2	1	1	1	3	4	2	2	1	1	3	1
84	VIJAYASANTHI	2	1	1	1	2	4	2	2	1	1	3	2
85	KAVITHA	2	1	2	1	3	4	1	2	2	1	3	1
86	ABIRAMI	1	2	2	2	1	4	2	2	2	1	3	1
87	VIJAYALAKSHMI	1	1	1	4	2	3	2	2	2	1	3	2
88	KEERTHANA	1	1	1	2	1	3	3	2	1	1	4	1
89	JANOVA	1	1	1	1	2	1	2	1	3	1	3	2
90	DEVI	3	2	1	1	3	4	2	2	1	1	3	1
91	NIROSHA	3	2(G3)	1	1	1	3	3	2	4	1	3	2
92	PULARANI	3	1	1	1	1	1	3	2	3	1	3	2
93	GAYATHRI	2	1	1	1	3	3	2	2	2	3	3	1
94	JOTHIKA	1	1	1	2	1	3	2	2	2	1	5	1
95	VEERAMMAL	3	1	1	2	2	4	2	2	2	1	4	2
96	SARANYA	2	2(G3)	1	2	1	3	3	2	2	1	5	1
97	KALAISELVI	3	1	1	1	3	4	3	2	1	1	3	2
98	KAVITHA	2	2	1	1	3	3	2	2	1	1	3	1
99	PRIYA	1	1	2	2	1	4	2	2	4	1	4	2
100	SARANYA	1	2	1	1	3	2	2	2	1	2	3	2
101	NITHYA	2	2	1	2	1	3	2	1	3	1	5	1
102	VIJAYALAKSHMI	1	2	1	2	2	2	1	2	4	1	4	1
103	MANJULADEVI	1	1	1	1	3	1	2	2	2	1	3	2
104	RAMYA	1	1	1	1	2	4	3	2	1	2	3	1
105	BANUMATHI	1	1	1	1	2	4	2	2	4	1	3	2
106	PRIYADHARSHINI	1	1	1	1	2	2	1	2	3	2	3	1
107	ELAVAZHAGI	1	1	1	2	1	3	2	2	4	1	5	1
108	KALAIYARASI	1	1	2	4	2	3	1	1	4	1	5	2
109	PUNITHA	1	1	1	1	2	4	1	1	1	1	3	2
110	KASTHURI	1	1	2	1	2	4	3	2	1	1	3	1

111	SANGEETHA	1	2	1	1	2	2	3	2	1	1	3	2
112	JENIFER	1	2	1	3	1	3	3	2	2	1	5	1
113	SATHYA	2	2	2	2	1	4	3	2	2	1	4	1
114	LAVANYA	2	1	1	2	1	3	3	2	2	1	4	1
115	AROGIYASELVI	2	2	1	2	1	4	2	2	4	1	4	1
116	NASREEN	2	2	1	4	2	2	2	2	2	1	5	2
117	SARANYA	1	1	1	2	1	3	1	2	1	1	4	1
118	SANGEETHA	2	2	1	3	1	3	2	2	1	2	3	1
119	SINDHUMATHI	1	1	1	1	2	4	2	2	1	1	3	1
120	MARIYAMMAL	2	1	1	1	2	3	2	2	4	1	3	2
121	USHA	3	1	1	1	2	3	1	1	4	1	3	2
122	SASIKALA	1	1	1	1	2	4	1	2	4	1	3	1
123	SARITHA	2	2	1	1	2	2	2	1	2	1	3	2
124	NIRMALA	1	1	1	3	1	3	3	2	2	3	5	1
125	NEELAVATHI	3	2	1	2	1	2	3	2	1	1	4	1
126	SIVSRANJITHA	2	2(G3)	1	2	1	2	2	2	2	1	4	2
127	THENMOZHI	2	1	1	1	2	4	3	2	3	2	3	2
128	RAJALAKSHMI	1	1	1	2	1	4	2	2	4	1	4	1
129	GOMATHI	1	1	2	1	2	3	2	2	3	1	3	2
130	SURIYA	1	1	2	3	1	1	3	2	2	1	4	1
131	MANIMEGALAI	2	2	1	1	2	2	2	2	3	1	3	2
132	NEELADEVI	2	1	2	4	2	3	2	2	2	1	3	2
133	NIVETHA	1	1	1	2	1	4	2	2	2	1	4	1
134	SUWATHI	1	2	2	3	1	3	3	2	1	3	5	1
135	VANAROJA	3	2	2	4	2	3	3	2	1	1	5	2
