A STUDY TO ASSESS THE EFFECTIVENESS OF DRAINING THE UMBILICAL CORD ON THE OUTCOME OF PLACENTAL DELIVERY DURING THE THIRD STAGE OF LABOUR AMONG THE PARTURIENT MOTHERS IN A SELECTED HOSPITAL AT KANYAKUMARI.

M.Sc (NURSING) DEGREE EXAMINATION

BRANCH III – OBSTETRICS AND GYNAECOLOGICAL NURSING

R.V.S COLLEGE OF NURSING

SULUR, COIMBATORE

THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY

CHENNAI – 32.

MASTER OF SCIENCE IN NURSING

APRIL 2012

A study to Assess the Effectiveness of Draining the Umbilical cord on the Outcome of Placental delivery during the Third stage of labour among the Parturient Mothers in a selected hospital at Kanyakumari .

Examination	:	M.Sc (Nursing) Degree Examination
Examination month & year	:	_____
Branch & Course	:	III - Obstetrical and Gynaecological Nursing
Register No	:	30104622
Institution	:	RVS College of Nursing, Sulur, Coimbatore.

Sd: _____ Sd: _____

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Date: _____ Date: _____

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ABSTRACT

A study to assess the effectiveness of draining the umbilical cord on the outcome of placental delivery during the third stage of labour among the parturient mothers in a selected hospital, Kanyakumari.

The aim of the study was to assess whether draining the umbilical cord after separating the baby in the third stage of labour enhance early separation of placenta and reduce the duration of third stage, blood loss, and pain compared to clamped umbilical cord.

The conceptual frame work used in this study was based on modified Callista Roy's adaptation Theory (1996). A quasi experimental two group posttest only design was used. The sample size consisted of 60 parturient mothers in a selected hospital (30 samples in experimental group and 30 in control group), selected by convenient sampling technique. During the third stage of labour the umbilical cord was drained in the experimental group and in the control group the umbilical cord was clamped. By using the control cord traction the placenta was delivered in both the group.

The observational schedule was used to measure the duration of third stage, amount of blood loss, placental weight and maternal haemoglobin. The level of pain was assessed by Numerical pain scale. The data was analyzed using descriptive and inferential statistics.

Major findings of the study were - In experimental group the duration of third stage was reduced compared to the control group. In experimental group 22 samples (73.30%) had a duration of 6 – 8 mins and remaining 8 samples (26.70%) had 3 – 5 mins. In control group 20 samples (66.70%) had 12 – 14 mins and other 10 samples (33.30%) had 9 – 11 mins of duration of third stage of labour.

In experimental group the amount of blood loss during the third stage was reduced compared to the control group. In experimental group 22 samples (73.30%) had blood loss of 151 – 250 ml and remaining 8 samples (26.70%) had 50 – 150 ml. In control group 20 samples (66.70%) had 351 – 450 ml and other 10 samples (33.30%) had 251 – 350 ml of blood loss.

The experimental group showed a low mean duration of 5.77 mins after draining the umbilical cord blood in third stage. But the control group showed a high mean duration of 11.62 mins after clamping the umbilical cord in third stage.

The experimental group showed a low mean blood loss of 169.33 ml after draining the umbilical cord blood in the third stage. But the control group showed a high mean blood loss of 367.67 ml after clamping the umbilical cord in third stage. The statistical test shows that there is a significant difference in the mean amount of blood loss in experimental and control group.

There was a significant association between the amount of blood loss and parity. (Chi^2 =7.5487, df = 2 P<0.05).

This study concluded that draining the umbilical cord during the third stage had a significant effect in reducing the duration of third stage, amount of blood loss, placental weight and level of pain during the third stage of labour.

ACKNOWLEDGEMENT

I submit my gratitude to God Almighty for I feel that the hand of the Lord was on me, leading me along during my study and brought it to completion better than what I would have done alone.

I would like to appreciate and thank the respondents for their participation and co-operation to conduct this study successfully.

My affectionate thanks to **My Parents, My Sister and My Friend** for their valuable and constant encouragement and prayers, which helped me in accomplishing this task successfully.

It is my long felt desire to express my profound gratitude and exclusive thanks to **Prof. Dr. Annamma Prabhakar, M.Sc (N), Ph.D**, RVS College of Nursing, Sulur for her innovative, and expert guidance, suggestions, encouragement and support which helped me in accomplishing this task successfully.

I express my sincere gratitude and whole hearted thanks to **Prof. Mrs. Saramma Samuel, M.Sc (N),** Principal of RVS College of Nursing, Sulur for her excellent guidance and motivation.

I extend my deep felt sincere thanks to **Mrs. P. Jessy Rani, M.Sc (N),** Associate Professor, HOD, Obstetrics and Gynaecological Nursing, RVS College of Nursing, Coimbatore for her guidance, personal support and valuable suggestions.

I extend my gratitude to **Prof. Emerencia, M.Sc(N)**,Vice principal, **Mr. N. Meenakshi Sundaram, M.Sc(N), MBA,** Associate Professor, our Class Coordinator, RVS College of Nursing for their guidance and valuable suggestions.

I express my deepest gratitude to **The Dean, Kanyakumari Medical College Hospital,** for granting permission to conduct the study.

I thank **The Doctors and Staff nurses** in the labour ward for their help and support without which this study would not have been complete.

My sincere gratitude to **Dr. Latha Prasanna M.B.B.S., D.GO,** Consultant Obstetrician and Gynaecologist, R.V.S. Hospital, Coimbatore for validating the Tool, and for her constant guidance.

I express my sincere thanks to **Dr. Gowri, M.B.B.S., D.GO,** for her guidance and spending her valuable time for validating the tool.

I extend my gratitude to **Mrs. Annapoorani M.Sc(N),** Associate Professor, RVS College of Nursing for extending her support to conduct my study.

I express my sincere thanks to **Mrs. Suja Santhosh M.Sc (Biostatistics)** Lecturer, for extending necessary guidance and support for statistical analysis of the data.

I express my sincere thanks to **Mrs. Kalpana Jayaraman M.Sc(N),** Principal, Annai Meenakshi College of Nursing, **Mrs. S. P. Latha, M.Sc (N),** Principal, RVS College of Nursing and **Mrs. Jessy Rani, M.Sc (N),** Associate Professor, RVS college of Nursing for spending their valuable time for validating the tool.

I express my sincere thanks to **Mrs. Gracio Viviyan Arthur M.A., M.Phil., B.Ed (English)** for providing necessary guidance and suggestions in editing my content.

I am deeply grateful to **Mr. Kannan** Librarian, RVS College of nursing, Sulur and **Mrs. Anitha** for her help in availing reference materials and editing the content.

I express thanks to **SRS Infotech** for printing my study.

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INTRODUCTION

CHAPTER – I

INTRODUCTION

BACK GROUND OF THE STUDY

"Attending births is like growing roses. You have to marvel at the ones that just open up and bloom at the first kiss of the sun but you wouldn't dream of pulling open the petals of the tightly closed buds and forcing them to blossom to your time line".

~ Gloria Lemay

The normal labour is defined as low risk throughout, spontaneous in onset with the fetus presenting by vertex, culminating in the mother and infant in good condition following birth **WHO (1997).**

The normal labour consists of four stages:

- First stage
- Second stage
- Third stage
- Fourth stage

The third stage of labour is defined as the period immediately following a baby's birth until the placenta and membranes have been delivered **Harris (2004)**.

Dick-Read described this interplay during the third stage as follows:

"Once the baby is born... the sympathetic nervous system sweeps in with all its joy and pleasure, and so there is no desire for relaxation. The weariness of muscular effort is swept from the mother's memory by the sound and sight of her newborn child, and this stimulates the uterus into the action of the third stage.**"**

The third stage is ‘physiological’ if its progress occurs as a result of normal processes within the mother and baby, which are determined by impulses of the autonomic nervous system and the release of hormones.

The third stage of labour is the phase in which the placenta and membranes are detached and expelled from the uterus, and bleeding from the placental site is controlled.

Gill Gyte (2006) in his article stated that during labour, the muscle fibres of the uterus retract; that is, they become progressively shorter and thicker with each contraction. Once the baby is born, the uterus contracts down rapidly. This leads to compression of the placental tissue, and when the uterus has reduced to about half its normal size, the placenta detaches. Simultaneously, the criss-crossed oblique muscle fibres which surround the mother's blood vessels, sometimes referred to as **‘living ligatures’**, continue to contract preventing excess bleeding. These ‘living ligatures’ are present mainly in the upper uterine segment where it is normally attached. Blood loss is also limited by a temporary increase in activation of the mother's blood clotting system. Once the placenta is separated, it will either slide down the uterine wall into the vagina and is expelled, with the margin coming first **(Matthew Duncan method)**, or it will invert and deliver with the fetal side first **(Schultze method)**. Contraction and retraction continue after the placenta has been delivered, preventing excess bleeding and ensuring that over the next week or so, the uterus contracts back to its approximate pre-pregnancy size.

D.C.Dutta (2004) said that the third stage of labour is generally managed using two different approaches: active and physiological or expectant management. The active management involves administration of oxytocic drugs, clamping and cutting the cord as well as controlled cord traction. The physiological or expectant mainly involves maternal effort assisted by gravity or without using artificial oxytocine or early clamping or controlled cord traction.

In 1673 the first method used for the management of third stage was pulling the cord because they feared that the uterus might close before the placenta was spontaneously delivered.

Then in 1984 the upright postures was given to the women by the midwives because they thought that the placenta will fall out with the help of gravity and also they practiced the same for the spontaneous delivery of the placenta.

In 1968 it was evidenced that the practice of clamping the cord, contributes to both PPH and retained placenta by trapping extra blood (around 100ml) within the placenta. This increases placental bulk, which the uterus cannot contract efficiently against, and which is more difficult to expel. And this postpartum hemorrhage is the most common cause of maternal mortality in the world, the majority of these deaths occurring in the developing world. The diagnosis and treatment of PPH is not technically complex. Death results from excess blood loss when intervention is not available or accessible. Women who suffer a PPH, and do not die, are at increased risk for severe and prolonged iron deficiency anemia.

So to prevent these problems in 2005 **Soltani** stated that after the delivery of the baby the cord was clamped within the 30 seconds, then immediately unclamped and drained. This method of draining the umbilical cord may reduce the bulkiness of the placenta and therefore it was expelled faster and easier. So that the duration of the third stage of labour and the incidence of PPH was reduced and the decision to perform manual removal of placenta was also avoided. In this method no other oxytocic drugs was used.

Saknan Manotaya (2009) said that unclamping the cord at the maternal side and releasing of the placental blood has been suggested for facilitating delivery of the placenta. It is physiologically plausible that draining blood from the placenta would reduce its bulkiness, allowing the uterus to contract and retract effectively leading to delivery of the placenta and may reduce the duration of third stage labor.

In the management of the third stage of labor nowadays, it is a common practice to clamp both sides of the cord and cut it then wait until there are signs of placental separation, then deliver the placenta by controlled cord traction or Brandt Andrews maneuvers. Unclamping the cord at the maternal side and releasing of the placental blood has been suggested for facilitating delivery of the placenta. It is physiologically plausible that draining blood from the placenta would reduce its bulkiness, allowing the uterus to contract and retract effectively leading to delivery of the placenta and may reduce the duration of third stage labor. **Melal Mohammed Al –Jeborry (2009)**

NEED FOR THE STUDY

Midwives are recognized as the experts and lead caregivers in normal childbirth. The roots of midwives lie in the care of childbearing women by other women from their own community. Over the last half century the majority of births were home births by the untrained dais. At that time the post partum haemorrhage and maternal deaths were more common.

Then the training and registration was given to the midwives in order to prevent these PPH and maternal deaths. Nowadays the midwives are conducting delivery in the hospitals and in the community setup. They are using the method of clamping the umbilical cord for the placental delivery and the incidence of PPH, manual removal of placenta and maternal deaths was reduced comparing with last century.

But still the postpartum hemorrhage is the leading cause of maternal death worldwide, with an estimated mortality rate of 1,40,000 per year, or 1 maternal death every 4 minutes. One PPH occurs in 5% of all deliveries and is responsible for a major part of maternal mortality. The majority of these deaths occur within 4 hours of delivery, which indicates that they are a consequence of the third stage of labour. Nonfatal PPH results in further interventions, iron deficiency anemia, pituitary infarction (Sheehan’s

syndrome) with associated poor lactation, and exposure to blood products, coagulopathy, and organ damage with associated hypotension and shock.

