"A QUASI EXPERIMENTAL STUDY TO EVALUATE THE EFFECTIVENESS OF POSTURE MAINTENANCE ON REDUCTION OF DISABILITY RELATED TO PAIN AMONG POST CAESAREAN MOTHERS IN SELECTED HOSPITALS, AGARTALA, WEST TRIPURA."

BY

MRS. NANDITA DAS

TRIPURA COLLEGE OF NURSING, HAPANIA

TRIPURA UNIVERSITY, AGARTALA, TRIPURA

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By

MRS. NANDITA DAS

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Under the guidance of

Miss Sutapa Paul

Professor, HOD

Obstetrical & Gynecological Nursing

College of Nursing

Hapania

Mrs. Mousumi Debnath

Associate Professor, HOD

Medical Surgical Nursing Tripura

Tripura College of Nursing

Hapania

Tripura University

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ABSTRACT

Background of the study:

Caesarean section is a maneuver to deliver the baby through a transabdominal incision in the uterus. At global level the rate of caesarean section is on the rise. India is also experiencing a rapid increase in institutional deliveries. Post operative pain is one of the most common medical complaints and has an increased prevalence amongst post caesarean mothers. Some of this may be due to the prevalence of low back pain in pregnancy and postpartum, with a Swedish study showing 72% experiencing pain during pregnancy and 43% postpartum. Postpartum numbers were lower, at 16%, with increased prevalence among those with a history of back pain, and increased disability associated with weak hip abductors, back extensors, and subjects both low back and pelvic girdle pain, that is pain near the sacroiliac joints and pelvic girdle. Muscle weaknesses in the back and hips have been postulated as a cause for this, and physical therapy showed some benefit.

Problem statement:

A quasi experimental study to evaluate the effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers in selected hospitals, Agartala, West Tripura.

Objectives of the study:

1. To assess the level of pain.
2. To assess the pre test level of disability related to pain after caesarean section among the post caesarean mothers in both experimental and control group.
3. To administer the techniques of posture maintenance on reduction of disability related to pain among post caesarean mothers in the experimental group.
4. To evaluate the effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers in experimental group.
5. To compare the post test level of disability related to pain after caesarean section in between experimental and control group.

6. To find out the association between the pre test level of disability related to pain among post caesarean mothers with their selected demographic variables.

Methods:

The research design was Quasi Experimental pre test post test control group design. The conceptual framework used for this study is based on 'King's Goal attainment theory'. Convenient sampling technique was used to select 20 samples for experimental and 20 for control group. The tools used for data collection was Visual analog scale, structured questionnaire for socio demographic data and Oswestry disability questionnaire. The reliability of the tool was 0.72, it was found reliable. Pre test was taken then the intervention i.e. posture maintenance was implemented on post caesarean mothers of experimental group after the 12 hours of cesarean section. No intervention was given to control group. Gathered data was analyzed by using appropriate descriptive and inferential statistics.
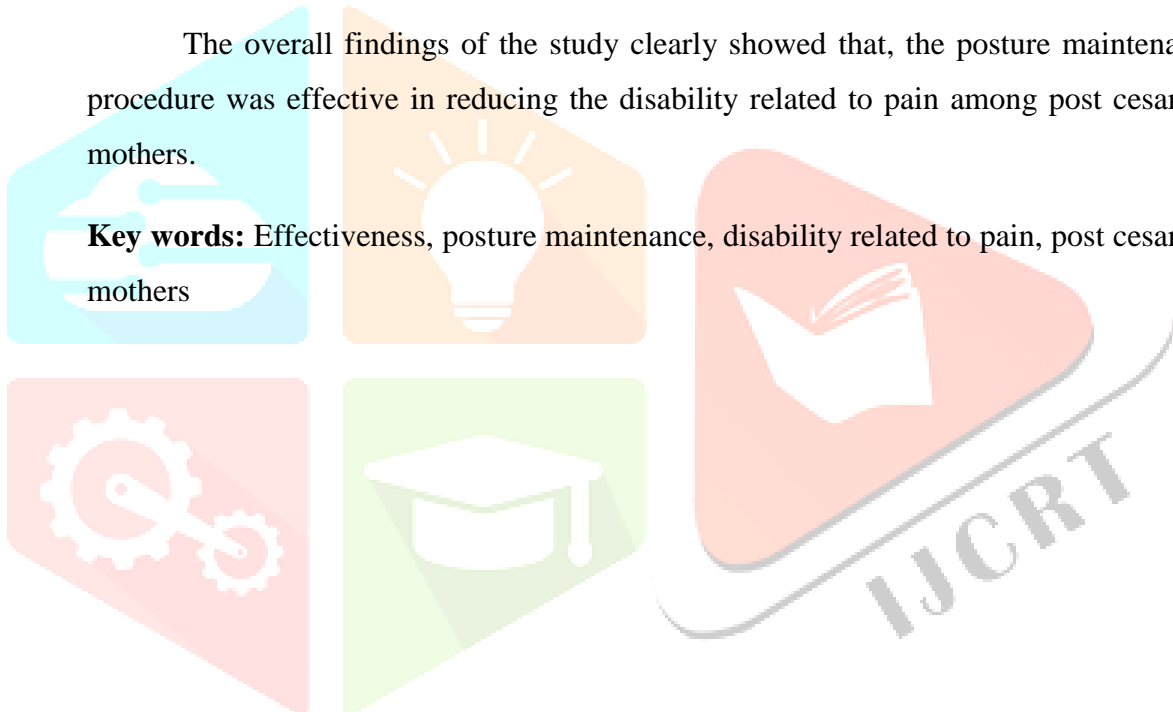
Results:

The findings showed that 25% in the age group of 20-25 years and 30-35 years in experimental group. 35% in the age group of 25-30 years and 30-35 years in control group. 40% in experimental group were secondary school passed and 25% in control group were higher secondary and senior basic school passed. 85% in experimental group and 70% in control group were housewife. 60% in experimental group and 75% in control group were from joint family. 65% in experimental group and 60% in control group were primipara. 85% having previous CS in both experimental and control group. 85% having disability related to pain in both experimental and control group. 85% in experimental group and 95% in control group were having previous sources of information. 100% in both experimental group and control group were getting information from health professionals. 55% in the height range of 1.50-1.60m in experimental group and 40% in the height range of 1.40- 1.50m and 1.50-1.60m in control group. 40% in the weight range of 55-60 kg and 60- 65 kg in experimental group. 55% in the weight range of 55-60 kg in control group. 60% in the BMI range of 20-25 in experimental group and 60% in the BMI range of 25-30 in control group.