136	SABITHA	3	2(G3)	2	3	1	3	3	2	1	1	5	1
137	VINITHA	2	2	1	2	1	4	2	2	2	1	3	2
138	BIRUNTHA	2	1	2	4	2	3	1	2	3	1	5	2
139	CHITRA	2	2	1	1	2	3	3	2	4	1	3	1

140	RANJITHA	2	1	1	3	1	3	2	2	1	1	5	2
141	KIRUTHIKA	1	2	1	4	2	3	2	2	3	2	3	2
142	MEGALA	3	2	1	1	2	3	3	1	3	2	3	2
143	DEEPA	2	1	1	3	1	3	3	2	1	1	5	1
144	AKILA	1	2	1	2	1	3	3	2	4	1	3	1
145	RAJAPRIYA	1	1	1	1	2	4	1	1	2	1	3	1
146	MAHALAKSHMI	2	1	1	3	1	3	2	2	3	1	5	1
147	NITHYA	2	1	1	2	1	3	3	2	2	1	4	1
148	PONNI	1	2	1	2	1	3	1	2	3	1	3	2
149	GAYATHRI	2	1	1	3	1	3	2	2	1	3	4	1
150	GENMARANI	2	2	1	2	1	3	2	2	2	1	3	1
151	DEVI	2	2	2	1	2	2	3	2	3	1	3	2
152	ARUNADEVI	1	2	1	3	1	3	2	2	2	1	4	2
153	SUBHALAKSHMI	1	1	1	4	2	3	2	2	1	1	5	2
154	BUVANESWARI	2	1	1	1	2	4	1	2	3	2	4	1
155	VEERALAKSHMI	3	2(G3)	1	4	2	3	3	2	2	1	4	2
156	SIVARANJANI	1	2	2	2	1	2	1	1	2	1	3	1
157	ELAVARASI	2	2	1	3	1	3	2	2	2	3	3	1
158	JANSIMERI	2	2	1	2	3	4	2	2	3	1	4	2
159	RAMYA	2	1	2	1	1	4	3	2	3	1	4	2
160	REVATHI	2	2	1	4	2	4	3	2	2	1	4	2
161	TAMILARASI	3	2	1	3	1	3	3	2	1	1	4	1
162	BAGAVATHI	1	1	1	1	2	1	2	2	3	1	4	2
163	SUDHA	3	2(G3)	1	2	1	2	3	2	2	1	3	1
164	ABINAYA	1	2	1	3	2	3	2	2	2	1	5	2
165	KANNIKA	2	1	1	4	2	3	1	2	2	1	4	1
166	LAVANYA	1	1	1	1	2	4	3	2	4	1	4	2
167	ABIRAMI	2	1	1	3	1	4	1	2	4	1	5	1
168	MALATHI	3	2	1	2	1	2	2	2	2	1	4	2

169	SUBHAI	2	1	1	4	2	3	2	2	2	1	4	2
170	ROHINI	2	2	1	2	1	3	3	2	2	1	3	2
171	KANNAKI	1	1	1	1	2	3	3	2	4	1	4	2
172	RASATHI	1	2	2	2	1	3	2	2	3	2	4	2
173	ABINAYASRI	1	2	1	2	1	3	3	2	3	1	3	2
174	MATHIYAZHAGI	2	2	1	3	2	3	3	2	2	1	5	1
175	DARANYA	2	1	1	1	2	4	3	2	3	2	4	1
176	GOMATHI	3	2(G3)	1	4	2	2	2	2	2	1	4	2
177	GOWSALYA	1	2	1	2	1	3	2	2	2	1	4	2
178	SARANYA	2	1	1	2	1	4	3	2	3	1	3	2
179	NITHYA	1	2	1	1	2	2	3	2	3	1	4	2
180	VANITHA	1	1	1	3	2	3	2	2	2	1	4	1
181	KAVITHA	3	2	1	2	1	3	2	2	2	1	4	2
182	ABIRAMI	1	1	1	2	1	4	2	2	3	1	3	2
183	PRIYA	2	2(G3)	1	1	2	2	2	2	4	2	4	1
184	KEERTHANA	1	1	1	2	1	4	2	2	3	2	4	2
185	NATHIYA	3	2(G3)	2	4	2	2	3	2	2	1	4	1
186	GRACY	2	1	1	1	2	3	2	2	4	1	4	2
187	MALA	1	2	1	3	2	3	2	2	3	1	4	1
188	RANJITHA	1	2	1	2	2	3	2	2	2	1	3	2