All pregnant women are at risk for PPH. Although risk factors for PPH have been identified, two-thirds of PPH occur in women without risk factors. Mismanagement of third stage increases the risk of disordered uterine action. Active management of third stage decreases the incidence of PPH. Active management of third stage means using a package of interventions practiced routinely. The interventions include administration of an uterotonic drug immediately before or at the time of birth, early cord clamping and separation, and delivery of the placenta by controlled cord traction.

The reason for this PPH was when the cord is clamped before the placenta is delivered, the counter resistance from the un-shrunken placenta can be great enough to impede complete retraction. Separation and expulsion are thereby impaired by the bulky and blood-laden placenta. A retained placenta prevents uterine muscles from closing off the blood vessels, and increases the risk of maternal blood loss. Studies have shown that immediate cord clamping prolongs the average duration of the third stage and greatly increases maternal blood loss.

Draining the umbilical cord will decrease the blood volume from the placenta and causes it to shrink, so it will separate quickly and easily.

The researcher during her clinical posting in labour ward in various hospitals found more incidences of retained placenta, PPH and manual removal of placenta. Mostly they will not allow the placenta to separate by its own. This is the main reason for retained placental bits and PPH. Due to this problem the maternal mortality rate may increase. So the Midwives want to take steps to reduce this incidence. So the investigator wanted to do something for the benefit of this population.

In the above view the investigator felt the need to do the active management of third stage by placental cord drainage it includes clamping and cutting after delivery of

the baby followed by immediately unclamping of the maternal side, allowing the blood to drain freely. It has been suggested that placental cord drainage may boost delivery of the placenta by reducing its bulkiness and permitting the uterus to better contract and retract. Placental cord drainage in the management of third stage of labour can reduce the length of third stage of labour.

Nurses have full responsibility in conducting labour and their role differs from hospital to hospital. But in some places nurses are very much responsible for all the events that happens in the labour ward like conducting delivery and preventing PPH but draining the placental cord during the third stage have much advantage and can be followed by the staff nurses to prevent the incidence of PPH, manual removal of placenta and maternal mortality rate.

STATEMENT OF THE PROBLEM

A study to assess the effectiveness of draining the umbilical cord on the outcome of placental delivery during the third stage of labour among the parturient mothers in a selected hospital at Kanyakumari.

AIM OF THE STUDY

To assess whether draining the umbilical cord after separating the baby in the third stage of labour enhance early separation of placenta and reduce the duration of labour, blood loss and pain compared to clamped umbilical cord.

SPECIFIC OBJECTIVES

- To assess and compare the duration of the third stage of labour of the experimental and control group.
- To assess and compare the amount of blood loss during the third stage labour of the experimental and control group.
- To assess and compare the level of pain of the experimental and control group during the third stage of labor.
- To associate the selected demographic variables like age, gravida, parity and maternal haemoglobin with duration of third stage, amount of blood loss and pain in third stage

RESEARCH HYPOTHESIS

H1: There is a significant difference between the mean time of the placental separation during the third stage of labour between the experimental and control group

H2: There is a significant difference in the amount of blood loss when the cord is clamped and left without clamp.

H3: There is a significant difference between the mean pain score of the mothers when the umbilical cord is clamped and left unclamped.

H4: There is a significant difference between the mean placental weight of the mothers in the experimental and control group.

OPERATIONAL DEFINITIONS

a) Effectiveness:

Expected outcome (reduced duration of third stage of labour, amount of blood loss, placental weight and pain in the third stage of labour).

b) Draining the umbilical cord

Umbilical cord is left unclamped after separating the baby, but the standardized practice is clamping the umbilical cord after separating the baby.

c) Outcome of placental delivery:

The event that occurs during the placental delivery like duration of third stage, amount of blood loss, level of pain, placental weight and maternal physiological parameters (pulse, respiration, BP).

d) Third stage of labour:

From the delivery of the fetus to the expulsion of the placenta.

e) Parturient mothers:

Primi and multi gravida mothers between 37-41wks of gestation in the third stage of labour.

ASSUMPTION

- Clamping the umbilical cord and separating the baby is the common practice.
- Separating the baby from umbilical cord will vary according to the hospital policies.
- Perception of pain varies greatly among the mothers.

LIMITATIONS

- The amount of blood loss cannot be measured accurately.
- The mother will not accurately verbalize the perception of pain experienced by her.
- The sample size is small so generalization is not possible.
- Blood loss is common during the third stage of labour.

DELIMITATIONS

The study is delimited to

- Term pregnancies
- Primi and multi gravida mothers
- Normal vaginal delivery

SCOPE OF THE STUDY

This study will help to assess the duration, amount of blood loss and pain during the third stage of labour and also the maternal physiological parameters by clamping and draining the maternal side umbilical cord during the third stage of labour. If there is a reduction in the duration, amount of blood loss and pain during the third stage of labour it shows the effectiveness of draining the umbilical cord. Draining the umbilical cord will be beneficial in preventing manual removal of placenta and PPH. It can be easily implemented and taught to the midwives in labour ward. The regular practice of this method may reduce the maternal mortality and morbidity rate.

CONCEPTUAL FRAMEWORK

Conceptual model can be defined as a set of concepts and those assumptions that integrate them into a meaningful configuration **(Fewett 1980)**.

The development of a conceptual model is a fundamental process required before conducting actual research. The framework influences each state of research process. The conceptual framework in nursing research can help to provide a clear concise idea of knowledge in the area.

Theoretical model for this study was derived from **Callista Roy's Adaptation Theory (1996)**.

Roy employs a feedback cycle of input, throughput, and output. Input is identified as stimuli, which can come from the environment or from within a person. Stimuli are classified as focal (immediately confronting the person), contextual (all other stimuli, that are present) or residual (nonspecific such as cultural beliefs or attitude about illness). Input also includes a person's adaptation level (the range of stimuli to which a person can adapt easily. Through input we can make use of a person's processes and effectors. "Process" refers to the control mechanisms that a person uses as an adaptive system. "Effectors" refers to the physiological function, self-concept, role function and interdependence involved in adaptation.

In the adaptive system, the term "system" is defined as self-parts connected to function as a whole for some purpose and it so by virtue of the interdependence of its parts. This has two major internal control process called "regulator" and "cognator". Regulator sub system consists of internal process including chemical, neutral, and endocrine – transmit the stimuli, causing output – physiological response, cognator sub system regulates self-concepts, role function and inter dependence.

Output is the outcome of the system; when the system is a person, output is categorized as adaptive responses (Those that promote a person's integrity) or ineffective responses (those that do not promote goal achievement) these responses provide feedback for the system.

The modified theory in this study explains the input as the focal stimuli (internal stimuli) namely increased duration of third stage of labour, increased amount of blood loss in the third stage and increased pain perception during the placental separation. The contextual stimuli (external stimuli) are the age, gestational age, gavida, parity, weight of the baby and maternal haemoglobin. The coping mechanism of the cognator subsystem occurs as a result of draining the umbilical cord during the third stage of labour, in the experimental group the placental blood is drained from the umbilical cord for the earlier and easier separation of the placenta, thereby reducing the manual removal of placenta, PPH and retained placenta. The adaptive responses among the experimental group shows

the shorter duration of third stage of labour, reduced amount of blood loss and reduction in the level of pain during placental separation.

But in the control group the observed practice is clamping the umbilical cord which may cause trapping of blood inside the cord and increase its bulkiness. So it is difficult for the uterus to expel it and thus may lead to increased duration of third stage of labour, increased amount of blood loss and increased in the level of pain.

Figure – 1 highlights the conceptual framework based on Modified Roy's adaptation model.

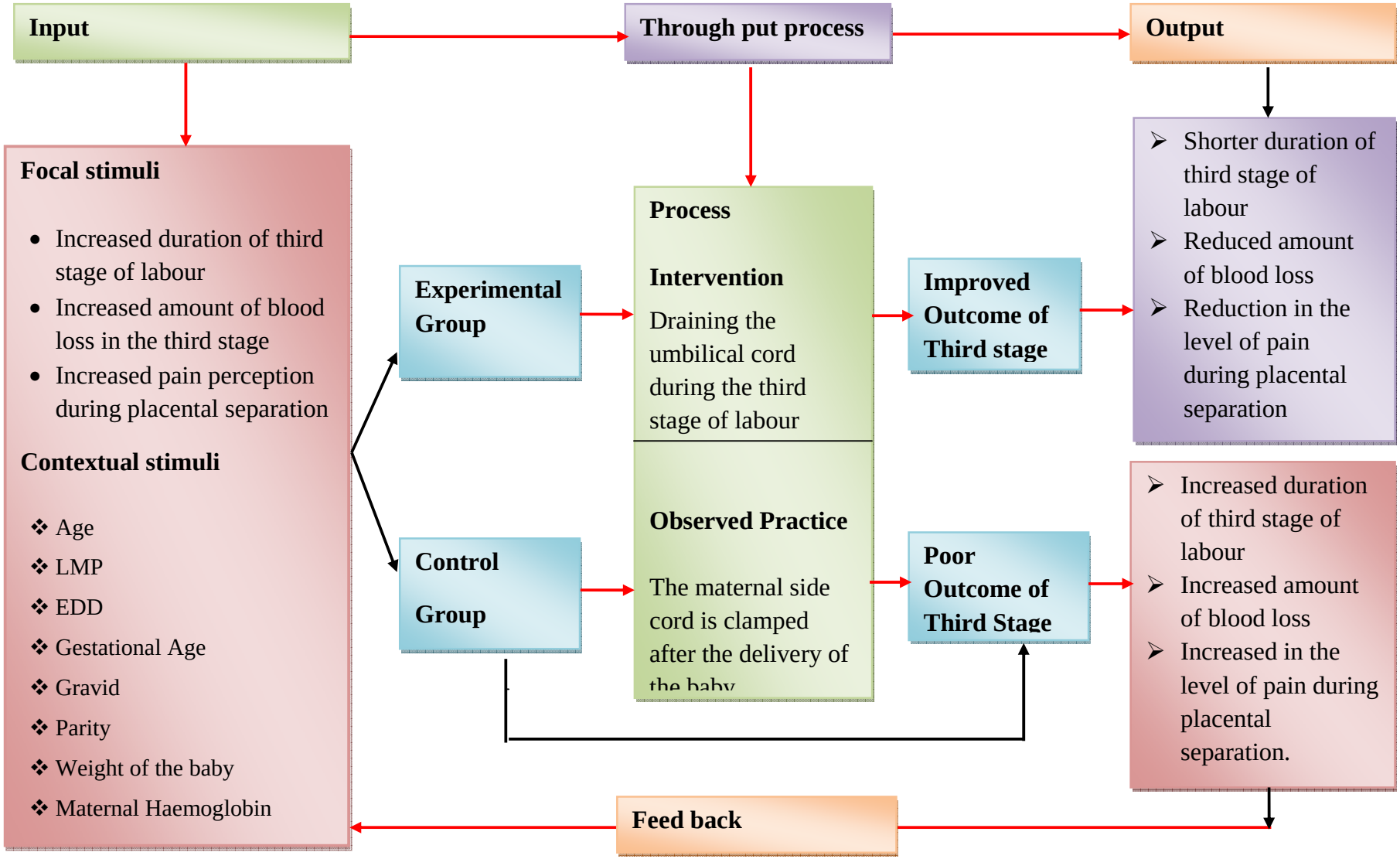

FIGURE – 1: CONCEPTUAL FRAMEWORK BASED ON MODIFIED ROY'S ADAPTATION MODEL (1996)

REVIEW OF LITERATURE

CHAPTER-II

REVIEW OF LITERATURE

The review of literature in a research report is a summary of current knowledge about a particular practice-problem **(Nancy & Burns 2002)**. A literature review is an organized writer's presentation of what has been published on a topic by the scholars. The task of reviewing literature involves the identification, selection, critical analysis and reporting of existing information on the topic of interest.

The literatures found relevant and useful for the present study have been organized under the following headings

1) Literature related to management of third stage of labour
2) Literature related to draining the umbilical cord in the third stage of labour

1) Literature related to management of third stage of labour

Dahiya P, Puri M, Rathee S(1995) conducted the study in a Medical College Hospital, Rohtak. In this study the effect of intraumbilical oxytocin on duration and amount of blood loss in the third stage of labour was assessed. The size of the sample was 100. The pregnant women were randomized into 2 groups of 50 each. Study group was managed actively with 10 units of oxytocin diluted in 20 ml saline given through umbilical vein immediately after cord clamping and control group was managed traditionally with oxytocin infusion 10 units in 250 ml of dextrose saline at rate of 125 ml/hr given after delivery of baby. In the study group there was a statistically significant decrease in duration of third stage of labour <1.48 min vs 3.27 min>, fall in haemoglobin <1.2 g/dl vs 1.96 g/dl> and fall in haematocrit <3.88% Vs 7.20%<. It was concluded that intraumbilical oxytocin appears to be a useful, safe and practical method for active management of third stage.