Among 40 post caesarean mothers 100% having severe pain during pretest in both experimental and control group. During post test 95% having mild pain and 5% having moderate pain in experimental group and 85% having mild pain and 15% having moderate pain in control group. The mean pretest score of experimental group was 28.5 and SD was 4.8. the mean posttest score was 10 and SD was 5.12."t"value was 9.05. The mean posttest score of control group was 15.25 and SD was 2.48. There were significant association between the pre test level of disability related to pain among post caesarean mothers with the age of the mothers in experimental group at

0.05 level of significance.

Conclusion:

The overall findings of the study clearly showed that, the posture maintenance procedure was effective in reducing the disability related to pain among post cesarean mothers.

Key words: Effectiveness, posture maintenance, disability related to pain, post cesarean mothers

CHAPTER I

CHAPTER-I

1. INTRODUCTION

1.1 BACKGROUND OF THE STUDY:

"Make An Investment In Your Posture

You Won't Regret And That Will Return Real Results"

-Ernest Aufuso

Motherhood is the greatest role of women. Childbirth is a new life transition for the women. All birth cannot be natural deliveries. Sometimes it is necessary to rescue the mother and baby from impending disaster through medical assistance. Caesarean section is a maneuver to deliver the baby through a transabdominal incision in the uterus. At global level the rate of caesarean section is on the rise. India is also experiencing a rapid increase in institutional deliveries. According to WHO, the caesarean section rate of above 15% has not been acceptable, where as in India the prevalence rate has been 18%. Clearly these rates are unacceptably high all over the globe.[1]

Over the past few decades, there has been a tremendous increase in the number of cesarean deliveries performed by section in most industrialized countries. Wide differences occur between countries, regions or even hospitals within the same region with similar socioeconomic profiles and patient characteristics. This suggests that cesarean section (CS) is probably often performed for non-medical reasons leading to an overall overuse of this surgical obstetric intervention. The overall CS rates increased by 14% from 1998 to 2001 as a result of a 13% increase in medically indicated primary CS and a 53% increase in the rate of elective primary CS. Because of this global increase in CS rates, more attention is being paid to their outcomes. [2]

Eun Shin J, Cho Joon G and Kim Jin S (2020) conducted a nationwide population-based study on Pregnancy and neonatal outcomes of women with disabilities. They investigated (1) pregnancy and neonatal outcomes in women with and without disabilities, (2) time trends in deliveries, and (3) risks of pregnancy and neonatal complications among women with various disability types and severity. Pregnancy and neonatal outcomes were analyzed during 2007 and 2015. The total no of sample was 3778561. Among them 0.72% of deliveries involved women with

disabilities. Multivariate logistic regression was used to evaluate risk of perinatal outcomes among women with various disability types and severities. Women with disabilities showed higher rates of cesarean section (aOR, 1.73; 95% CI, 1.69–1.77), hypertensive disorders (aOR, 1.74; 95% CI, 1.63–1.86), placenta abruption (aOR, 1.27; 95% CI, 1.12–1.45), placenta previa (aOR, 1.14; 95% CI, 1.05–1.24), stillbirths (aOR, 1.30; 95% CI, 1.17–1.45), preterm births (aOR, 1.67; 95% CI, 1.57–1.78), and LBW (aOR, 1.87; 95% CI, 1.78–1.97) than those without disabilities. From 2007 to 2015, although delivery rate in women with disabilities decreased steeply compared with that in women without disabilities, the rate of cesarean section increased in women with disabilities. Women with intellectual disability and those with vision impairment had the highest number of perinatal complications among women with various types of disabilities.[3]

Black M, Bhattacharya S, Philip S, Jane E. Norman, J David McLernon (2016) conducted a study on Planned Repeat Cesarean Section at Term and Adverse Childhood Health Outcomes: A Record-Linkage Cohort Study. This study aimed to address the evidence gap on long-term childhood outcomes following repeat CS by comparing adverse childhood health outcomes after (1) planned repeat CS and (2) unscheduled repeat CS with those that follow vaginal birth after CS (VBAC). All second-born, term, singleton offspring delivered between 1 January 1993 and 31 December 2007 in Scotland, UK, to women with a history of CS ($n = 40,145$) were followed up until 31 January 2015. Cox regression and binary logistic regression were used as appropriate to compare outcomes following planned repeat CS ($n = 17,919$) and unscheduled repeat CS ($n = 8,847$) with those following VBAC ($n = 13,379$). Risk of hospitalization with asthma was greater following both unscheduled repeat CS (3.7% versus 3.3%, adjusted hazard ratio [HR] 1.18, 95% CI 1.05–1.33) and planned repeat CS (3.6% versus 3.3%, adjusted HR 1.24, 95% CI 1.09–1.42) compared with VBAC. Learning disability and death were more common following unscheduled repeat CS compared with VBAC (3.7% versus 2.3%, adjusted odds ratio 1.64, 95% CI 1.17–2.29, and 0.5% versus 0.4%, adjusted HR 1.50, 95% CI 1.00–2.25, respectively). Conclusions revealed that birth by repeat CS, whether planned or unscheduled, was associated with an increased risk of hospitalization with asthma but no difference in risk of obesity at age 5 y. Greater risk of death and learning disability

following unscheduled repeat CS compared to VBAC may reflect complications during labour.[4]

Christine Lin Chung Wei, McAuley James h, Macedo Luciana, Barnett Dominique C, Smeets J Rob et al. (2011) did a systematic review to examine the relationship between physical activity and disability in LBP. The literature search included 6 electronic databases and the reference list of relevant systematic reviews and studies in May 2010.To be included, studies had to measure both disability (eg, with the Roland Morris Disability Questionnaire) and physical activity (eg, by accelerometry) in patients with non-specific LBP. The search identified 3213 records and 18 studies were eligible for inclusion. The pooled results showed a weak relationship between physical activity and disability in acute or subacute (<3 months) LBP (r = _0.08, 95% confidence interval = _0.17 to 0.002), and a moderate and negative relationship in chronic (>3 months) LBP (r = _0.33, 95%, confidence interval = _0.51 to _0.15). That is, persons with acute or sub-acute LBP appear to vary in the levels of physical activity independent of their pain-related disability. Persons with chronic LBP with high levels of disability are also likely to have low levels of physical activity.[5]