189	SANGEETHA	3	2	1	1	2	3	3	2	4	3	4	1
190	VANAJA	1	1	1	4	2	5	3	2	3	1	5	2
191	JANANI	1	1	2	2	2	4	3	2	2	1	5	2
192	VINOTHA	2	2(G3)	1	1	2	2	1	2	3	1	4	2
193	ABARNA	1	2	2	3	2	3	1	2	3	1	4	1
194	SELVI	2	1	1	2	2	3	1	2	2	2	5	2
195	TAMILSELVI	2	1	1	1	2	4	1	2	4	1	5	1
196	RAJESHWARI	2	2	1	4	2	2	2	2	4	1	5	2
197	SANGEETHA	1	1	1	1	2	4	3	2	3	2	5	2

198	SHARMILA	2	2(G3)	2	2	1	2	3	2	2	1	5	2
199	VINOTHA	2	2	1	1	2	3	1	1	3	1	5	1
200	BANUPRIYA	2	2	1	3	2	3	3	2	1	1	5	1
201	NANDHINI	1	1	1	1	2	4	2	2	3	1	5	2
202	MADHAVI	2	2	1	4	2	2	3	2	2	1	4	1
203	SELVAKANI	2	2	2	1	2	1	1	1	4	1	5	2
204	VENNILA	1	1	1	3	2	3	2	2	1	1	5	1
205	BANUPRIYA	1	1	1	1	2	4	1	2	3	1	5	2
206	RAJASUDHA	2	2	1	1	2	2	1	1	3	1	5	2
207	RENUGA	1	2	1	1	2	4	3(3.8KG)	1	3	1	5	2
208	MONIKA	2	1	2	3	2	3	2	2	1	1	5	2
209	YAMALDAMARY	1	2	1	4	2	3	3(3.8)	1	2	1	5	2
210	BHUVANESHWARI	1	1	2	3	2	3	2	2	2	1	5	2
211	RENUGA	1	1	1	4	2	1	2	2	2	1	4	2
212	SHALINI	1	1	1	1	2	3	1	2	3	1	5	2
213	JAYANTHI	3	2	2	1	2	4	2	2	3	1	5	2
214	KAVITHAMARY	3	2	2	3	2	3	2	2	2	1	3	1
215	SUGANYA	2	2	1	4	3	3	1	2	3	1	5	1
216	BHUVANESHWARI	1	1	1	1	2	3	3	2	2	1	5	1
217	SUBBULAKSHMI	2	2	2	2	1	4	2	2	2	2	5	2
218	SAVITHRI	1	2	1	3	2	2	3	2	2	1	4	1
219	MAHALAKSHMI	1	1	1	1	2	4	2	2	3	1	5	1
220	MEENAKSHI	3	1	1	1	3	4	2	2	4	1	5	1
221	RAJESWARI	1	1	1	4	3	3	1	2	2	1	4	2
222	KOWSALYA	1	1	1	2	1	2	3	2	2	1	5	2
223	SNEKA	1	1	1	2	1	4	2	2	3	1	5	2
224	DIVYA	2	1	1	1	2	4	3	2	4	1	5	1
225	ASHTALAKSHMI	1	1	1	3	2	3	3	2	1	1	4	1
226	SUMITHRA	1	1	1	2	1	3	2	2	2	1	3	2

227	VIGNESHWARI	1	1	1	1	2	4	2	2	3	1	5	1
228	MUTHUMARI	2	2	1	4	3	3	3	2	3	1	5	2
229	DIVYA	1	1	1	2	1	3	2	2	2	1	3	2
230	ROJA	2	2	1	1	2	2	2	2	3	1	4	1
231	DIVYA BHARATHI	2	1	1	3	2	3	1	2	2	1	4	2
232	KAUVERY	1	1	1	1	2	3	2	2	4	1	4	1
233	UDAYAPRIYA	2	1	1	3	2	4	1	2	2	1	4	1
234	KAVYA	1	1	1	2	1	2	3	2	2	1	3	2
235	ILAKKIYA	2	2	1	1	2	4	2	2	3	1	4	1
236	NATHIYA	1	1	1	4	3	1	1	2	2	1	4	2
237	SIVARANJANI	2	2	1	1	2	4	2	2	4	1	4	1
238	KURALTAMILMAOZHI	3	2	1	1	2	2	3	2	3	1	5	1
239	PRIYANKA	2	1	1	1	2	4	2	2	4	1	4	1
240	BABYIMOHANA	3	1	1	1	2	3	3	2	4	1	3	1