El-Refaey H(2000) conducted a comparative study between orally administered misoprostol and standard oxytocic regimens in the prevention of postpartum haemorrhage during the third stage of labour. The sample size of the study

was 1000 women in an obstetrical unit in a teaching hospital, London. The sampling technique used in this study was random sampling technique.

The result of the study showed that postpartum haemorrhage occurred in 12% of women who were given misoprostol and in 11% of women given standard oxytocic drugs. Blood loss of 1000 ml or more occurred in 2% of women in each group. Nausea, headache, dizziness and tiredness were less frequent with misoprostol. The main side effects of misoprostol were shivering and a rise in temperature.

Elbourne DR(2001) conducted a study to examine the effect of oxytocin given prophylactically in the third stage of labour on maternal and neonatal outcomes. The sample size included 3000 pregnant women anticipating a vaginal delivery who were selected randomly and oxytocin was given prophylactically for the third stage of labour.

Result had shown that prophylactic oxytocin showed benefits like reduced blood loss, need for therapeutic oxytocin and there was no significant incidence of manual removal of placenta which was most marked in the expectant management and blood transfusions in the trials with more manual removals of the placenta.

Stanton C(2009) conducted a analysis to document the use of active management of the third stage of labour for preventing postpartum haemorrhage and to explore the factors associated with such use in seven developing countries. Nationally representative samples of facility-based deliveries were selected and observed to determine the use of active management of the third stage of labour and associated factors. Policies on active management were assessed through document review and interviews with relevant professionals.

The results revealed that the use of a uterotonic during the third or fourth stages of labour was nearly universal. Correct use of active management of the third stage of labour was found in only 0.5% to 32% of observed deliveries due to multiple deficiencies in practice. In every country except Indonesia, policies regarding active management were conflicting.

Begley CM(2010) conducted a comparative study to assess the effectiveness of active versus expectant management of the third stage of labour. Randomized and quasi-randomized controlled trials were used to compare the active versus expectant management of the third stage of labour. The size of the sample was 6486 women in high income country's hospitals.

The result showed that Active management reduced the average risk of maternal primary postpartum haemorrhage (more than 1000 ml) and of maternal haemoglobin less than 9 g/dl following birth for women irrespective of their risk of bleeding. And also it was identified that there had been no difference in APGAR scores less than seven at five minutes. Active management showed significant increases in maternal diastolic blood pressure, after-pains, use of analgesia and more women returning to hospital with bleeding. There was also a decrease in the baby's birth weight with active management, reflecting the lower blood volume from interference with placental transfusion.

Fahy K (2010) conducted a Retrospective cohort study to compare the Active management of the third stage of labour with 'holistic physiological third stage care in a maternity unit at a tertiary referral hospital and a freestanding, midwifery-led birthing unit. The study was conducted from July 2005 – August 2008. All low risk women who gave birth at either unit were taken as a sample.

This study suggests that 'holistic physiological care' in the third stage of labour is safe for women to prevent postpartum haemorrhage. Active management was associated with a seven to eight fold increase in postpartum haemorrhage rates for this group of women.

Soltani H(2010) conducted a experimental study to assess the effect of the timing of administration of prophylactic uterotonics on the outcomes related to the third stage of labour. Oxytocin was the only uterotonic drug that was used. The dose and route of administration of oxytocin varied among the included studies. Randomised controlled trials were made to examine the timing of prophylactic uterotonic drugs in the third stage of labour. The sample size of the study was 1671.

The result of the study showed that administration of oxytocin before and after the expulsion of placenta did not have any significant influence on many clinically important outcomes such as the incidence of postpartum haemorrhage, rate of placental retention and the length of the third stage of labour.

2) Literature related to draining the umbilical cord in the third stage of labour

Thomas IL, Jeffers TM, Brazier JM, Burt CL, Barr K(1990) conducted a comparative study if cord drainage of placental blood facilitated delivery of the placenta. The study was conducted in Royal Women's Hospital, Brisbane, Queensland. The size of the sample was 1,908 women delivering vaginally, and actively managed in the third stage of labour. The samples were randomly assigned to two groups. Prophylactic oxytocics were given during the birth of the anterior shoulder. In both groups, early cord clamping was practiced. In the control group the cord remained clamped; in the drainage group the cord was unclamped and the volume of placental blood measured. Controlled cord traction completed active management at evidence of separation/descent of the placenta. Rates for retained placenta, postpartum haemorrhage and transfusion were similar. Pre- and post-delivery Kleihauer tests were performed on blood from 20 women in each group. All tests were negative. Contrary to previous work, this does not suggest that cord drainage reduces the fetomaternal transfusion rate. But it showed that there is a association between cord drainage and prolonged duration of stage 3 of labour and the risk of haemorrhage.

Giacalone, P. L., Vignal, J (2000) conducted a prospective randomized study to determine whether early placental drainage plus cord traction reduces the incidences of manual removal and blood loss, and to determine the risk factors associated with blood loss after delivery. The study was conducted in a University teaching hospital, Montpellier, France from December 1997 to April 1998. The sample size was 477 women having vaginal delivery, and the samples were randomly assigned into 239 women who had placental cord drainage plus cord traction with 238 women with expectant delivery. Women eligible for inclusion were those who presented in spontaneous labour after 37 completed weeks of amenorrhea. Obstetric

estimates of gestational age were collected from the women's obstetricians and were based on menstrual dates and ultrasonographic examination. Exclusion criteria were: previous history of postpartum haemorrhage, antepartum haemorrhage, multiple pregnancies, previous caesarean section, temperature higher than 38°C during labour (at two consecutive readings), uterine malformation, delivery under general anaesthesia, pregnancy-induced hypertension; intrauterine death and abnormality of haemostasis or anticoagulant treatment. Labour was conducted according to the hospital protocol. In the control group, the cord was left clamped and signs of placental separation and descent were assessed every five minutes by gentle pressure on the suprapubic area. When separation of the placenta was diagnosed, spontaneous expulsion was carried out by gentle fundal pressure and controlled cord traction. No prophylactic oxytocic drug was given and no cord traction or fundal pressure was performed before the placenta was separated. In the cord drainage patients, the clamp was removed immediately from the maternal end to allow blood drainage, and the placenta was delivered with controlled multidirectional cord traction while maintaining upward displacement of the uterus with the abdominal hand.

The result of the study showed that Cord drainage decreases the duration of the third stage of labour in study group than in control group (8 minutes Vs 15 minutes), reduces the birth-to-perineal suture time and reduce the drop in haemoglobin (11.2 g/dL *vs* 10.9 g/dL) . But no significant difference was found in the two groups with regard to the incidence of manual removal of retained complete or incomplete placenta.

F Dickinson, I Symonds(2005) conducted a comparative study to evaluate the effects of placental cord drainage on the third stage of labour, with or without prophylactic administration of oxytocics. Women who had a spontaneous vaginal delivery and women at low risk of post-partum haemorrhage with term pregnancies were included in this study. The samples are randomly selected. The result of the study showed that no oxytocic drugs were used for the management of third stage labour and the cord was clamped within the 30 seconds of the birth, then immediately unclamped and drained in the intervention arm.

The result showed that Cord drainage reduced the length of the third stage of labour. The mean difference (MD) was -2.85 minutes and reduced the average amount

of blood loss (MD -77.00 ml. No incidence of retained placenta at 30 minutes after birth was observed in the study therefore. The differences between the cord drainage among control group were not statistically significant for postpartum haemorrhage or manual removal of the placenta. It was not reported about the fetomaternal transfusion outcomes and there were no data relating to maternal pain or discomfort during the third stage of labour. The study was concluded that there was a small reduction in the length of the third stage of labour and also in the amount of blood loss when cord drainage was applied compared with no cord drainage. The clinical importance of such observed statistically significant reduction, is open to debate. There is no clear difference in the need for manual removal of placenta, blood transfusion or the risk of postpartum haemorrhage.

Piphat Jongkolsiri MD, Saknan Manotaya MD(2009) conducted a comparative study to assess the effect of placental cord drainage on the duration of third stage labor, and to prevent postpartum hemorrhage, retained placenta, incidence of manual removal of placenta, and the need for blood transfusion. The study was conducted in King Chulalongkorn Memorial Hospital, Bangkok, Thailand. The sample size includes 100 women in the third stage of labour after vaginal delivery was selected randomly. 50 cases in the control group and 49 cases in the study group were selected. In the study group the placental cord drainage was performed. In both groups, the placenta was delivered by Brandt Andrew method.

The result showed that the third stage of labor was significantly shorter after placental cord drainage ie) 5.1 + 2.4 minutes vs. 7.0 + 6.1 minutes. There was no postpartum hemorrhage, uterine atony, hypovolemic shock, or the need for blood transfusion in neither groups.

It was concluded as placental cord drainage shortens the duration of third stage labour. This method appears to be safe and does not increase postpartum complication.

Melal Mohammed Al –Jeborry, Asmaa Kadhim Gatea , Suha Jassim Witwit (2010) conducted a prospective study to assess the effect of placental cord drainage on the duration of third stage of labour and to clarify the safety of this method regarding to postpartum hemorrhage, retained placenta, incidence of manual

removal of placenta and the need for blood transfusion. The study was conducted in Babylon teaching hospital for maternity and pediatrics throughout the period between Jan –July 2010. The sample size of the study was 200 women having vaginal delivery, were divided into study group (100 women) and control group (100 women). After a detailed history taken general physical and obstetric examination were performed.

Informed consent was taken from those who fulfilled the inclusion criteria. Once the women delivered vaginally they divided into two groups (study and control). In the study group the umbilical cord was left open to drain blood until its flow ceased. This will prevent the drained blood from getting mixed with blood lost in the third stage. In the control group the placental end of the cut umbilical cord will be kept clamped.

Blood loss in the third stage of labour was measured using a plastic sheath which was used during delivery and the blood lost was collected. Placenta will be delivered by controlled cord traction once signs of placental separation were seen; intramuscular ergometrine will be given after delivery of placenta in both groups after exclusion of contraindications of its use. The duration of 3rd stage was calculated using a stopwatch. The pulse rate, blood pressure and state of uterus were noted immediately the women were kept under observation for next one hour for any complications; blood transfusion will be given whenever indicated. The primary outcome measures were the duration of 3rd stage of labour and the amount of blood loss. Secondary outcome measures were the incidence of retained placenta, manual removal of placenta, postpartum hemorrhage and need for blood transfusion. t-test was used for statistical analysis.

The result of the study shows that the mean duration of third stage was (5.35+2.3 minutes) in the study group and (8.9+4.9 minutes) in control group. The average blood loss was (184.3+118 ml) in the study group and (249.7+147 ml) in control group. Retained placenta was reported in only two cases of control group which needed manual removal of placenta. One case of postpartum hemorrhage due to inertia required blood transfusion was reported in the control group.

Soltani H, Poulose TA, Hutchon DR(2010) conducted an analysis to assess the specific effects of placental cord drainage on the third stage of labour following

vaginal birth, with or without prophylactic use of uterotonics in the management of the third stage of labour. The samples were randomly selected.

The result of the study showed that the cord drainage reduced the length of the third stage of labour (mean difference (MD) -2.85 minutes), and reduced the average amount of blood loss (MD -77.00 ml). No incidence of retained placenta at 30 minutes after birth was observed in the cord drainage group.

Conclusion

The review of literature enlightened the investigator to develop an insight into the complications, active and expectant management of third stage of labour and the benefits of draining the umbilical cord in third stage for the outcome of placental delivery. This review helped the investigator to gain a deeper knowledge of the research problem and guided in designing the study.

METHODOLOGY

CHAPTER – III

RESEARCH METHODOLOGY

Methodology of research organizes all the components of the study in a way that is most likely to lead to valid answers to the sub problems that have been posed **(Burns and Grove, 2002).** It refers to various logical steps that are generally adopted by the investigator in studying the research problem.