Post operative pain is one of the most common medical complaints and has an increased prevalence amongst post caesarean mothers. Some of this may be due to the prevalence of low back pain in pregnancy and postpartum, with a Swedish study showing 72% experiencing pain during pregnancy and 43% postpartum. Postpartum numbers were lower, at 16%, with increased prevalence among those with a history of back pain, and increased disability associated with weak hip abductors, back extensors, and subjects both low back and pelvic girdle pain, that is pain near the sacroiliac joints and pelvic girdle. Those with moderate pain or worse, 68% in one study, continued to have pain, thus reducing health. Muscle weaknesses in the back and hips have been postulated as a cause for this, and physical therapy showed some benefit.[6]

Although most studies focus on overall pregnancy and childbirth statistics, studies have been done on patients giving birth by cesarean section. Studies found slightly higher prevalence of pain after cesarean section, at 6-18% versus 4-10%, and persistent pain more common a year later with cesarean. It is postulated that this could be due to increased pain during labor, but another study found little difference with

anesthesia. However, findings were mixed, with another study finding less persistent pain after cesarean section.[7]

In case of caesarean section there will be appearance of various complications, low back pain is a common problem that most people experience at some point in their lives. It is one of the common problems associated with pregnancy where it is referred to as pregnancy-related back pain. It often appears after pregnancy specially incase of caesarean section. The problem of Back Pain among women during the childbearing years was attributed to the combination of mechanical, hormonal, circulatory, and psychosocial factors. Likewise, cesarean section and procedures associated with it such as administration of spinal anesthesia are also associated with post-partum Back Pain in some women. However, according to Novaes et al., pregnancy-related Back Pain should be treated because it impacts negatively on the quality of life of pregnant women and prevents them from living a normal life.[8]

1.2 NEED OF THE STUDY

Now a day's caesarean section is a trend. Everyone thinks that normal vaginal delivery is painful and caesarean section is painless. But it is totally wrong; various kind of discomfort appears after caesarean section. Many women report that low back pain not only compromises their ability to work but also interferes with activities of daily living. Actually good posture and careful movement are especially important after pregnancy. However, a cesarean section is a major abdominal surgery with all the complication of such surgeries and therefore the woman will also require general post surgical rehabilitation.[9]

Disability is an umbrella term, covering impairments, activity limitations, and participation restrictions. Impairment refers to structural and functional problem. Activity is limited due to pain, fixed deformities or sensory problems like blindness. And hence the disabled can't perform tasks. Common morbidities across various disability conditions include urinary tract infections, decreased mobility and independence, skin ulceration, respiratory compromise, interpersonal abuse, stress, and depression. Medical management requires multidisciplinary approach for select patients like cases of multiple sclerosis, paraplegics, those with severe respiratory compromise. Rest may do well with definitive postural measures to enhance their access to health facilities.[10]

Over a billion people, about 15% of the world's population have some form of disability. Between 110 million and 190 million adults have significant difficulties in functioning.[11]

Terzi Hasan, Terzi Rabia, Altınbilek Turgay (2015) conducted a study on Pregnancy-related lumbopelvic pain in early postpartum period and risk factor. The purpose of this study is to identify the risk factors in patients with pregnancy-related lumbopelvic pain in early postpartum period and determine the factors associated with pain in patients suffering from lumbopelvic pain at 1 month postpartum. 339 women of 18-40 years of age who were in the 1st month of postpartum period were included in the study. The Oswestry disability index was used for functional evaluation and the Beck depression inventory was used for assessment of depression. Result shows 114 (33.6%) patients had a history of pregnancy-related lumbopelvic pain. 59 (18.9%) patients had ongoing pain at 1 month postpartum. When patients were divided into two groups, consisting of women with and without lumbopelvic pain at 1 month postpartum, no statistical difference was observed between two groups in terms of age, parity, employment status, smoking status, depression score, method of delivery, type of anesthesia, and emergency or elective cesarean section. When the risk factors affecting postpartum lumbopelvic pain were evaluated by using the Stepwise Logistic regression analysis, weight gain during pregnancy, body mass index and presence of lumbopelvic pain during previous pregnancy were found to be independent risk factors (p<0.05). Pregnancy-related lumbopelvic pain is a significant cause of disability that affects many pregnant women.[12]

Stone Jennifer Y (2019) conducted a study on Physical therapy in addition to standard care following caesarean section. The purpose of this study is to determine whether a physical therapy program which includes scar management, core retraining, and lumbar and pelvic joint mobilization will significantly impact the postpartum recovery following Cesarean section during the immediate postpartum period and during the first 1.5 years following childbirth. Sampling technique was randomized sampling. Sample size was 125. Subjects will be randomized into one of two groups; one group will receive physical therapy in addition to standard post C-section treatment, and the other group will receive standard post C-section treatment with no additional physical therapy. Subjects attend 1 to 2 physical therapy sessions per week for 6 weeks

beginning 8-10 weeks post-C section. The physical therapy program

includes scar management, core retraining, and lumbar and pelvic joint mobilization. Result shows The change in the Oswestry Disability Index from 8 week baseline to subsequent time points and the change in visual analogue pain scale ratings from 8 week baseline to subsequent time. Thus it implies that physical therapy is much more better than other standards care for recovery following caesarean section.[13]