241	SHOBANA	3	1	1	3	2	4	2	2	1	1	4	1
242	ASHVINI	1	1	1	1	2	4	2	2	2	1	4	1
243	DEEPA	1	1	1	1	2	4	2	2	2	1	4	1
244	RAMADEVI	1	1	1	1	2	1	1	1	3	1	3	1
245	PRIYANKA	1	1	1	2	1	4	2	2	2	1	3	2
246	VIJAYALAKSHMI	1	2(G3)	1	2	1	1	3	2	2	1	3	2
247	ALISURYA	2	2	1	4	3	1	3	2	3	1	4	2
248	PRIYA	1	1	1	3	2	3	1	2	4	1	4	1
249	PANDISELVI	2	2(G3)	1	1	2	2	2	2	4	1	4	1
250	KRISHNAVENI	1	1	1	1	2	4	2	2	3	1	4	1
251	AMBIGA	1	1	1	2	1	4	3	2	3	1	3	2
252	NISHA	2	1	1	2	1	4	2	2	2	1	5	2
253	RAMYA	1	1	1	3	2	4	3	1	2	1	5	2
254	KOKILA	3	2	1	1	2	4	3(3.7)	1	3	1	3	1
255	JAYASAKTHI	2	1	1	1	2	4	2	2	3	1	4	1

256	RENUGA	1	1	1	1	2	3	2	2	4	1	3	1
257	PARAMESHWARI	2	2	2	2	1	1	2	2	3	1	5	2
258	NITHYAPRIYA	1	1	1	2	1	3	1	2	2	1	5	2
259	MANJULA	1	1	1	1	2	3	3	2	4	1	3	1
260	ABIRAMASUNDARI	1	2	1	3	2	2	3	2	2	1	5	1
261	GEETHA	3	2	1	1	2	1	2	2	3	1	3	1
262	SUBASRI	2	1	1	1	2	3	3	2	4	1	3	1
263	PAVITHRA	1	1	1	1	2	4	2	2	3	1	4	1
264	SENTHAMSELVI	2	2	1	2	1	4	2	2	3	1	3	2
265	NATHIYA	3	2(G4)	1	1	2	2	2	2	3	1	3	1
266	HEMALATHA	2	2	1	1	2	4	3	2	3	1	3	1
267	RAMYA	1	1	1	3	2	4	3	2	2	1	5	1
268	ISHWARYA	2	2(G3)	1	3	2	2	2	2	2	1	4	1
269	RAMYA	1	2	1	1	2	1	2	2	4	1	3	1
270	KANIMOZHI	1	1	1	2	2	2	3	2	3	1	5	2
271	RAJESHWARI	2	2	1	1	2	2	2	2	3	1	3	1
272	SANGEETHAPRIYA	1	2	1	3	2	2	3	2	2	1	3	2
273	DEEPA	2	1	1	1	2	2	1	2	4	1	4	1
274	AKILA	1	1	1	1	2	3	3	2	4	1	4	1
275	RAMYA	1	1	1	1	2	4	3	2	4	1	3	1
276	THENMOZHI	1	1	2	3	2	3	1	2	2	1	4	1
277	ISHWARYA	1	2	1	2	1	4	1	2	3	1	3	2
278	ABINAYA	1	2	1	2	1	2	2	2	2	1	5	2
279	PRABHA	2	1	1	3	2	1	3	2	2	1	5	1
280	SATHYA	2	2	1	1	2	2	2	2	4	1	3	1
281	GAYATHRI	2	2	1	1	2	4	3	2	4	1	4	1
282	NANDHINI	1	1	1	1	2	3	2	2	4	1	3	1
283	NATHIYA	1	1	1	3	2	4	3	2	2	1	5	1
284	SAVITHRI	1	1	1	2	1	4	2	2	3	1	3	1

285	ARTHI	1	2	1	1	2	4	2	2	4	1	4	1
286	ALISH LARA	2	2(G3)	1	3	2	2	2	2	2	1	5	1
287	SUGANYA	1	2	1	1	2	1	3	2	4	1	3	1
288	SUGANYA	2	1	1	1	2	4	2	2	4	1	3	1
289	SHOFIYA	1	1	1	3	2	2	1	2	3	1	5	2
290	RANJITHA	2	1	1	2	1	1	3	2	2	1	5	1
291	THENMOZHI	3	2	1	1	2	4	3	2	4	1	4	1
292	PRINCYA	1	1	1	3	2	2	2	2	3	1	4	1