This chapter explains the methodology adopted by the researcher to assess the duration and amount of blood loss during the third stage of labour and deals with the description of research design, research setting, sample and sampling technique, development and description of the tool, pilot study, data collection and statistical analysis.

RESEARCH APPROACH

The research approach is an overall plan chosen to carry out the study. The selection of research approach is the basic procedure for the conduct of research inquiry. An evaluative approach was used in this study as the study aimed at assessing the effectiveness of draining the umbilical cord on the outcome of placental delivery.

RESEARCH DESIGN

A quasi experimental two group posttest only design was used to assess the effectiveness of draining the umbilical cord on the duration and amount of blood loss during the third stage of labour among the parturient mothers.

Experimental: X ⟶ O1
Control : ⟶ O2

X – draining the umbilical cord

O1 – observation after draining the cord

O2 – observation after clamping the cord (Observed method)

Draining the umbilical cord: In the third stage of labour, after the delivery of the baby instead of two clamps, one clamp was applied in the baby side and the baby was separated. The maternal side cord was allowed to drain for about 80 – 100 ml. This draining may reduce the bulkiness of the placenta and the control cord traction was given for the placental separation.

Observed method: During the third stage of labour the umbilical cord was clamped on the maternal side after separating the baby and the controlled cord traction was given for the separation of placenta.

VARIABLES IN THE STUDY

a) Independent variable – draining the umbilical cord
b) Dependant variables – outcome of placental delivery(duration, amount of blood loss and placental weight during the third stage)

SETTING OF THE STUDY

"Setting" refers to the area where the study is conducted. The setting for the study was a selected hospital in Kanyakumari. It was a 600 bedded medical college hospital. It had separate obstetrics and gynecology department. The average delivery per month ranges approximately from 300 to 400. There were separate wards for antenatal, labour, postnatal, ICU, post-operative and high risk mothers. A well equipped operation theatre was also available. The labour room was set up with all the necessary instruments like cardio tocography, warmer, electro cardiography, sterilizer suction apparatus and infantometer. 6 labour tables are also present, each table has separate cardio tocography machine among that one table was allotted for high risk and cardiac problem patients with all the monitoring facilities.

The delivery was usually conducted by the maternity assistants and if it seems to be high risk those cases will be taken care by duty doctors. They were using the standardized practice while conducting the labour and also while managing the third

stage of labour. The standardized practice was clamping the umbilical cord immediately after the delivery of the baby and giving control cord traction and the placenta was removed.

POPULATION

The mothers who were admitted in the labour ward with labour pain during the time of study period and the mothers who fulfilled the criteria were selected as the samples.

SAMPLE SIZE

Sample refers to a subset of population that is selected to participate in a particular study **(Burns and Grove 2002).**

In this study the sample size consisted of 60 parturient mothers who were admitted in the hospital with labour pain, 30 samples in experimental and 30 samples in control group.

SAMPLING TECHNIQUE

Purposive sampling technique was used to select the samples. The samples were selected based on the criteria during the second stage of labour in the labour unit itself. The samples were randomly assigned as 30 samples for the control group and 30 samples for the experimental group respectively.

SAMPLING CRITERIA

The following were the criteria for selection of samples for the study.

Inclusion criteria:

- Singleton pregnancy
- Term pregnancy (gestational age 37-41wk)

- No obstetrics complications
- No medical complications
- No fetal compromise or anomaly
- Normal vaginal delivery

Exclusion criteria:

- Preterm delivery
- Post term delivery
- Premature rupture of membrane
- Antepartum haemorrhage
- History of postpartum haemorrhage
- Previous cesarean section
- Fetal death
- High risk mothers

RESEARCH TOOL

The tools used for the data collection was an interview schedule, observational schedule and a pain intensity scale.

Tool 1: Demographic data consisted of personal information like age, gestational age, gravida, parity, weight of the baby and haemoglobin level of the mother who was admitted in the hospital with labour pain (Refer appendix).

Tool 2: Observational schedule

It was prepared by the researcher with expert's guidance by using the normal reference of values from various literatures and books.

This observational schedule was developed to record the duration of third stage, amount of blood loss in third stage, placental weight, maternal condition and maternal haemoglobin. It was designed in such a way to give an overall view of the outcome of placental delivery (Refer appendix).

Duration of third stage of labour: A stop clock was used to calculate the duration of third stage of labour, it was the period immediately following a baby's birth until the placenta and membranes was delivered.

Amount of blood loss in third stage: The amount of blood loss was measured approximately with the help of measuring cup.

Placental weight: The weighing machine used to measure the placental weight was infantometer.

Maternal conditions: Pulse, Respiration and Blood pressure was checked to know whether draining the umbilical cord had any influence over the maternal haemodynamic status. The Spignomano meter was used to measure the systolic and diastolic blood pressure.

Maternal haemoglobin: Haemoglobin was measured using the haemometer on the third postnatal day to rule out any variations in the maternal haemoglobin due to the blood loss during the third stage of labour.

Tool 3: Pain intensity scale. A 10 point horizontal numerical pain intensity scale was used to assess the degree of pain during the placental separation. It has been widely used in many of the studies. It is recommended by Agency for Health Care Policy and Research (AHCPR – 1992). It consists of a straight line (1 – 10) representing the intensity of pain and has verbal descriptions at each end. A person designates a point on the scale corresponding to their pain at the end of their assessment (appendix).

SCORING AND INTERPRETATION OF SCORING

Scoring – Level of pain

0	No pain
1 – 3	Mild pain
4 – 6	Moderate pain
7 – 10	Severe pain

DEVELOPMENT OF THE TOOL

The construction of the tool took three months of strenuous effort for the following activities. An extensive review of literature was done on needs of the woman in third stage of labour and care during the third stage. First-hand information was collected from an observation done on the clinical postings. Then the experiences from the staff nurses were included and the tool was drafted. In consultation with the guides, the tool was refined and modified until it was finalized and prepared for validation.

CONTENT VALIDITY

Content validity refers to the degree to which an instrument measures what it is intended to measure (**Polit and Hungler-1999**)

The research tool including the objective of the study along with the criteria check list were submitted to five experts – three Nursing experts and two Obstetricians. All the three nursing experts were Professors and working in different colleges of nursing in Coimbatore with more than 5 years of experience.

The obstetricians were working in a private hospital in Coimbatore for more than 10 years. There was an agreement with regard to the content in the tool and based on their suggestions minor corrections were made and the tool was simplified.

RELIABILITY OF THE RESEARCH TOOL

The reliability of the tool was established by inter rater method ie) the investigator did the observations and it was counter checked by another trained person. Correlation co-efficient was calculated by Karl Pearson's correlation method.

The tool was tested for reliability with the data obtained. The score obtained for the duration of the third stage was r = 0.995, amount of blood loss was r = 1, placental weight was r = 1, maternal haemoglobin r = 0.881, for pulse r = 0.949, for respiration r = 0.810, for systolic BP r = 0.918, diastolic BP r = 0.816, level of pain was r = 0.86.

PILOT STUDY

A pilot study was conducted in the same hospital in Kanyakumari, where main study was intended to be carried out, to test the practicability and feasibility of the study. Initially a written permission was obtained from the concerned authorities of the hospital. And also the study was approved by the ethical committee. The researcher got introduced to the departmental HOD, duty doctor and the staff members of the labour ward.

Every day the researcher visited the labour ward, based on the criteria the parturient mothers were selected during the second stage of labour. The sampling technique used was purposive sampling. A brief introduction about self and the study were given to woman in labour process and also obtained the oral consent before starting the research. Strict confidentiality was ensured throughout the study period.

The investigator stayed along with the mother throughout the three stages of labour and the observation was made during the third stage of labour. The observations made were duration, amount of blood loss and placental weight and the pain perception was assessed by using the numerical pain scale.

10 samples were selected. Among these 5 samples were selected for control group and the standardized method was followed. Rest of the 5 samples for experimental group, here the umbilical cord was drained. Then in both the groups the duration, amount of blood loss and placental weight during the third stage was observed through observational schedule and the level of pain through the pain intensity scale.

The period of pilot study was up to 5 days (i.e. from 22/04/2011 to 26/04 2011). Pilot study confirmed the adequacy of the tools and techniques. Hence no modifications were required and same tools were used for the main study. This method was more convenient for the maternity assistants to follow.

DATA COLLECTION METHOD

A formal written permission was obtained from the Ethical committee and the Dean of Kanyakumari Medical College Hospital, Kanyakumari District. The investigator also familiarized with the Departmental HOD and staff in charge of the labour ward and explained the purpose of the study. Every day the investigator visited the labour ward to confirm the availability of the cases.

Once the women progressed to the second stage of labour, she was selected based on the criteria and the investigator developed rapport with the mother, met all the basic needs and provided comfortable bed and the demographic data were collected from the mother. Case record was checked and per vaginal examination was done. The investigator gave explanation to the mother regarding draining the umbilical cord during the third stage after separating the baby and got verbal consent from her. According to the purposive sampling technique thirty mothers were assigned to control group and thirty to experimental group.

In control group after the delivery of the baby the cord was clamped by two clamps where one was applied near to the umbilicus of the baby and other in the maternal end. After dividing and separating the baby in the third stage of labour the standardized practice was used to deliver the placenta. The controlled cord traction was given by holding the clamp until the placenta comes out.

For the experimental group after the delivery of the baby instead of two clamps, one clamp was applied in the baby side and the baby was separated. The maternal side cord was allowed to drain for about 80 – 100 ml. Here along with the standardized practice the controlled cord traction was given by holding the unclamped cord until the placenta comes out. The duration, amount of blood loss and placental weight during the third stage was observed through observational schedule and the level of pain through the pain intensity scale. All the observations were done for both the groups. The investigator got an average of two or three samples per day.

Using the same procedure data was collected from 60 samples. The main study was done from 24 – 8 – 2011 to 6 – 10 – 2011.

PLAN FOR DATA ANALYSIS

The data obtained would be analyzed in terms of the objectives of the study using descriptive and inferential statistics.

Descriptive statistics:

Frequency and percentage distribution were used to analyze demographic variables, to assess the duration of third stage, amount of blood loss, placental weight and level of pain during the third stage of labour in experimental and control group.
Mean and standard deviation were used to determine the duration of third stage, amount of blood loss, placental weight and level of pain.

Inferential statistics:

't' test was used to determine the significance of the difference in the duration of third stage, amount of blood loss, placental weight and level pain.
'Chi square' test was used to associate the selected demographic variables with duration of third stage of labour, amount of blood loss and level of pain.

ETHICAL CONSIDERATION

The researcher considered all necessary precautions to prevent ethical issues. Nature, purpose and type of the study and intervention were explained. The written consent from the higher authorities and the ethical committee of the hospital was obtained and the permission was granted by them. A brief introduction of the study was given to the participants. Willingness of the women in labour to participate in the study was considered as important. When complications like prolonged labour, PPH and manual removal of placenta arouse then the participants were allowed to withdraw from the study without cohesion. But throughout my study period no complications were developed in any of the samples. Adequate explanation was given whenever they asked questions, and records were maintained for each sample confidentially.

ANALYSIS AND INTERPRETATION

CHAPTER – IV

DATA ANALYSIS AND INTERPRETATION

Data analysis is conducted to reduce, organize and give meaning to the data. Analysis technique in quantitative research includes descriptive and inferential analysis.

This chapter deals with the analysis and interpretation of data collected from 60 parturient mothers from a selected hospital at Kanyakumari.

The data have been presented under the following sections

Section – I Demographic characteristics of the sample

Demographic characteristics of the sample have been presented in relation to personal characteristics which includes age, gestational age, gravida, parity, weight of the baby and hemoglobin level of the mother.

Section - II The outcome of placental delivery

This analysis has been done comparatively in frequency and percentage for the experimental and control group on the outcome of placental delivery which included duration of III stage, amount of blood loss, placental weight and maternal haemoglobin. Also the analysis has been done in mean score and significant difference between the experimental and control group.

Section – III Pain during the third stage of labour in Experimental And Control Group

The degree of pain has been analyzed comparatively for experimental and control group in frequency and percentage also in mean score and significant difference between the experimental and control group.

Section – IV Association of selected demographic variables with the outcome of placental delivery before the intervention

This section presents the association of demographic variables with the outcome of placental delivery on the duration of third stage of labour and amount of blood loss in experimental and control group.