Khansari M, Shakeri Hassan, Arab Amir Masoud (2020) conducted a study on Evaluation of Resulting Disability from Back Pain After Childbirth: A Comparison Between Vaginal Delivery and Cesarean Section. The purpose of this study was to assess the prevalence of postpartum LBP and resulting functional disability in a follow-up program (48 hours later and 3months after delivery) between 2 methods of delivery. This is a follow-up study of the cohort including a sample of women who delivered from September 2016 to March 2017. The final study sample consists of 406 women that N=208(51.5%) were in the Cs group and N=198(49.2%) were in the NVD group. In first stage N=164(40.4%) of total participants reported pain(Cs=81,NVD=83) while this figures decreased to N=150(36.9%) in second stage (CS=74,NVD=76). The functional disability questionnaire average score in the first phase for the CS group was: OSW=14.45, RM=5.67 And TSK=10.76 and for NVD group was: OSW=20.37, RM=7.67 and TSK=11.73. In the second stage (3months after delivery) average scores for the CS group were: OSW=20.47, RM=6.48 and TSK=9.71 and for NVD group was OSW=21.56, RM= 6.46 and TSK=11.26. In this study, no relation between delivery type and LBP prevalence was found. OSW and RM average scores had significant difference in first stage, in a way that these scores were higher in NVD (OSW p-value=0.02,RM p-value=0.03) but in second phase no significant difference was found,(OSW p-value=0.71,RM p- value=0.97). TSK scores didn't show any significant difference in any stage (first stage p-value=0.63 and second stage p-value=0.61).[14]

Specific exercises and postures can help the pregnant women to adapt to the physical changes in her body after the childbearing year. One of the most important contributions to a healthy pregnancy is good posture. Proper alignment can decrease low back pain and pelvic pain and fatigue. After pregnancy several things occur that

work against maintaining correct alignment for the involution of the uterus and other body organs.[15]

The Researcher during her clinical posting observed the poor maintenance of posture and its result of disability related to pain mainly among post caesarean mothers, which motivated the researcher to take up a study on the correct way of posture maintenance to reduce the disability related pain, thereby improving the daily activities of living among the post caesarean mothers.

1.3 STATEMENT OF PROBLEM

A quasi experimental study to evaluate the effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers in selected hospitals, Agartala, West Tripura.

1.4 AIM OF THE STUDY

Estimate the effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers.

1.5 OBJECTIVES OF THE STUDY

1. To assess the level of pain.
2. To assess the pre test level of disability related to pain after caesarean section among the post caesarean mothers in both experimental and control group.
3. To administer the techniques of posture maintenance on reduction of disability related to pain among post caesarean mothers in the experimental group.
4. To evaluate the effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers in experimental group.
5. To compare the post test level of disability related to pain after caesarean section in between experimental and control group.
6. To find out the association between the pre test level of disability related to pain among post caesarean mothers with their selected demographic variables.

1.6 ASSUMPTION

Posture maintenance may be effective to reduce the disability related to pain among post caesarean mothers.

1.7 HYPOTHESES

H_1: The level of disability related to pain in post test score is significantly lower than the level of disability related to pain in pre test score among postnatal mothers in experimental group at $p<0.05$ level of significance.

H_2: The level of disability related to pain in post test score of experimental is significantly lower than the level of disability related to pain in post test score of control group.

H_3: There is significant association between the levels of disability related to pain with their selected demographic variables.

1.8 OPERATIONAL DEFINITION

1) **Effectiveness:** It refers to, the difference between the levels of pain in pre technique and post technique scores in both experimental and control group of post caesarean mothers.

2) **Posture maintenance:** It refers to, the correct techniques of maintaining posture during sitting, standing, lifting, bending, leaning and getting out of the bed while breastfeed the baby or holding the baby etc. by the post caesarean mothers.

3) **Disability related to pain:** It refers to a physical or mental condition that limits a person's movements, senses, or activities due to some physical or emotional unpleasant sensation.

4) **Post caesarean mothers:** Mothers who had under gone planned/emergency caesarean section in which an incision is made on mother's abdomen and uterus to deliver her baby and mother are in recovery room after 24 hours of cesarean section.

1.9 CONCEPTUAL FRAME WORK

Conceptual frame work acts as a building block for the research study. It provides a certain frame work of reference for clinical practice, education and research. They also give directions for relevant questions to practical problems. The present study aims at evaluating the effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers.

King's theory offers insight into nurse's interaction with individual and group within the environment. It highlights the importance of client's participations in decision that influences care and focuses on both the process of nurse client interaction and the outcome of care.

Perception: Perception is a process in which data obtained through the senses and from memory are organized, interrupted and transformed which are related to past experiences, concept of self and educational background. In this study investigator and post caesarean mothers perceive the need of appropriate posture maintenance. Both investigator and post caesarean mothers set the goal to maintain posture on reduction of disability related to pain.

Judgement: The ability to take considered decision or come to sensible conclusion. In this study investigator takes decision to maintain posture on reduction of disability related to pain. The post caesarean mothers also feel that therapeutic procedure may help on reduction of disability related to pain.
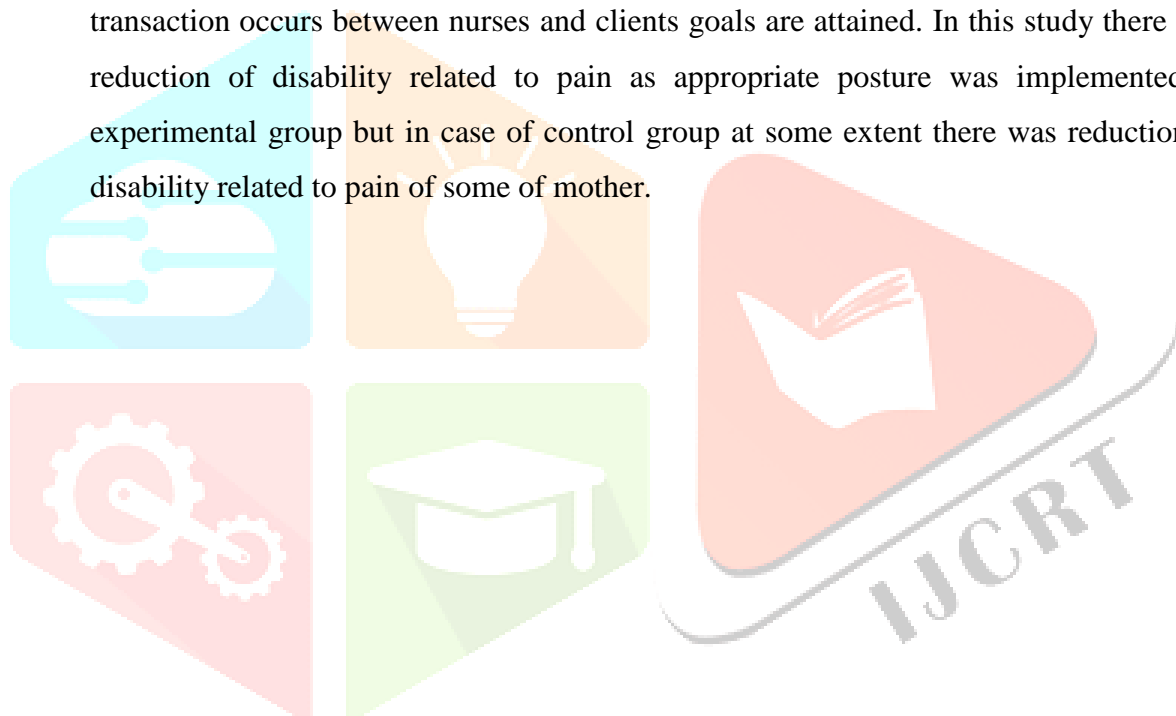
Action: Action is defined as a sequence of behaviours involving mental and physical action. During action phase the investigator develop visual analog scale to assess the level of pain, modified Oswestry disability questionnaire to assess the level of disability related to pain and structured knowledge questionnaire to assess socio demographic data among post caesarean mothers and mothers are also ready to give consent to maintain appropriate posture as directed by the investigator.