293	PRAGADEESHWARI	2	2	1	1	2	4	2	2	3	1	3	1
294	MAHAMU	2	2	1	1	2	1	3	2	3	1	4	1
295	DEVI	1	1	1	1	2	4	2	2	4	1	3	1
296	NITHYA	1	1	1	3	1	2	3	2	2	1	3	1
297	REENA	2	2	2	1	2	4	1	2	4	1	4	1
298	SANGAVI	1	1	1	1	2	1	2	2	3	1	3	1
299	UMA	3	2(G4)	1	3	1	4	1	2	2	1	4	2
300	SANMUGASELVI	3	2	1	2	1	4	2	2	3	1	3	2
301	MARAGATHAMANI	2	1	1	3	1	2	1	2	2	1	4	1
302	SWATHA	1	1	1	1	1	2	3	1	3	1	4	1
303	BIRUNTHA	1	1	1	1	1	4	3	2	4	1	3	1
304	THENMOZHI	2	2	1	2	1	1	2	2	3	1	5	2
305	ANITHA	2	2	1	2	1	4	3	2	3	1	3	1
306	ARUVITHA	3	2		3	1	3	2	2	2	1	5	1
307	SUSAIVENI	2	1	1	1	1	4	2	2	4	1	3	1
308	NITHYA	2	1	1	3	1	2	2	2	3	1	5	1
309	RAJATHI	2	2(G3)	1	2	1	2	3	2	2	1	5	1
310	SANGEETHA	2	1	1	1	1	1	3	2	3	1	3	1
311	MUTHULAKSMI	3	2	1	1	1	2	2	2	3	1	3	1
312	BABAY DAISY MARY	2	2(G3)	1	1	1	4	3	2	4	1	3	1
313	MAHALAKSHMI	1	1	1	1	1	4	1	2	3	1	4	1

314	NATHIYA	2	2	1	3	1	2	3	2	2	1	5	2
315	JULIOT VENNILA	2	2(G3)	2	2	1	4	3	2	2	1	3	1
316	KEERTHIKA	2	2	1	1	1	4	2	2	3	1	3	1
317	JAYANTHI	2	1	1	1	1	4	2	2	3	1	4	1
318	SATHYA	1	1	1	3	1	2	1	2	2	1	5	1
319	ANJALI	1	1	1	2	1	2	1	2	3	1	5	1
320	VEMBARASI	2	2(G3)	1	1	1	4	2	2	4	1	4	1
321	SIVABAGYAM	2	2(G3)	1	1	1	4	3	1	4	1	3	1
322	RAJAPRIYA	2	1	1	4	3	3	2	2	1	1	5	2
323	SUMA	1	1	1	1	1	1	2	2	2	1	4	1
324	PRAMILA	2	2	1	1	1	1	3	2	3	1	3	1
325	RATHIMEENA	1	2	1	1	1	4	2	2	3	1	4	1
326	SANGEETHA	2	2	1	3	1	3	2	2	2	1	5	1
327	ILAYANILA	1	1	1	3	1	2	3	2	2	1	4	1
328	RAJALAKSHMI	1	1	1	3	1	2	2	2	1	1	4	2
329	DIVYA	1	2	1	2	2	4	3	2	2	1	3	1
330	SHEELA	2	1	1	1	1	4	3	1	3	1	4	1
331	RAJESHWARI	2	2(G3)	2	4	3	1	2	2	2	3	4	1
332	SUDHA	2	2	1	2	2	2	3	2	3	1	5	1
333	NANDHINI	2	1	1	1	1	4	2	2	4	1	3	1
334	MALATHI	1	1	1	3	1	2	2	2	2	1	4	1
335	PARAMESHWARI	1	2	1	1	1	1	3	2	3	1	4	1
336	VAITHEESWARI	1	2	1	2	2	2	3	2	4	1	3	1
337	VITHYA	2	1	1	1	1	4	2	2	3	1	4	1
338	KALAIVANI	1	1	1	1	1	4	3	2	3	1	3	1
339	SOWNDHARYA	1	2	1	1	1	2	2	2	3	1	4	1
340	KARTHIKA	1	1	1	4	3	3	2	2	2	1	4	2
341	VITHYA	1	1	1	3	1	2	3	2	1	1	5	1
342	SANGEETHA	2	1	1	1	1	4	2	2	4	1	4	1

343	SETHUSRI	1	1	1	2	2	4	2	2	3	1	3	1
344	SANGEETHA	2	2	1	1	1	4	2	1	3	1	4	1