SECTION – I DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE

TABLE -I

FREQUENCY AND PERCENTAGE OF EXPERIMENTAL AND CONTROL GROUP ACCORDING TO DEMOGRAPHIC VARIABLES

N = 60

Sl.no	Characteristics	Experimental Group N = 30		Control Group N – 30	
		F	%	F	%
1	**Age**				
	a. 18 – 22yrs	8	26.70	15	50.00
	b. 23 – 26yrs	8	26.70	5	16.70
	c. 27 – 30 yrs	12	40.00	6	20.00
	d. 31 yrs and above	2	06.60	4	13.30
2	**Gestational age**				
	a. 37 – 38weeks	18	60.00	17	56.70
	b. 39 – 40weeks	12	40.00	13	43.30
3	**Gravida**				
	a. Gravid 1	14	46.70	17	56.70
	b. Gravid 2	8	26.70	9	30.00
	c. Gravid 3	4	13.30	2	06.70
	d. Gravid 4 and above	4	13.30	2	06.70
4	**Parity**				
	a. Parity 0	14	46.70	19	63.30
	b. Parity 1	8	26.70	7	23.30
	c. Parity 2	4	13.30	2	06.70
	d. Parity 3 and above	4	13.30	2	06.70
5	**Weight of the baby**				
	a. 2500 – 3000grams	16	53.30	13	43.30
	b. 3001 – 3500grams	14	46.70	14	46.70
	c. 3501 – 4000grams	0	00.00	3	10.00
6	**Haemoglobin**				
	a. 10 – 12grams	24	80.00	23	76.70
	b. 13 – 14grams	8	20.00	7	23.30

Table 1 presents the demographic characteristics of the sample

Age

The age of the sample ranged from 18 to 31 years and above. 8 samples (26.7%) in the experimental group and 15 samples (50%) in the control group were in the age group of 18 to 22 years. 8 samples in experimental and 5 samples in the control group were in the age group of 23 to 26 years. 40% in the experimental group and 20% in the control group were in the age group of 27 to 30 years. 2 samples in the experimental group and 4 samples in the control group were in the age group of 31 years and above.

Gestational age

18 samples (60%) in the experimental group and 17 samples (56.7%) in the control group had a gestational age of 37 to 38 weeks. 12 samples in the experimental group and 13 samples in the control group had a gestational age of 39 to 40 weeks.

Gravida

Nearly 14 samples (46.7%) in the experimental group and 17 samples (56.7%) in the control group had first pregnancy. 8 samples (26.7%) in the experimental group and 9 samples (30%) in the control group had second pregnancy. In the gravida 3, 4 and above there were 13.3% in the experimental group and 6.7% in the control group respectively.

Parity

14 samples (46.7%) in the experimental group and 19 samples (63.3%) in the control group were in the zero parity. 8 samples (26.7%) in the experimental group and 7 samples (23.3%) in the control group were in first parity. In the second, third parity and above there were 4 samples in the experimental group and 2 samples in the control group respectively.

Weight of the baby

16 samples (53.3%) in the experimental group and 13 samples (43.3%) in the control group had their babies weighing 2500 to 3000 grams. 14 samples in both experimental and control group had their babies with a weight between 3001 to 3500 grams. Only 3 samples in the control group had the babies weighing from 3501 to 4000 grams.

Haemoglobin

Majority of the 24 samples (80%) in the experimental group and 23 samples (76.7%) in the control group were having haemoglobin in the range of 10 to 12 grams and 8 samples (20%) in the experimental group and 7 samples (23.3%)in the control group were having haemoglobin in the range of 13 to 14 grams.

SECTION - II THE OUTCOME OF PLACENTAL DELIVERY

TABLE – II

FREQUENCY AND PERCENTAGE OF EXPERIMENTAL AND CONTROL GROUP ACCORDING TO DURATION OF THIRD STAGE OF LABOUR

N = 60

Sl.no	Duration of third stage of labour	Experimental group N - 30		Control Group N – 30	
		F	%	F	%
1	3 – 5minutes	8	26.70	-	-
2	6 – 8 minutes	22	73.30	-	-
3	9 – 11 minutes	-	-	10	33.30
4	12 - 14 minutes	-	-	20	66.70

Table II presents the frequency and percentage of duration of third stage of labour in experimental and control group

In the experimental group, for majority of the samples 22 (73.30%) the duration of third stage of labour was 6 to 8 minutes and for 8 samples (26.70%) the duration was 3 to 5 minutes.

In the control group for 10 samples (33%) the duration of third stage of labour was 9 to 11 minutes and 20 samples (66.70%) had a duration of 12 to 14 minutes.

This table concludes that there was a difference in the duration of third stage of labour between the experimental and control group which may be due to the effect of draining the umbilical cord during the third stage of labour in the experimental group.

Figure 2 shows the duration of third stage of labour in experimental and control group

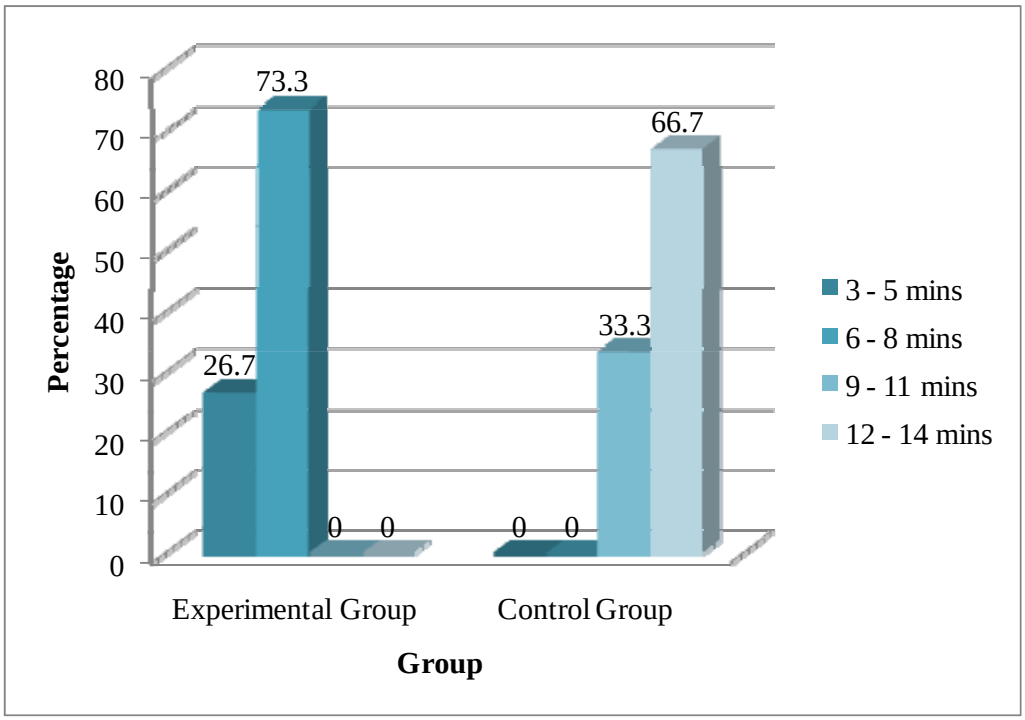

Figure 2: Percentage of samples in experimental and control group according to Duration of third stage of labour

TABLE – III

FREQUENCY AND PERCENTAGE OF EXPERIMENTAL AND CONTROL GROUP ACCORDING TO THE AMOUNT OF BLOOD LOSS

N= 60

Sl.no	Amount of blood loss	Experimental group N – 30		Control Group N – 30	
		F	%	F	%
1	50 – 150 ml	8	26.70	-	-
2	151 – 250 ml	22	73.30	-	-
3	251 – 350 ml	-	-	10	33.30
4	351 - 450 ml	-	-	20	66.70

Table III presents the frequency and percentage of amount of blood loss in experimental and control group

In the experimental group, majority of the samples 22 (73.30%) had 151 to 250 ml of blood loss whereas 8 samples (26.70%) had 50 to 150 ml of blood loss.

In the control group, 10 samples (33%) had 251 to 350 ml of blood loss and 20 samples (66.70%) had 351 to 450 ml of blood loss.

This table concludes that there was a difference in the amount of blood loss between the experimental and control group which may be due to the effect of draining the umbilical cord during the third stage of labour in the experimental group.

Figure 3 shows the amount of blood loss in experimental and control group

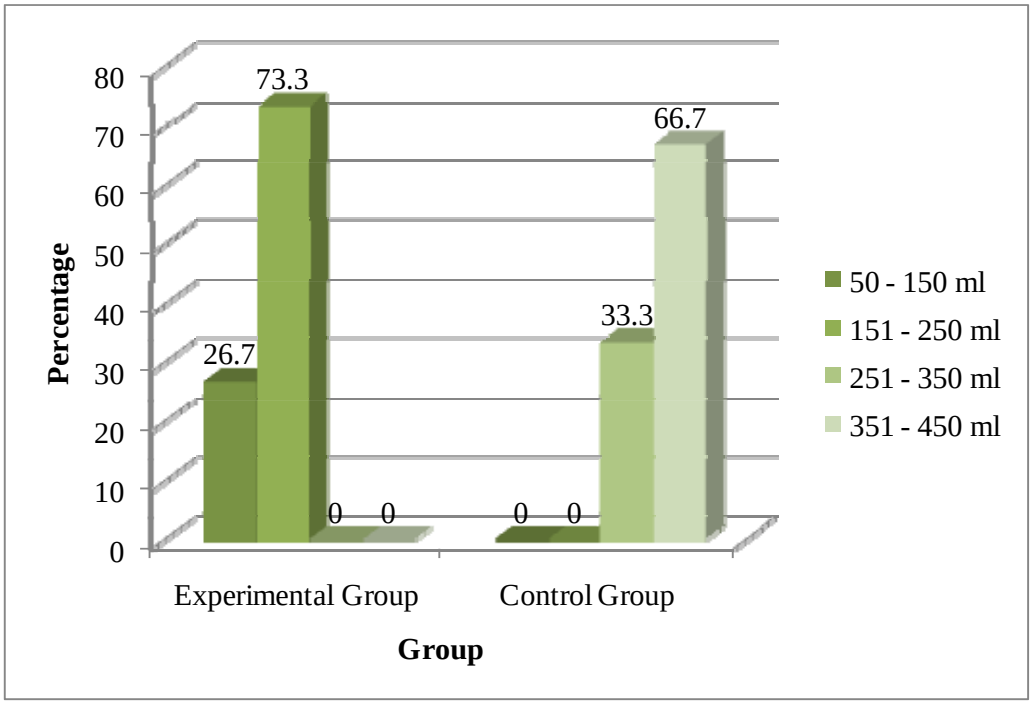

Figure 3: Percentage of samples in experimental and control group according to Amount of blood loss

TABLE – IV

FREQUENCY AND PERCENTAGE OF EXPERIMENTAL AND CONTROL GROUP ACCORDING TO PLACENTAL WEIGHT

N= 60

Sl.no	Placental weight	Experimental group N - 30		Control Group N – 30	
		F	%	F	%
1	200 – 300 grams	30	100.00	-	-
2	301 – 400 grams	-	-	8	26.70
3	401 – 500 grams	-	-	22	73.30

Table IV presents the frequency and percentage of samples in experimental and control group according to placental weight

In the experimental group, all samples had 200 to 300 grams of placental weight whereas, in the control group majority of the samples 22 (73.30%) had the placental weight 401 to 500 grams and 8 samples (26.70%) had the placental weight of 301 to 400 grams.

This table concludes that there was a difference in the placental weight between the experimental and control group which may be due to the effect of draining the umbilical cord during the third stage of labour in the experimental group.