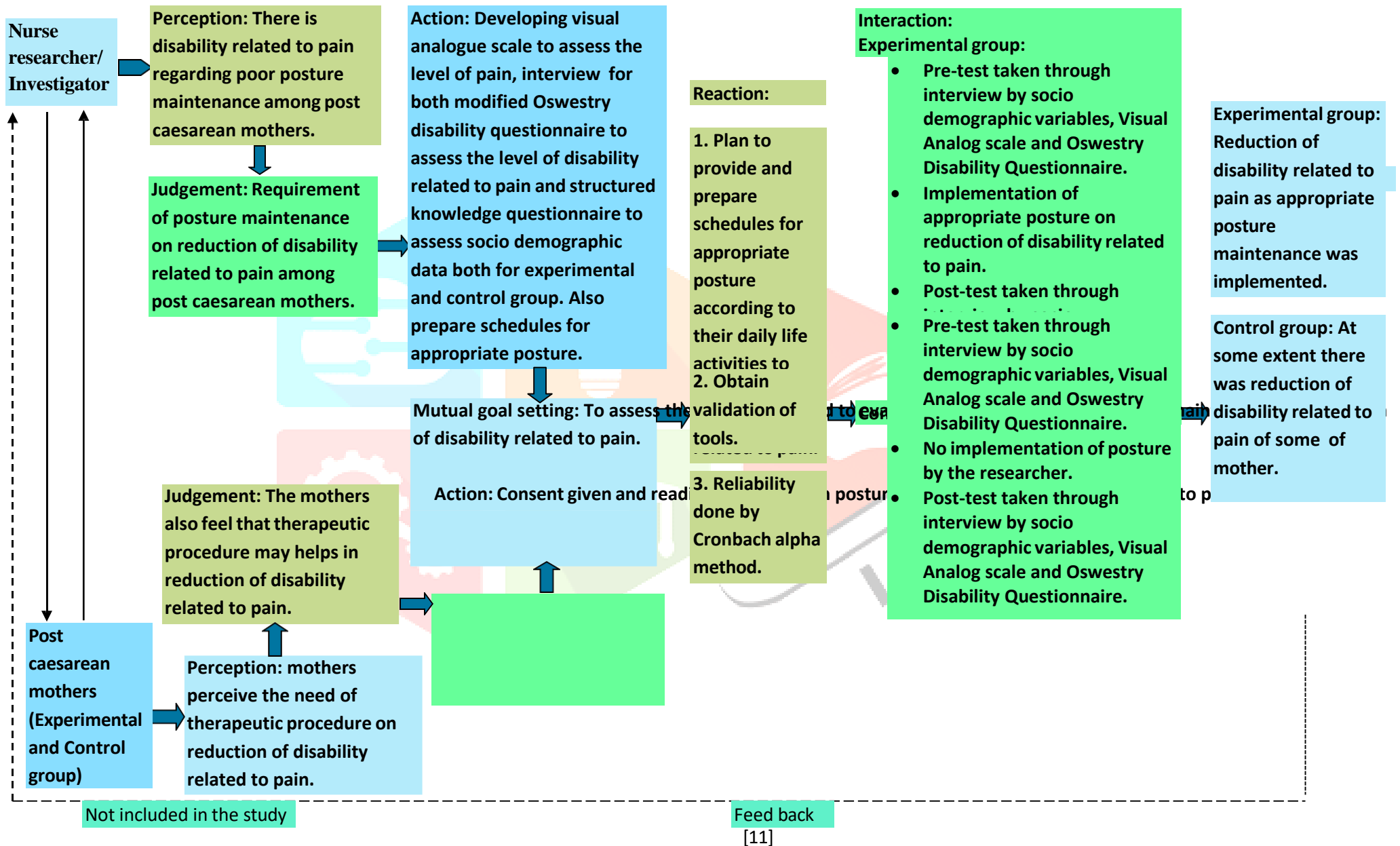**Reaction:** Reaction is considered as included in the sequence of behaviours described in action. In this study reaction is the validity and reliability done on visual analog scale to assess the level of pain, modified Oswestry disability questionnaire to assess the level of disability related to pain and structured knowledge questionnaire to assess socio demographic data among post caesarean mothers. Also plan to provide and

prepare schedules for appropriate posture according to their daily life activities to reduce disability related to pain.

Interaction: It is the process of perception and communication between person to person represented by verbal and nonverbal behaviour that is goal directed. King indicates that interaction and transaction are directly observable. In the present study, during the interaction, the investigator directs to maintain appropriate posture among post caesarean mothers.

Transaction: It is defined as purposeful interaction that leads to goal attainment. King defines as observable behaviours of human beings interacting with environment. When transaction occurs between nurses and clients goals are attained. In this study there was reduction of disability related to pain as appropriate posture was implemented in experimental group but in case of control group at some extent there was reduction of disability related to pain of some of mother.

Nurse researcher/ Investigator

Perception: There is disability related to pain regarding poor posture maintenance among post caesarean mothers.

Judgement: Requirement of posture maintenance on reduction of disability related to pain among post caesarean mothers.