345	ELAVARASI	1	1	1	1	1	2	2	2	4	1	4	1
346	VIDHYA	1	2	1	1	1	4	3	2	3	1	4	1
347	DEVAYANI	1	2	1	1	1	4	3	2	3	1	3	1
348	SNEKA	1	1	1	1	1	4	2	2	3	1	4	1
349	NANDHINI	1	2	2	2	2	2	2	2	4	1	5	1
350	ELAKIYA	2	2	1	1	1	4	3(3.8)	2	2	1	4	1
351	NARKIS DIVYA	2	1	1	1	1	1	2	2	3	1	4	1
352	THAVASELVI	1	2	1	1	1	2	2	2	3	1	3	1
353	ELAVARASI	3	1	1	1	1	4	2	2	3	1	4	1
354	ANANTHAVALLI	2	2	1	1	1	4	2	2	3	1	4	1
355	NIRMALA	2	1	1	2	2	2	1	2	4	1	3	1
356	RAMA	1	1	1	3	1	3	2	2	1	1	5	2
357	RAMA	2	2(G3)	2	4	3	1	2	2	2	1	5	2
358	INDHUMATHI	2	2	1	3	1	2	2	2	1	1	4	1
359	GANDHIMATHI	1	2	1	2	2	4	2	2	2	1	3	1
360	RAMYA	2	1	1	3	1	4	1	2	1	1	4	1
361	MURUGAVLLI	2	2	1	2	2	2	3	2	4	1	5	1
362	KOWSALYA	1	1	1	1	1	1	2	2	4	1	4	1
363	KANNAGI	1	1	1	1	1	4	3	2	3	1	3	1
364	SARANYA	3	2	1	1	1	4	2	2	2	1	4	1
365	SARANYA	1	2	1	1	1	2	3	2	4	1	4	1
366	SHALINI	1	2	1	3	1	2	2	2	2	1	4	1
367	MAHESWARI	1	1	1	2	2	4	1	2	3	1	3	1
368	SHANTHI	3	2(G3)	1	1	1	4	2	2	4	1	5	1
369	THABAONA	2	2	1	1	1	4	2	2	3	1	3	1
370	VIJAYALAKSHMI	1	1	1	1	1	2	2	2	3	1	4	1
371	PRABHU	2	1	1	2	2	4	2	2	2	1	3	1

372	ELLAKIYA	2	1	1	3	1	2	2	2	3	1	5	1
373	FAIROSE BEGUM	1	1	2	2	2	4	3	2	2	1	5	1
374	SANTHIYA	1	1	1	1	1	4	2	2	4	1	4	1
375	VANILA	1	1	1	1	1	4	2	2	3	1	5	1
376	NATHIYA	2	2	1	1	1	2	3	2	3	1	3	1
377	RENUGA	3	2	1	3	2	2	3	2	2	1	4	2
378	THANAMARY	1	1	1	2	2	4	3	1	4	1	3	1
379	REVATHI	1	1	1	1	1	4	2	2	3	1	4	1
380	PANDEESHWARI	2	1	1	1	1	1	3	2	3	1	5	1
381	MAHESHWARI	3	2(G3)	1	1	1	1	3	2	4	1	4	1
382	SURYA	1	2	1	4	3	3	2	2	4	1	5	1
383	SARANYA	1	2	2	2	2	4	2	2	3	1	5	1
384	RENUGADEVI	2	1	1	3	1	2	1	2	3	1	5	2
385	LAKSHMI PRIYA	2	2	1	1	1	1	3	2	4	1	3	1
386	TAMINANNAI	2	2	1	1	1	1	2	2	3	1	3	1
387	JOYESRANI	1	1	1	1	1	4	3	2	3	1	5	1
388	SHARMILA	1	2	1	1	1	4	2	2	3	1	4	1
389	SIVAGAMI	3	1	1	4	3	3	2	2	4	1	5	2
390	THILAGAVATHY	3	2	1	1	1	4	3	2	4	1	3	1
391	SANGEETHA	2	1	1	1	1	4	3	2	4	1	5	1
392	NIVEDHA	1	1	1	3	1	2	2	2	1	1	4	2
393	SOUNDARYA	1	2	2	1	1	1	2	2	2	1	4	1
394	PRIYA	1	1	1	1	1	1	1	2	3	1	3	1
395	VAISHALI	1	1	1	2	2	2	1	2	3	1	3	1
396	KEERTHANA	1	1	1	1	1	2	3	2	3	1	4	1