Figure 4 shows the placental weight in experimental and control group

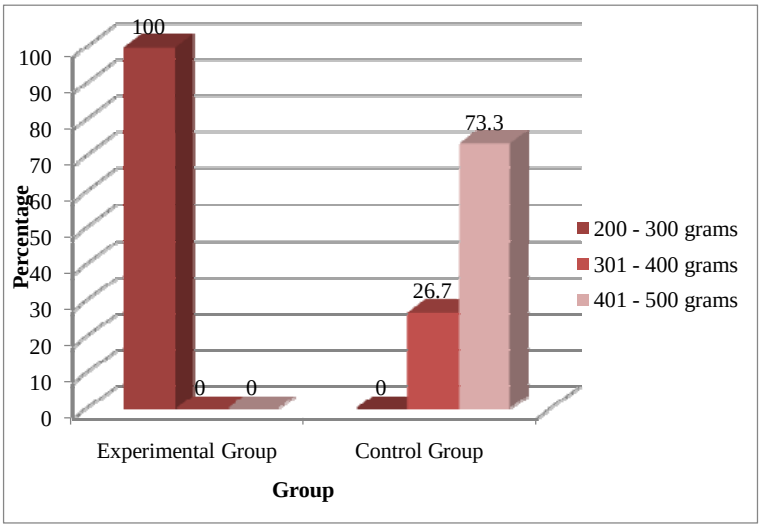

Figure 4: Percentage of samples in experimental and control group according to Placental weight

TABLE – V

FREQUENCY AND PERCENTAGE OF EXPERIMENTAL AND CONTROL GROUP ACCORDING TO MATERNAL HAEMOGLOBIN

N = 60

Sl.no	Maternal haemoglobin	Experimental group N - 30		Control Group N – 30	
		F	%	F	%
1	8 - 9 grams	24	80.00	23	76.70
2	10 – 12 grams	6	20.00	7	23.30

Table V presents the frequency and percentage of maternal haemoglobin in experimental and control group

In the experimental group, majority of samples 24 (80%) had 8 to 9 grams of haemoglobin and 6 samples (20%) had 10 to 12 grams haemoglobin.

In the control group also majority of the samples 23 (76.70%) had 8 to 9 grams of haemoglobin and 7 samples (23.30%) had 10 to 12 grams of haemoglobin.

This table concludes that majority of the samples in experimental group and control group had a haemoglobin level of 8 – 9 grams and 6 – 7 samples in both the groups with 10 – 12 grams of haemoglobin. This shows a similarity between the two groups and no effect on haemoglobin level due to either draining the umbilical cord or clamping the umbilical cord.

Figure 5 shows the maternal haemoglobin in experimental and control group

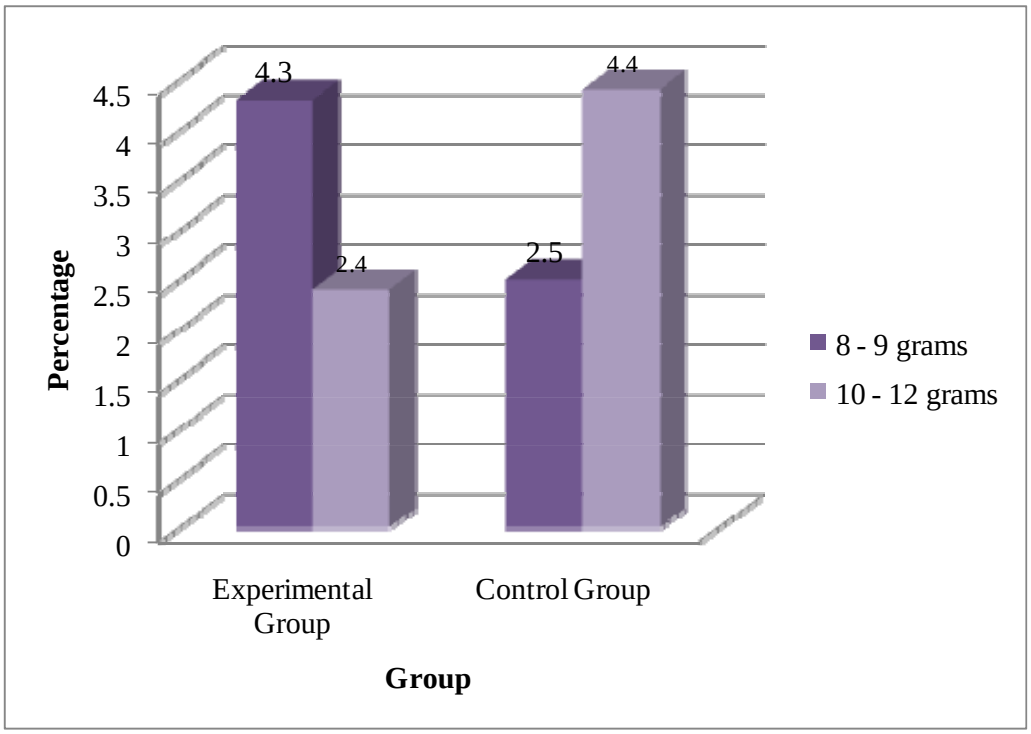

Figure 5: Percentage of samples in experimental and control group according to Maternal haemoglobin

TABLE –VI

MEAN DURATION AND STANDARD DEVIATION OF THIRD STAGE OF LABOUR IN EXPERIMENTAL ANDCONTROL GROUP AND LEVEL OF SIGNIFICANCE

N=60

Groups	Mean duration in mins	SD	MD	Unpaired 't' value p<0.05 df =58
Experimental Group	5.77	1.64	4.52	15.52*
Control Group	11.62	1.26		

***-Significant.** **Table value-2.000**

In the experimental group the mean duration of third stage of labour was 5.77 mins and in control group the mean duration was 11.62 mins.

The statistical test shows that there is a significant difference in the mean duration of third stage of labour in experimental and control group ($t = 15.51$, $df = 58$, $P<0.05$).

So the hypothesis (H1) there is a significant difference between the mean duration of placental separation during labour in the experimental group and control group is accepted.

TABLE –VII

MEAN BLOOD LOSS AND STANDARD DEVIATION OF SAMPLES IN EXPERIMENTAL AND CONTROL GROUP AND LEVEL OF SIGNIFICANCE

N=60

Groups	Mean blood loss in ml	SD	MD	Unpaired 't' value p<0.05 df =58
Experimental Group	169.33	64.08	198.34	12.61*
Control Group	367.67	57.59		

***-Significant.** **Table value- 2.000**

In the experimental group the mean blood loss was 169.33 ml and in control group the score was 367.67 ml.

The statistical test shows that there is a significant difference in the mean amount of blood loss in experimental and control group ($t = 12.60$, $df = 58$, $P<0.05$).

So the hypothesis (H2) there is a significant difference in the amount of blood loss when the cord is clamped and left without clamp is accepted.

TABLE –VIII

MEAN PLACENTAL WEIGHT AND STANDARD DEVIATION OF SAMPLES IN EXPERIMENTAL AND CONTROL GROUP AND LEVEL OF SIGNIFICANCE

N=60

Groups	**Mean placental weight in gms**	**SD**	**MD**	**Unpaired 't' value p<0.05 df =58**
Experimental Group	241.33	33.86	192.34	15.96*
Control Group	433.67	56.67		

***-Significant.** **Table value- 2.000**

In the experimental group the mean score of placental weight was 241.33 grams and in control group the score was 433.67 grams.

The statistical test shows that there is a significant difference in the mean placental weight in experimental and control group ($t = 15.95$, $df = 58$, $P<0.05$).

So the hypothesis (H3) there is a significant difference between the mean placental weight of the samples in the experimental and control group is accepted.

SECTION – III PAIN DURING THIRD STAGE OF LABOUR IN EXPERIMENTAL AND CONTROL GROUP

TABLE –IX

FREQUENCY AND PERCENTAGE OF EXPERIMENTAL AND CONTROL GROUP ACCORDING TO DEGREE OF PAIN

N = 60

Sl.no	Degree of Pain	Experimental group N - 30		Control Group N – 30	
		F	%	F	%
1	No pain	8	26.70	-	-
2	Mild pain	22	73.30	-	-
3	Moderate pain	-	-	30.00	100.00
4	Severe pain	-	-	-	-

Table IX presents the frequency and percentage of degree of pain in experimental and control group

In the experimental group 8 mothers (26.70%) had no pain and majority of mothers 22 (73.30%) experienced mild pain. And none of the mothers experienced neither moderate nor severe pain. Whereas in the control group all the samples (30) experienced only moderate pain.

This table concludes that there was significant difference in the degree of pain between the experimental and control group which may be due to the effect of draining the umbilical cord during the third stage of labour in the experimental group.

Figure 6 shows the degree of pain in experimental and control group.

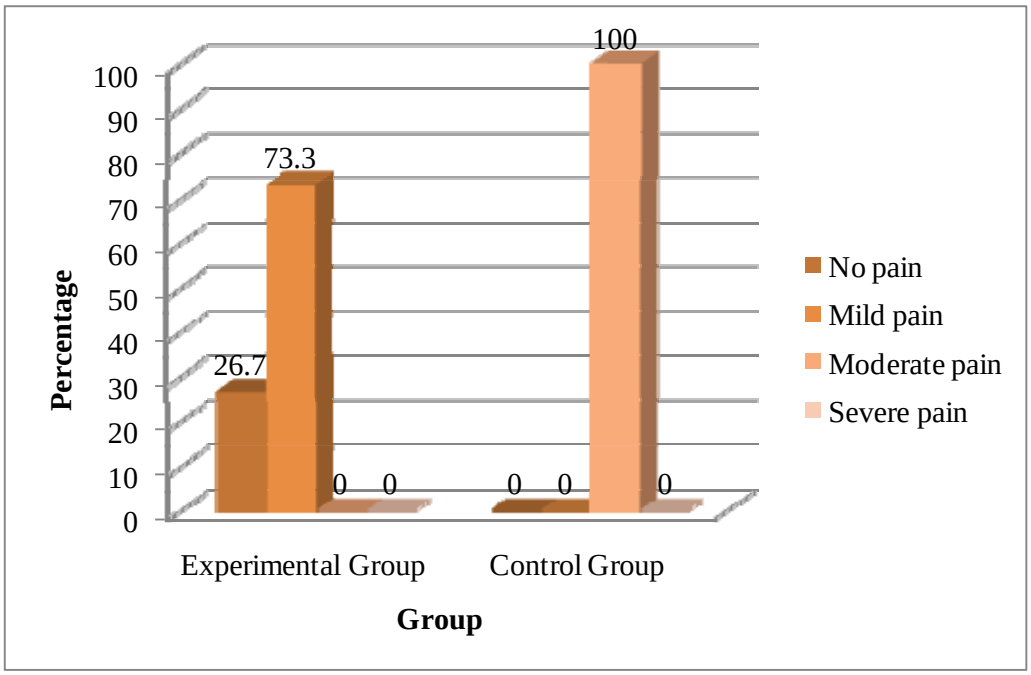

Figure 6: Percentage of samples in experimental and control group according to Degree of pain

TABLE –X

MEAN PAIN SCORE AND STANDARD DEVIATION OF SAMPLES IN EXPERIMENTAL AND CONTROL GROUP AND LEVEL OF SIGNIFICANCE

N=60

Groups	Mean pain score	SD	Mean %	MD	Unpaired 't' value p<0.05 df =58
Experimental Group	1.80	1.19	18.00	3.3667	13.394*
Control Group	5.17	0.70	51.66		

***-Significant.** **Table value- 2.000**

In the experimental group the mean pain score was 1.80 and in control group the score was 5.17.

The statistical test shows that there is a significant difference in the mean pain score in experimental and control group ($t = 13.39$, $df = 58$, $P<0.05$).

So the hypothesis (H4) there is a significant difference between the mean pain score of the samples when the umbilical cord is clamped and left without clamp is accepted.

SECTION– IV ASSOCIATION OF SELECTED DEMOGRAPHIC CHARACTERISTICS WITH OUTCOME OF PLACENTAL DELIVERY

TABLE- XI

ASSOCIATION OF SELECTED DEMOGRAPHIC CHARACTERISTICS WITH DURATION OF THIRD STAGE OF LABOUR

N=30

Sl. No	Demographic variables	Duration of third stage of labour				χ^2 value p<0.05	χ^2 table value p<0.05
		9 – 11mins		12 – 14mins			
		F	%	F	%		
1	**Age in years**						
	a) 18 – 22	5	16.67	10	33.33		
	b) 23 – 26	1	3.33	4	13.33	0.3178NS	df=3
	c) 27 – 30	2	6.67	4	13.33		7.82
	d) >30	2	6.67	2	6.67		
2	**Parity**						
	a) 0	4	13.33	15	50.00		
	b) 1	5	16.67	2	6.67	3.8505NS	df = 2
	c) 2 & >3	1	3.33	3	10.00		5.99
3	**Gestational age in weeks**						
	a) 37 – 38	7	23.33	10	33.33	0.4258NS	df = 1
	b) 39 - 40	3	10.00	10	33.33		3.84

NS- Not Significant

Table XI presents the association of selected demographic characteristics with the duration of third stage of labour.

This table shows that there is no association between the age, gestational age and the parity and the duration of third stage of labour.