Action: Developing visual analogue scale to assess the level of pain, interview for both modified Oswestry disability questionnaire to assess the level of disability related to pain and structured knowledge questionnaire to assess socio demographic data both for experimental and control group. Also prepare schedules for appropriate posture.

Mutual goal setting: To assess the of disability related to pain.

Action: Consent given and read

Reaction:

1. Plan to provide and prepare schedules for appropriate posture according to their daily life activities to
2. Obtain validation of tools.
3. Reliability done by Cronbach alpha method.

Interaction:
Experimental group:
- Pre-test taken through interview by socio demographic variables, Visual Analog scale and Oswestry Disability Questionnaire.
- Implementation of appropriate posture on reduction of disability related to pain.
- Post-test taken through
- Pre-test taken through interview by socio demographic variables, Visual Analog scale and Oswestry Disability Questionnaire.
- No implementation of posture by the researcher.
- Post-test taken through interview by socio demographic variables, Visual Analog scale and Oswestry Disability Questionnaire.

Experimental group: Reduction of disability related to pain as appropriate posture maintenance was implemented.

Control group: At some extent there was reduction of disability related to pain of some of mother.

Judgement: The mothers also feel that therapeutic procedure may helps in reduction of disability related to pain.

Post caesarean mothers (Experimental and Control group)

Perception: mothers perceive the need of therapeutic procedure on reduction of disability related to pain.

Not included in the study

Feed back
[11]

1.10 DELIMITATIONS

1. The study is delimited to post caesarean mothers with disability related to pain.

2. The study is delimited to the Post caesarean mothers who are admitted in obstetrics department of selected hospitals at the period of the study.
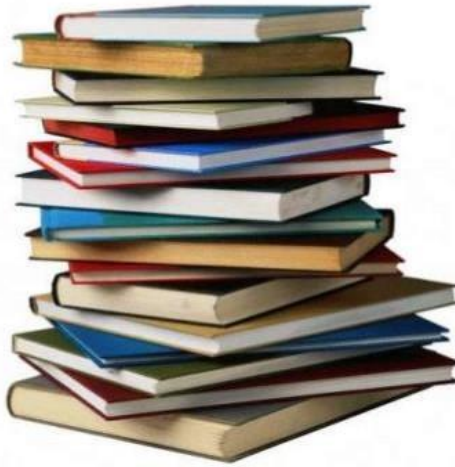
1.11 SUMMARY

This chapter deals with the introduction i.e background of the study, need of the study, statement of problem, aim of the study, objectives of the study, variables, operational definitions, hypotheses, assumption and delimitations.

CHAPTER II

LITERATURE REVIEW

CHAPTER-II

2.1 REVIEW OF LITERATURE

Review of literature is a key step in research process. The typical purpose for analyzing a research existing literature is to generate research question to identify what is known and what is unknown about the topic. The major goals of review of literature are to develop a strong knowledge base to carry out research and non- research scholarly activity. **According to Polit and Hunglar (2006) ,** it is helpful in understanding and developing insight into the selected problem under study and also to develop a conceptual search framework for the study.

Review of literature are:

   a. **Literature related to prevalence of pain in post caesarean mothers.**
   b. **Literature related to disability related to pain and caesarean section.**
   c. **Literature related to effectiveness of postural maintenance after caesarean section.**

a) Literature related to prevalence of pain in post caesarean mothers:

Jin Juying, Peng Lihua, Min Su (2016) conducted a prospective study on Prevalence and risk factors for chronic pain following cesarean section. The purpose of this prospective study was to assess the incidence and risk factors of chronic pain at 3, 6 and 12 months after cesarean delivery. They prospectively investigated preoperative demographic and psychological factors, intra operative clinical factors, and acute postoperative pain in a cohort of 527 women undergoing cesarean section. Questions were about pain intensity, frequency, and location, as well as medical treatment and impact on daily living. The incidence of CPSP at 3, 6 and 12 months after cesarean section was 18.3 %, 11.3 % and 6.8 %, respectively. The incidence of moderate and severe pain on movement was high at 3 month, and then has a significant decrease at 6 and 12 months. Independent predictors of CPSP at 3 months included higher average pain intensity on movement within 24 h postoperatively, preoperative depression, and longer duration of surgery. At 6 months, more severe pain during movement within 24 h of surgery and preoperative depression were predictive of pain persistence. And 12 months after surgery, only higher average pain

score on movement within 24 h following cesarean section was found to be significant associated with CPSP. The three models all showed moderate discrimination and good calibration for the prediction of CPSP at 3, 6 and 12 months postoperatively. [16]

Thenmozhi P (2016) conducted a cross-sectional study on Assess the Level of Back Pain among LSCS Mothers. The aim of the study is assess the level of back pain among lower segment caesarean section mothers. A Cross-sectional research design was adopted with 30 samples. The samples who met the inclusion criteria were selected by convenient sampling technique. Collected socio demographic variables followed by assessed the level of back pain by using numerical pain rating scale and multiple choice questions was used to assess the back pain related to lower segment caesarean section. Result shows out of 30 samples, 6 (20%) had mild pain, 16(53%) of them had moderate pain and 8(27%) of them had severe pain. the mean score of back pain level was 5.46 with 2.37 standard deviation. Chi square test reveals that there is significant association between the age, education, Occupation, type of family, income, residence with the level of back pain at the level of $P \leq 0.05$. The study findings concluded that the mothers who delivered a baby by LSCS having back pain from mild intensity to severe from the time of delivery and lasting for years after delivery.[17]

Rasheed N, Khan Hassan Muhammed, Rasheed N (2017) conducted a study on Comparison of Incidence of Low Back Pain in Women with Normal Vaginal Delivery and Cesarean Section. The Objective of this study was to compare the incidence of low back pain between women who underwent caesarean section and those had normal vaginal delivery. This comparative study was conducted in Dow university hospital from January 2014-December 2017. Total sample was 340 patients. Results shown that mean age of the respondents was 28 years, with mean parity was 4.2, 170(50%) delivered via normal vaginal delivery, 170(50%) via Caesarean section. 20(5.8) %, out of them got general anesthesia,150 (94.2%) were given regional anesthesia. Out of those 150 who got regional anesthesia,105(70%) got spinal anesthesia and 45(30%)patient got epidural anesthesia. Patients who underwent C-section, 48(28.8%) had elective C-section, 122(61.7%) had emergency C-section. Back pain was started in 15(4.4%) before pregnancy, 50(16.9%) during pregnancy and 266(77.3 %) after delivery. Regarding intensity of pain, 23(6.7 %) respondents mild backache,