397	ASHWINI	1	1	1	4	3	3	3	2	3	1	4	1
398	VIGNESHWARI	1	1	1	1	1	1	2	2	3	1	3	1
399	LAVANYA	1	2	1	3	1	2	3	2	4	1	4	2
400	VINODHA	1	2	1	1	3	4	1	2	4	1	5	1

401	MEENA	3	2	1	2	2	4	3	2	3	1	5	1
402	MAHADEVI	1	1	1	1	3	4	2	2	3	1	5	1
403	SATHYA	2	2	1	2	2	2	1	2	4	1	5	1
404	RAJATHI	2	2	1	1	3	4	2	2	3	1	5	1
405	JENSA	1	1	1	3	1	4	1	2	4	1	5	2
406	JENNIFER	1	1	1	2	2	4	3	2	3	1	5	1
407	KALEESHWARI	2	2(G3)	1	4	3	1	3	2	2	1	5	2
408	RENGANAYAGI	2	2	1	1	3	4	1	2	1	1	5	1
409	CHITTUMANI	2	2	1	3	1	2	3	2	2	1	4	2
410	ANANDHASUNDARI	2	1	1	4	3	3	2	2	3	1	4	1
411	OPHIYA	2	1	1	1	3	4	2	1	4	1	5	1
412	AISHWARYA	1	2	1	1	3	4	3	2	3	1	5	1
413	KRISHNAVENI	1	1	1	3	1	2	2	2	2	1	5	2
414	SENBAGAVALLI	1	1	1	1	3	1	2	2	3	1	3	1
415	VASANTHI	1	1	1	1	3	2	2	2	3	1	3	1
416	THEVAYANI	1	1	1	2	2	2	2	2	2	1	5	1
417	KALPANA	2	1	1	1	3	4	3	2	3	1	5	1
418	PRABHA	2	2(G3)	1	4	3	1	3	2	1	1	4	2
419	VINDHYA	1	1	1	1	1	1	2	2	2	1	4	1
420	ASAI	1	1	1	1	3	4	3	2	3	1	4	1
421	SARALA	1	1	1	1	2	2	2	2	3	1	4	1
422	BANUPRIYA	1	1	1	3	1	2	2	2	2	1	5	2
423	GAYATHRI	2	1	1	1	3	4	3	2	2	1	4	1
424	SARANYA	2	1	1	1	3	4	2	2	3	1	5	1
425	VIMALAVENI	2	2	2	3	1	2	3	2	4	1	5	2
426	SANTHIYA	2	2(G3)	2	1	1	4	2	2	3	1	4	1
427	DEVI	1	2	2	1	1	4	2	2	3	1	4	1
428	RAJESHWARI	1	1	1	2	2	2	2	2	2	1	5	1
429	VAIGARAISELVI	2	2(G3)	1	2	2	3	3	2	2	1	5	1

430	MANJULA	1	2	1	1	3	4	3	2	3	1	4	1
431	KALPANA	1	1	1	2	2	1	2	2	2	1	5	1
432	MANJULA	1	2	1	1	2	4	2	2	3	1	5	1
433	THANGA TAMILMOZHI	1	2	1	2	2	3	2	2	2	1	5	1
434	AMBIKA	1	2	1	1	3	1	3	2	3	1	5	1
435	SHANKARI	1	2	1	1	3	4	2	2	3	1	3	1
436	VIJAYALAKSHMI	1	2	1	2	2	1	1	2	4	1	5	1
437	ELAVARASI	1	1	1	1	3	1	2	1	3	1	5	1
438	ISHVARYA	1	1	1	2	2	1	2	2	1	1	3	1
439	MEGALA	1	2	2	1	2	2	1	2	3	1	4	1
440	CHITRA	1	2	1	2	2	3	2	2	1	1	5	1
441	THILAGAVATHY	1	1	1	1	3	4	2	2	4	1	4	1
442	ARTHI	1	2	1	2	2	1	2	2	3	1	5	1
443	RANJITHA	2	2	1	1	3	4	3	2	2	1	5	1
444	RAJATHI	2	1	1	2	2	1	3	2	3	1	3	1
445	SANGEETHA	2	1	1	1	3	2	2	2	2	1	4	1
446	JAYASHEELA	1	2	1	1	3	4	1	2	3	1	4	1
447	PRIYANKA	3	1	2	2	2	3	3	2	3	3	5	1
448	ANANTHI	1	2	1	1	3	4	2	2	4	1	5	1