TABLE- XII

ASSOCIATION OF SELECTED DEMOGRAPHIC CHARACTERISTICS WITH AMOUNT OF BLOOD LOSS

N=30

Sl. No	Demographic variables	Amount of blood loss				χ^2 value P<005	χ^2 table value p<0.05
		251 – 350 ml		351 – 450 ml			
		F	%	F	%		
1	**Age in years**						
	a) 18 – 22	5	16.67	10	33.33		
	b) 23 – 26	1	3.33	4	13.33	0.3178NS	df=3
	c) 27 – 30	2	6.67	4	13.33		7.82
	d) >30	2	6.67	2	6.67		
2	**Parity**						
	a) 0	4	13.33	15	50.00		
	b) 1	6	20.00	1	3.33	7.5487*	df = 2
	c) 2 & >3	-	-	4	13.33		5.99
3	**Gestational age in wks**						
	a) 37 – 38	6	20.00	11	36.67	0.0165NS	df = 1
	b) 39 - 40	4	13.33	9	30.00		3.84

***-Significant.** **NS- Not Significant**

Table XII presents the association of selected demographic characteristics with the amount of blood loss

This table shows that there is a significant association between the amount of blood loss during the third stage of labour and parity of the parturient mothers (Chi^{2} =7.5487, df = 2 P<0.05). However there is no association between the age, gestational age and the amount of blood loss.

DISCUSSION

CHAPTER V

DISCUSSION

In the discussion section, the researcher draws conclusions about the meaning and implications of the finding. This section tries to unravel what the results mean, why things turned out the way they did and how the results can be used in practice.

This study focused on assessing the effect of draining the umbilical cord on the outcome of placental delivery during the third stage of labour among the parturient mothers in a hospital. The findings of the study have been discussed with reference to the objectives of the study.

Demographic characteristics of the experimental and control group

Table I- Explains the demographic characteristics of the parturient mothers in experimental and control group. The data says most of the parturient mothers are aged between 18 to 22 yrs, gestational age 37 – 38 weeks, primi gravida, 0 parity, weight of the baby 2500 – 3000 grams and haemoglobin 10 – 12 grams.

The outcome of placental delivery

Tables II, III, IV, V, VI, VII & VIII explains the outcome of placental delivery in experimental and control group.

Table II explains duration of third stage of labour in both experimental and control group.

In experimental group the duration of third stage was reduced compared to the control group. In experimental group 22 samples 73.30% had duration of 6 – 8 mins and remaining 8 samples 26.70% had 3 – 5 mins. In control group 20 samples 66.70% had 12 – 14 mins and other 10 samples 33.30% had 9 – 11 mins of duration of third stage of labour.

Table III shows the amount of blood loss in experimental and control group.

In experimental group the amount of blood loss during the third stage was reduced compared to the control group. In experimental group 22 samples 73.30% had blood loss of 151 – 250 ml and remaining 8 samples 26.70% had 50 – 150 ml. In control group 20 samples 66.70% had 351 – 450 ml and other 10 samples 33.30% had 251 – 350 ml of blood loss.

Table IV represents the placental weight in experimental and control group.

In experimental group the placental weight was lower than the control group. In experimental group all the samples 100% had placental weight of 200 – 300 grams but in control group majority of samples 73.30% had 401 – 500 grams and remaining 8 samples 26.70% had 301 – 400 grams of placental weight.

Table V presents the maternal haemoglobin in experimental and control group.

Here both the group shows same level of haemoglobin. In both experimental and control group the majority of the samples fall in 8 – 9 grams of haemoglobin and the less number of samples were in 10 – 12 grams.

Table VI presents mean duration of third stage of labour of experimental and control group.

The experimental group showed a low mean duration of 5.77 mins after draining the umbilical cord blood in third stage. But the control group showed a high mean duration of 11.62 mins after clamping the umbilical cord in third stage.

So according to hypothesis (H1), there is a significant difference between the mean time of placental separation in experimental and control group in third stage of labour.

The present study finding is supported by a study done by **Razmkhah (1999)**, he first reported the duration of third stage of labour was significantly shorter when

using the placental cord drainage method. A study was done by **F Dickinson, I Symonds (2005),** to evaluate the effect of placental cord drainage on the third stage of labour, with or without prophylactic administration of oxytocics. The result showed that Cord drainage reduced the length of the third stage of labour. The mean difference was about 2.85 mins.

Another study done earlier by **Giacalone**, and he reported a randomized study comparing 239 women who had placental cord drainage with 238 women with expectant delivery of the placenta. The median value of duration of 3rd stage of labour was 8 minutes in cord drainage group and 15 minutes in the control group. **Sharma et al** reported a study on 958 women having vaginal delivery, who were randomized to the drainage method (478 women) or control cord traction method (480 women) for placental delivery .the mean duration of 3rd stage of labour was 3.24 minutes and 3.2 minutes in the placental drainage group in contrast to 8.57 minutes and 6.2 minutes in controlled cord traction method in primigravida and multigravida respectively. **Cochrane systematic review** studied the effect of placental cord drainage on the third stage of labour and concluded that cord drainage result in statistically significant reduction in the length of 3rd stage of labour.

Table VII presents the mean amount of blood loss in experimental and control group.

The experimental group showed a low mean blood loss of 169.33 ml after draining the umbilical cord blood in the third stage. But the control group showed a high mean blood loss of 367.67 ml after clamping the umbilical cord in third stage. The statistical test shows that there is a significant difference in the mean amount of blood loss in experimental and control group ($t = 12.60$, $df = 58$, $P<0.05$).

So the hypothesis (H2), there is a significant difference in the amount of blood loss when the cord is clamped and left without clamp is accepted.

The present study findings are supported by a study done earlier by **Melal Mohammed Al – Jeborry, Asmaa Kadhim Gatea** who studied the effect of draining the umbilical cord on the third stage of labour to prevent postpartum haemorrhage.

The result showed that the average blood loss was (184.3+118 ml) in the study group and (249.7+147 ml) in control group. A study done by **Gulati et al** on 200 women to evaluate placental blood drainage during vaginal delivery as a method of reducing the amount of blood loss and concluded that the amount of blood lost in the third stage was 247.59 ml in the control group and 193.63 ml in the study group

Table VIII shows the mean placental weight in experimental and control group.

The experimental group showed the mean score of placental weight was 241.33 grams and in control group the score was 433.67 grams. The statistical test shows that there is a significant difference in the mean placental weight in experimental and control group ($t = 15.95$, $df = 58$, $P<0.05$).

So the hypothesis (H3) there is a significant difference between the mean placental weight of the mother in the experimental and control group is accepted.

Table IX represents the frequency and percentage of degree of pain in experimental and control group.

In the experimental group 8 mothers (26.70%) had no pain and majority of mothers 22 (73.30%) experienced mild pain and none of the mothers experience neither moderate nor severe pain. Whereas in the control group all the samples (30) experienced only moderate pain.

Table X shows the mean pain score of experimental and control group.

In the experimental group the mean pain score was 1.80 and in control group the score was 5.17. The statistical test shows that there is a significant difference in the mean pain score in experimental and control group ($t = 13.39$, $df = 58$, $P<0.05$).

So the hypothesis (H4) there is a significant difference between the mean pain score of the mother when the umbilical cord is clamped and left without clamp is accepted.

Table XI, XII presents the association of selected demographic characteristics with the study variables

Table XI There is no association between the age, gestational age and the parity and the duration of third stage of labour.

Table XII There is no association between the age, gestational age and the amount of blood loss but there is an association between the amount of blood loss and parity (Chi^2 =7.5487, df = 2 P<0.05).

SUMMARY,

FINDINGS, CONCLUSION,

IMPLICATION AND

RECOMMENDATIONS

CHAPTER VI

SUMMARY, CONCLUSION, IMPLICATION AND RECOMMENDATIONS

In this chapter, summary of the study, summary of the findings, Conclusion, implication and, Recommendations are presented.

SUMMARY OF THE STUDY

The main aim of the study was to determine whether draining the umbilical cord made any significant difference on the duration, amount of blood loss and pain during the third stage of labour among the parturient mothers.

The conceptual framework of the study was based on the Modified Callista Roy's Adaptation theory. The research design used in this study was quasi experimental two group post test design. The independent variable of the study was draining the umbilical cord. Outcome of placental delivery was the dependent variables.

The sample size consisted of 60 parturient mothers who were admitted in the hospital with labour pain (30 samples in experimental group and 30 in control group), selected by purposive sampling technique with random assignment. For the control group the standard practice was followed, like clamping the umbilical cord in the maternal side after separating the baby in the third stage. And the duration amount of blood loss and pain during the third stage was assessed by using observational schedule and numerical pain scale. In the experimental group 80 – 100 ml of blood was drained during the third stage and the duration, amount of blood loss and pain was assessed. The data was analyzed using descriptive and inferential statistics.

SUMMARY OF THE FINDINGS

1. Demographic data of the samples

8 samples (26.7%) in the experimental group and 15 samples (50%) in the control group were in the age group of 18 to 22 years. 8 samples in experimental and 5 samples in the control group were in the age group of 23 to 26 years. 40% in the experimental group and 20% in the control group were in the age group of 27 to 30 years. 2 samples in the experimental group and 4 samples in the control group were in the age group of 31 years and above. 18 samples (60%) in the experimental group and 17 samples (56.7%) in the control group had a gestational age of 37 to 38 weeks. 12 samples in the experimental group and 13 samples in the control group had a gestational age of 39 to 40 weeks.

Nearly half of samples 46.7% in the experimental group and 56.7% in the control group had first pregnancy. 8 samples in the experimental group and 9 samples in the control group had second pregnancy. In the gravida 3, 4 and above there were 13.3% in the experimental group and 6.7% in the control group respectively. 46.7% in the experimental group and 63.3% in the control group were in the zero parity. 8 samples in the experimental group and 7 samples in the control group were in first parity. In the second, third parity and above there were 4 samples in the experimental group and 2 samples in the control group respectively.

16 samples (53.3%) in the experimental group and 13 samples (43.3%) in the control group had their babies weighing 2500 to 3000 grams. 14 samples in both experimental and control group had their babies with a weight between 3001 to 3500 grams. Only 3 samples in the control group had the babies weighing from 3501 to 4000 grams. Majority of the samples (80%) in the experimental group and 76.7% in the control group were having haemoglobin in the range of 10 to 12 grams and 8 samples in the experimental group and 7 samples in the control group were having haemoglobin in the range of 12.1 to 14 grams.

2. The outcome of placental delivery

Duration of third stage of labour

In the experimental group for majority of the samples 22 (73.30%) the duration of third stage of labour was 6 to 8 minutes and for 8 samples (26.70%) the duration was 3 to 5 minutes. In the control group for 10 samples (33%) the duration of third stage of labour was 9 to 11 minutes and for 20 samples (66.70%) the duration was 12 to 14 minutes. In the experimental group the mean duration of third stage of labour was 5.77 mins and in control group the mean duration was 11.62 mins.

Amount of blood loss

In the experimental group, majority of the samples 22 (73.30%) had 151 to 250 ml of blood loss whereas 8 samples (26.70%) had 50 to 150 ml of blood loss. In the control group, 10 samples (33%) had 251 to 350 ml of blood loss and 20 samples (66.70%) had 351 to 450 ml of blood loss. In the experimental group the mean blood loss was 169.33 ml and in control group the score was 367.67 ml.

Placental weight

In the experimental group, all samples had 200 to 300 grams of placental weight whereas, in the control group majority of the samples 22 (73.30%) had the placental weight 401 to 500 grams and 8 samples (26.70%) had the placental weight of 301 to 400 grams.

In the experimental group the mean placental weight was 241.33 grams and in control group the weight was 433.67 grams.

Maternal haemoglobin

In the experimental group, majority of samples 24 (80%) had 8 to 9 grams of haemoglobin and 6 samples (20%) had 10 to 12 grams haemoglobin.

In the control group also majority of the samples 23 (76.70%) had 8 to 9 grams of haemoglobin and 7 samples (23.30%) had 10 to 12 grams of haemoglobin.

3. Degree of pain

In the experimental group 8 mothers (26.70%) had no pain and majority of mothers 22 (73.30%) experienced mild pain. And none of the mothers experience neither moderate nor severe pain. Whereas in the control group all the samples (30) experienced only moderate pain. In the experimental group the mean pain score was 1.80 and in control group the score was 5.17.