175(50.9%) moderate and 140(40.7%) severe backache. Conclusion revealed that low back pain is a problem in women after delivery either with cesarean section or normal vaginal delivery.[18]

Parikh Shweta , Suchi Joshi (2016) conducted a comparative study on prevalence of low back pain and its impact on quality of life in post partum women. The objectives of this study was to compare the prevalence of back pain and its impact on quality of life after normal vaginal delivery and after cesarean section. Sampling technique was convenient sampling technique. Sample size was 60, 30 had undergone NVD and 30 had undergone in CS. They were assessed for back pain using Numerical rating scale, Oswestry Disability Index was taken to assess the disability level. Results shows the prevalence of postpartum back pain in women with cesarean section is 56.67% .The prevalence of postpartum back pain in women with normal vaginal delivery is 33.33%. The mean quality of life of women with cesarean delivery with back pain is 37.25 with SD of 4.67.The mean quality of life of women with normal vaginal delivery with back pain is 43.10 with SD of 4.6. The prevalence of low back pain is higher in post-partum women with cesarean section compared to normal vaginal delivery. The quality of life is better in postpartum women with normal vaginal delivery than the women with cesarean section. The disability level is lower in postpartum women with normal vaginal delivery than the women with cesarean section.[19]

Mukhopadhyay A, Bhattacharya Arpan, Syamal Alak Kumar, Chanda Sarmishtha (2019) conducted a study on Spinal anesthesia during cesarean section and persisting low back pain: a cross sectional study in West Bengal, India. This study aims to focus on the consequences of back pain associated with the effects of spinal anesthesia that have been received before several years. 48 housewives are included in this study (20 subjects for vaginal delivery and 28 subjects for spinal anaesthesia induced cesarean section) based on convenient sampling method through assessing their socio-economic status and other attributing criteria. Pain detect tool was used to track back pain status and a semi structure questionnaire was used to explore other considerations. Results have shown that patients, about 26.67% of subjects have undergone spinal anesthesia with no change in pain perception than it was before. 22.22% reported that, back pain had rose after SA procedure and persisted for long years (beyond 1 year or more). Also, 6.66% of subjects were reported to be higher in

pain perception than before, after receiving spinal anesthesia procedure. 44.44% participants have received neither spinal anesthesia, nor cesarean section delivery at the time of childbirth. Subjects were distributed into 2 major groups referred to control and exposed. Control group participants (n=20) were undergone vaginal delivery and have not received any spinal anesthesia in their previous clinical history. The exposed group participants (n=28) have received spinal anesthesia followed by cesarean section delivery during childbirth. Significant correlations were found between the pain scores and the VAS scores of the subjects, p=0.000. Also, significant correlations were found between the pain scores and the status of the spinal anesthesia (p=0.012). This study concludes that subjects have shown significant higher pain perception levels after receiving spinal anesthesia compared to general anesthesia. Decision of Cesarean section delivery should include patient's previous pain conditions and current need.[20]

b) **Literature related to disability related to pain and caesarean section.**

Darney Blair G., Biel M Frances, Johnson Horner Willi (2017) conducted a cohort study on Primary cesarean delivery patterns among women with physical, sensory, or intellectual disabilities. The objective of this study was to determine whether physical, sensory, or intellectual and developmental disabilities are independently associated with primary cesarean delivery. Sample size was 5772198. They used logistic regression to examine the association of these disabilities and primary cesarean delivery, controlling for socio-demographic characteristics and co-morbidities and stratified by parity. Result shows 0.45% of deliveries were to women with disabilities. A larger proportion of women with disabilities were nulliparous, had public insurance, and had co-morbidities (e.g., gestational diabetes) compared with women without disabilities (p<0.001 for all). The proportion of primary cesarean in women with disabilities was twice that in women without disabilities (32.7% versus 16.3%, p<0.001; OR = 2.05; 95% CI = 1.94–2.17). The proportion of deliveries by cesarean was highest among women with physical disabilities due to injuries compared with women without disabilities (57.8% versus 16.3%, p<0.001; aOR = 6.83; 95%CI = 5.46–8.53). Women across disability subgroups have higher odds of cesarean delivery, and there is heterogeneity by disability type. More attention is needed to this population to ensure better understanding of care practices that may impact maternal and perinatal outcomes.[21]

Gutke A, Lundberg M, Oberg B (2011) conducted a study on Impact of postpartum lumbopelvic pain on disability, pain intensity, health-related quality of life, activity level, kinesiophobia, and depressive symptoms.The evaluation of lumbopelvic pain postpartum is mostly based on self-administered questionnaires or interviews. 272 consecutively registered pregnant women evaluated at 3 months postpartum, answered questionnaires concerning disability (Oswestry disability index), pain intensity on visual analog scale, health-related quality of life (HRQL, EQ5D), activity level, depressive symptoms (Edinburgh postnatal Depression Scale) and kinesiophobia (Tampa Scale for Kinesiophobia). 33% of postpartum women were classified with lumbopelvic pain; 40% reported moderate to severe disability. The impacts were similar among subgroups. Pain intensity, HRQL and kinesiophobia explained 53% of postpartum disability due to lumbopelvic pain. In conclusion, one of three postpartum women still had some lumbopelvic pain and the impacts were equivalent irrespective of symptoms in lumbar or pelvic areas. The additional explanations of variance in disability by HRQL and kinesiophobia were minor, suggesting that pain intensity was the major contributing factor.[22]