449	PREETHI	2	2	1	1	2	4	1	2	4	1	5	1
450	SUGANTHIRA	2	2	1	3	1	2	1	2	3	1	5	2
451	JENNIFER	3	2	2	1	2	2	1	2	2	1	5	1
452	KALEESHWARI	1	2	2	2	3	1	3	2	2	3	3	1
453	RENGANAYAGI	1	2	1	2	3	1	2	2	4	1	5	1
454	MUTHUMARI	1	2	1	1	3	4	2	2	2	1	4	1
455	RANJITHA	2	1	1	2	3	1	1	2	3	2	5	1
456	MEENA	1	1	1	1	3	4	3	2	3	1	4	1
457	BABAY DAISY MARY	2	1	1	1	3	2	3	2	4	1	4	1
458	GEETHA	2	1	1	3	1	2	2	2	2	1	4	2

459	SHYMALA	2	2	2	1	2	4	1	2	3	1	4	1
460	KALAISELVI	2	2	1	3	1	2	1	2	3	1	5	2
461	SANGEETHA	2	1	1	1	3	1	3	2	4	1	4	1
462	MEENA	2	1	2	3	1	2	2	2	2	1	4	2
463	ARTHI	1	1	1	1	3	2	3	1	3	1	4	1
464	RANJITHA	1	2	1	2	3	1	1	2	3	1	5	1
465	SUGANYA	2	2(G3)	1	1	3	1	2	2	4	1	4	1
466	SHARMILA	3	2	1	2	3	2	3(3.5)	2	2	1	3	1
467	VASANTHI	3	2	1	2	3	2	2	2	3	2	5	1
468	VALLI	2	2(G4)	1	1	3	4	1	2	4	1	4	1
469	ANUSHIYA	2	1	1	3	1	2	2	2	3	1	5	2
470	SUNDARI	2	1	2	4	1	1	3	2	2	1	5	1
471	BHUVANESHWARI	1	1	2	1	3	4	2	1	3	1	4	1
472	ANITHA	1	2	2	3	1	2	3	2	3	1	4	2
473	ANJU	1	2	1	1	3	1	2	2	4	1	5	1
474	SIVAGAMASUNDARI	1	2(G4)	1	2	3	1	3	2	4	1	3	1
475	SIVARANJANI	1	1	1	1	3	2	1	2	3	1	5	1
476	GNANA PRADEEPA	1	1	1	2	3	1	1	2	3	2	5	1
477	DURGA	1	2	1	1	3	4	2	2	3	1	5	1
478	YOGESHWARI	2	1	1	2	3	1	3	2	2	1	3	2
479	PARVATHI	2	1	2	1	3	4	2	2	3	1	5	1
480	PRAMILA	2	2	2	1	3	4	3	2	4	1	5	1
481	PARAMESHWARI	2	1	1	1	3	4	2	2	4	1	4	1
482	SHARMILA	3	1	1	3	1	2	2	2	3	1	5	2
483	PODHUMPONNU	1	2(G3)	1	4	1	1	3	2	3	1	4	2
484	ANITHA	1	2	1	1	3	4	2	2	4	1	5	1
485	RUBINI	1	1	1	1	3	4	2	2	3	1	4	1
486	SUBHA	1	1	2	1	3	1	3	2	3	1	5	1
487	MALATHI	1	2	2	3	1	2	2	1	3	1	4	2

488	SUGANYA	1	1	1	1	3	5	2	2	4	1	5	1
489	RENUKA	1	2	1	2	3	1	1	2	3	2	5	1
490	KALEESHWARI	1	1	1	1	3	2	2	2	3	1	5	1
491	PRIYA	1	2	1	3	1	2	2	2	2	1	5	2
492	SRIPRIYA	2	2(G3)	1	1	3	4	2	2	3	1	5	1
493	LAVANYA	1	2	1	1	3	5	3(3.8)	1	4	1	5	1
494	TAMILAZHAGI	1	1	1	1	1	5	2	2	4	1	5	1
495	BHUVANESHWARI	1	2	2	4	1	1	1	2	3	1	4	1
496	ARUNADEVI	1	1	1	3	1	2	2	2	3	1	4	2
497	SUBHA	2	1	1	1	2	5	1	2	3	2	5	1
498	RAJI	1	1	1	2	3	1	1	2	2	1	3	2
499	DEEPALAKSHMI	2	2	1	1	3	5	2	2	1	1	5	1
500	NANDHINI	1	2	1	2	1	5	2	2	1	2	5	1