SIGNIFICANT FINDINGS

- There was a significant difference in the mean duration of third stage of labour in the experimental and control group. Hence the research Hypothesis H1 is accepted ($t = 15.52$, $df = 58$, $P<0.05$).
- There was a significant difference in the mean blood loss in the experimental and control group. Hence the research Hypothesis H2 is accepted ($t = 12.61$, $df = 58$, $P<0.05$).
- There was a significant difference in the mean placental weight in the experimental and control group. Hence the research Hypothesis H3 is accepted ($t = 15.96$, $df = 58$, $P<0.05$).
- There was a significant difference in the mean pain score in the experimental and control group. Hence the research Hypothesis H4 is accepted ($t = 13.39$, $df = 58$, $P<0.05$).

CONCLUSION

The findings of the study shows that in the experimental group draining the umbilical cord in the third stage has effect on the outcome of placental delivery like reduction in the duration, amount of blood loss in third stage, placental weight and degree of pain. The mean duration of the experimental group was 5.77 mins and that of in control group 11.62 mins with a mean difference of 4.52 mins. The mean blood loss of experimental group was 169.33 ml lower than that of the control group 367.67

ml. the mean pain score of the experimental group was 1.80 and that of control group mean score was 5.17 with a mean difference of 3.37.

This study concludes that draining the umbilical cord in third stage reduces the duration, amount of blood loss and degree of pain in the third stage of labour in experimental group.

IMPLICATION

Nursing plays an important role in providing care during third stage of labour, the ultimate aim of nursing care in third stage is to ensure safe and complete removal of placenta and promote feeling of satisfaction to the mother during childbirth.

Nursing practice

The advantages of umbilical cord draining should be emphasized to the nurses. This will change the nurse's practice that helps to prevent the incidence of PPH and reduce the maternal mortality rate. The findings of the study indicate that all the health team members should be encouraged to practice draining the umbilical cord during the third stage of labour which will prevent the manual removal of placenta. Draining the umbilical cord is effective in reducing the duration, amount of blood loss and degree of pain during the third stage of labour to the parturient mothers. So it can be implemented in nursing practice.

Nursing education

In the field of education, the nurse educator should provide in – service education to the maternity nurses regarding draining the umbilical cord in third stage of labour. the nurse educator can modify the management protocol for the third stage of labour and can explain the effect of draining the umbilical cord to the nurses, clinicians, antenatal mothers and their family members. The nurse educator should motivate the public about the uses of draining the umbilical cord in third stage of labour.

Nursing administration

Nurse administrator should be efficient in the organization of training program for draining the umbilical cord in third stage of labour. A special nurse educator can be appointed in the outpatient department on the antenatal checkup day to provide education regarding the effect of draining the umbilical cord in reducing the duration, amount of blood loss and level of pain in third stage of labour. The nurse administrator may allocate resources to do further studies on draining the umbilical cord in third stage of labour. The nurse administrator should plan and organize education programmes for nursing personnel and other health care members so that they could appreciate the new method of placental delivery and update their knowledge on the new method.

Nursing research

The study provides scope for future research or utilization of findings and dissemination of knowledge in nursing practice.

RECOMMENDATIONS

- The study can be replicated on a large sample for generalization of the findings.
- The study can be conducted to assess the knowledge of mothers regarding draining the umbilical cord in third stage of labour.
- Further investigation of the effect of cord drainage on the maternal and – neonatal outcome is needed.
- Placental cord drainage should be encouraged for management of third stage of labour when no routine drug administration is planned because it is safe noninvasive and not requiring any effort, cost or equipments and this is relevant in rural areas.

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APPENDICES

APPENDIX - I

LETTER SEEKING PERMISSION TO CONDUCT THE STUDY

To

The Dean,

Kanyakumari Govt. Medical College Hospital

Asaripallam

Kanyakumari - 629002.

Respected Sir

Sub: Permission requested for conducting Nursing research-Reg.

We request you to kindly grant permission for our II year M.Sc Nursing student _____ to do her research in your esteemed Medical College Hospital during the month of September as a partial fulfillment of the University requirements.

The topic is **"A study to assess the effectiveness of draining the umbilical cord on the outcome of placental delivery during the third stage of labour among the parturient mothers in a selected hospital, Kanyakumari".**

Kindly oblige and do the needful

Thanking You

Yours faithfully,

Principal.

Place:

Date:

APPENDIX - II

REQUISITION LETTER FOR CONTENT VALIDITY

From

30104622,

M.Sc (N) Student,

RVS College of Nursing,

Sulur, Coimbatore- 641402

To

Through the principal

Respected Sir/Madam

Sub : Letter requesting opinion and suggestion of experts for establishing content validity of the tool.

I am a M.Sc (N) student in RVS College of Nursing, Sulur, Coimbatore in the specialty Obstetrical and Gynaecological Nursing. As per the requirement for the partial fulfillment of this nursing degree under the Tamil Nadu Dr. MGR Medical University, I have selected the following topic for dissertation. **"A study to assess the effectiveness of draining the umbilical cord on the outcome of placental delivery during the third stage of labour among the parturient mothers in a selected hospital, Kanyakumari".**

I kindly request you to go through the research tool and validate against criteria given in the sheet.

Thanking you

Yours faithfully,

30104622.

Place:

Date:

APPENDIX - III

CERTIFICATE OF CONTENT VALIDITY

This is to certify that tool developed by 30104622, MSc Nursing II year student, R.V.S. College of Nursing, Sulur, and Coimbatore to collect data on the problem.

"A study to assess the effectiveness of draining the umbilical cord on the outcome of placental delivery during the third stage of labour among the parturient mothers in a selected hospital, Kanyakumari".

Is validated by the undersigned and she can proceed with this tool to conduct the main study.

Name and Address:

Signature :

Seal :

Date :

LIST OF EXPERTS

Medical experts

1. **Dr. Latha Prasanna, M.B.B.S., D.GO** _____
   Consultant Obstetrician and Gynaecologist
   R.V.S. Hospital, Coimbatore.

2. **Dr. Gowri, M.B.B.S., D.GO**
   Consultant Obstetrician and Gynaecologist
   R.V.S. Hospital, Coimbatore.

Nursing experts

3. **Mrs. Kalpana Jayaraman M.Sc (N),** _____
   Principal,
   Professor in Obstetrics and Gynaecological Nursing,
   Annai Meenakshi College of Nursing,
   Coimbatore.

4. **Mrs. Latha, M.Sc, (N),** _____
   Principal,
   RVS College of Nursing,
   Kannampalayam,
   Coimbatore.

5. **Mrs. P. Jessy Rani, Msc (N),** _____
   Associate Professor,
   HOD. Obstetrics and Gynaecological Nursing,
   RVS College of Nursing,
   Sulur, Coimbatore.

APPENDIX – IV

CRITERIA RATING SCALE FOR VALIDATION

INSTRUCTION

The expert is requested to go through the following criteria for evaluation of check list. Three columns are given for response and a column for remarks. Kindly place a tick mark in the appropriate column and give remarks.

Sl No	Items	Clarity	Relevancy	Adequacy	Remark
	Section - A **Demographic data**				
1.					
2.					
3.					
4.					
5.					
6.					
	Section – B **Observation schedule for the third Stage of Labour**				
1.	Duration of III stage				
2.	Amount of blood loss				
3.	Placental weight				
4.	Maternal condition				
5.	Maternal haemoglobin				
	Section – C **Pain intensity scale**				

Any other Suggestions

…….....

...……

Signature :
Name, Designation :
Address :

APPENDIX - V

REQUSITION LETTER FOR CO - GUIDE

From,

30104622,
II Year M.Sc Nursing,
R.V.S College of Nursing,
Sulur, Coimbatore.

To,

Dr. Latha Prasanna, M.B.B.S., D.GO,

Consultant Obstetrician and Gynaecologist,

RVS Hospital,

Sulur, Coimbatore.

Through the Principal,

Respected Madam,

SUB; Request for Co-Guide

I wish to state that I am II year M.Sc Nursing student of R.V.S College of nursing. I have selected the below mentioned topic for dissertation as a partial fulfillment for the Master of Nursing degree to The Tamil Nadu Dr.MGR Medical University.

"A study to assess the effectiveness of draining the umbilical cord on the outcome of placental delivery during the third stage of labour among the parturient mothers in a selected hospital, Kanyakumari"

Regarding this I am in need of your valuable help and co-operation by providing services to be a Co-guide for my study.

I humbly request your highness to consider the same and do the needful.

Thanking you

Yours sincerely,

Date:

30104622.

Time:

APPENDIX - VI

RESEARCH TOOL

DEMOGRAPHIC DATA

Sample No:

Age

a. 18 – 22 yrs
b. 23 – 26 yrs
c. 27 – 30 yrs
d. 31 and above

LMP :

EDD :

Gestational age

a. 37 – 38 weeks
b. 39 – 40 weeks

Gravida

a. 1st
b. 2nd
c. 3rd
d. 4th

Parity

a. 0
b. 1
c. 2
d. 3

Weight of the baby

a. 2500 – 3000gm
b. 3100 – 3500gm
c. 3600 – 4000gm

Haemoglobin level

a. 10 – 12gm
b. 13 – 14gm

OBSERVATION SCHEDULE

Duration of III stage (min)	3 – 5	
	5 – 7	
	7 – 9	
	9 – 12	
Amount of blood loss (ml)	50 – 150	
	151 – 250	
	251 – 350	
	351 – 450	
Placental weight (gm)	200 – 300	
	300 – 400	
	400 – 500	
Maternal condition	Pulse	
	Respiration	
	Blood pressure	
Maternal haemoglobin (gm)	8 – 10	
	11 – 12	
	12 – 14	

PAIN INTENSITY INSTRUMENTS

Introduction:

Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage. This pain should be assessed properly mainly to make the proper pain relief strategies and to evaluate the effectiveness of these strategies.

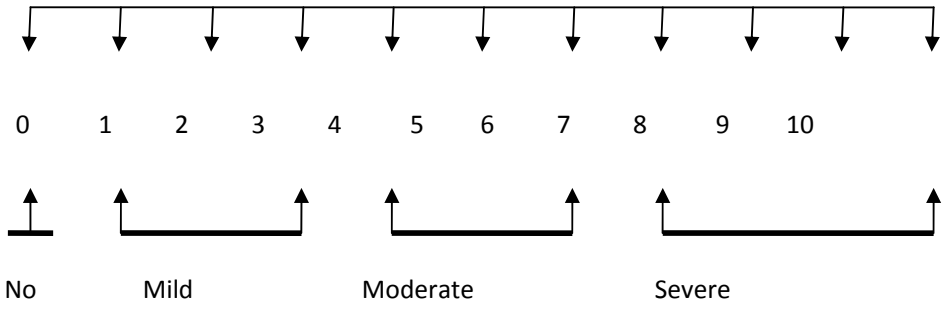
Purpose:

The purpose of this instrument is to find out your level of pain during the third stage of labour

Instructions:

Kindly give the information about your perception of pain level.

0 – 10 NUMERICAL RATING SCALE:



0 No Pain

1 – 3 Mild pain

4 – 6 Moderate pain

7 – 10 Severe pain

E-mail : jamesenggcollege@yahoo.co.in
Web : www.jamesinstitutions.org

Ph : 04652 - 299812, 04651 - 226327
Cell : 94432 - 83135, 94433-26327, Fax: 04652-282950

James College of Engineering and Technology
(Run by James Memorial Charitable Trust, Colachel, Kanyakumari District - 629 251.)
Jamespuram, Navalcaud, near Nagercoil, Esanthimangalam - 629 852,
Kanyakumari District,Tamilnadu, South India.

Date : 30-01-2012

CERTIFICATE FOR ENGLISH EDITING

This is to certify that the study done by Ms. J. Jini, M.Sc Nursing II year student, R.V.S. College of Nursing, Sulur, Coimbatore on the topic of

"A study to assess the effectiveness of draining the umbilical cord on the outcome of placental delivery during the third stage of labour among the parturient mothers in a selected hospital at Kanyakumari".

Is edited and the content is reviewed by the undersigned authority.

Name and Address: GRACIO VIVIYAN ARTHUR M.A., M.Phil., B.Ed.
DEPARTMENT OF ENGLISH
JAMES COLLEGE OF ENGINEERING AND TECHNOLOGY
NAVALCAUD, K.K. DIST 629852

Signature : 30/1/2012

Seal : JAMES COLLEGE OF ENGINEERING & TECHNOLOGY ★ NAVALKADU ★

APPENDIX – VIII

PLAGIARISM REPORT USING THE SOFTWARE “VIPER”

Overall content match: 6%

Direct quotes: 0% of which 0% found online.

Actual content match minus quotes: 6%