Korovessis P, Antonaki R, Zacharatos s, Syrimpeis V (2019) conducted a consecutive case series study on Low back pain induces disability of women in primary uncomplicated pregnancy. The purpose of this study was to investigate whether Low Back Pain (LBP) in women with primary singleton pregnancy induces disability. 167 pregnant women aged 30 ± 3.5 years participated. Two equal categorial age groups were constructed: Group A included women aged 23 - 29 years, and Group B women aged 30-39 years. Their weight was 76 ± 13 kg prepartum and the Body Mass index (BMI) was 28 ± 4 prepartum. Visual Analogue Scale (VAS) was used for LBP pain intensity and Oswestry Disability Scale (ODI) for disability estimation in the last three months prepartum and in the first three months postpartum. Result shows The women weight was 67 ± 13 kg postpartum. The BMI was 24 ± 4 postpartum. There was no difference in VAS and ODI scores versus BMI, weight and height between the two age groups in both periods of observation: prepartum and postpartum. Prepartum, 81.4% of women claimed LBP that dropped to 55.5% postpartum. ODI score dropped from $19.5 \pm 13.6\%$ prepartum to $11 \pm 12\%$ postpartum. The ODI subscales that showed significant reduction postpartum were: Pain intensity ($P = 0.002$); working ($P = 0.009$); sitting ($P = 0.004$); standing ($P =$

0.003); sleeping (P = 0.008); and traveling (P = 0.006). VAS prepartum was increasing as the weight was increasing in both periods of observation (P = 0.015 and P=0.051) respectively. VAS prepartum was significantly correlated with BMI prepartum (P = 0.019) and postpartum (P = 0.028). Physical disability in pregnant women was low and reduced following delivery. Disability was linked with LBP intensity, weight, BMI and height.[23]

Chitnis Swati, Samant Padmaja (2009) conducted a prospective study on Physical disabilities in pregnant women: impact on care and pregnancy outcome. The method was Prospective study of total of 50 pregnant women with various disabilities was conducted in a tertiary care hospital in Mumbai, India. Each patient's antepartum, intrapartum and postpartum course were noted. Patients were also interviewed with help of a structured questionnaire for difficulties accessing services, and impact on their daily life, pain. Result shows Rate of cesarean deliveries due to pelvic problems, and complications like urinary tract infections which arise due to mobility issues were significantly higher in patients with physical disabilities. 30% participants found examination tables unsuitable and 20% found it difficult access toilets. Over all patients were satisfied with skills of health workers. Conclusions reveled that healthcare facilities have to be equipped for receiving patients with disabilities and should train health workers in management of these clients. They require pre- conceptional counseling and planning.[24]

c) Literature related to effectiveness of postural maintenance after caesarean section.

Karakaya I C, Yuksel I, Akbayrak T, Demirturk F, Karakaya M Gurhan, Ozyuncu O et.al (2012) conducted a study on Effects of physiotherapy on pain and functional activities after cesarean delivery. 50 women were evaluated after Cesarean operation. 24 women received only routine nursing care, and a physiotherapy program was applied to the study group ($n = 26$). Incision pain decreased significantly from the operation to the postoperative second day, in both groups (F = 16.868, p = 0.000 in the study group, and F = 3.794, p = 0.041 in the control group). Control group had more difficulty in the postoperative first day (p < 0.05) . Intensity of incision pain and amount of difficulty in functional activities were positively correlated for each measurement time (r = 0.426, p = 0.002 in the operation day, r = 0.534, p = 0.000 in

the post-operative first day, r = 0.528, p = 0.000 in the post-operative second day). Findings revealed the effectiveness of a physiotherapy program in the early post- cesarean period in a wider perspective than the current literature, and are considered to be valuable for increasing the quality and productivity of the postnatal care, therefore improving well-being after childbirth.[25]

Mogren M I (2018) conducted a study on Physical activity and persistent low back pain and pelvic pain post partum. The aims of this study were (i) to investigate the potential influence of pre-pregnancy regular leisure-time physical activity (PA) on the risk of persistent LBPP half a year after pregnancy, and (ii) to explore the starting time and prevalence of PA among women experiencing LBPP during pregnancy, in relation to remission or persistent LBPP half a year after pregnancy. This study is a follow-up study of 639 women. The respondents were divided into three groups: 'no pain', 'recurrent pain', and 'continuous pain'. Result shows that 44.5% of subjects reported current PA at six months post partum. The mean starting time of PA was 2.6 months post partum and the mean number of current, weekly events of PA was 3.4; there were no differences between the groups. 82.2% reported previous PA at some period in life. Women with BMI $\geq$ 30 reported current PA to a lesser extent. The number of years of pre-pregnancy PA did not influence the risk of persistent LBPP. Almost half of women who had experienced LBPP during pregnancy reported PA at six months post partum. The number of years of pre-pregnancy PA did not influence the risk of persistent LBPP. Obesity was a risk factor for not practising PA.[26]

Tondel M U, Vasseljen O, Morkved S (2015) conducted a study on Exercises for Women with Persistent Pelvic and Low Back Pain after Pregnancy. The objective of this study were to describe the development of pain, disability and transversus abdominis recruitment before, during and after an individually designed intervention including an exercise program for women with persisting lumbopelvic pain after delivery. 16 women with lumbopelvic pain after delivery were included and received tailored exercise therapy, including ultrasound-guided activation of deep muscles, strengthening and stretching exercises and advice. Results shows mean pain intensity reported for all participants was 38 over the pre-treatment baseline period and 18 over the post-treatment baseline period on the Visual Analogue Scale. Mean disability was 43 over the pre-treatment baseline period and 23 over the post-treatment baseline

period, on a similar 0-100 scale. Significant correlation was found between change in pain and disability over the baseline periods (Pearson's r = 0.89, p = 0.001). Pain and disability due to persistent low back and pelvic pain after delivery were reduced after specific, individual adapted exercise including deep and superficial lumbopelvic muscles.[27]

Malhotra N, Chahal A (2018) conducted a study on Effect of pelvic floor exercise on non-specific lower back pain in post-partum women. The present aim of the study was to investigate improvement in pain intensity and measure disability of women with constant postpartum lower back pain after and tailored exercise protocol. Herein, 30 women aged between 30-35 years having lumbo-pelvic pain after delivery of three years were included and were received tailored exercises. Manual Screening for pain was done through VAS (visual analog scale) and Oswestry disability questionnaire. Group A and Group B were classified as according to the exercise protocols. The results depicted that Subjects (30) were included in the study with mean age of 33.77

±1.44 in Group A and 32±1.46 in Group B years. The mean height calculated was 164±7.89 and cm and 156.44±7.59 cm, mean weight was 62±9.50 and 60.5±8.54 in kg, The mean BMI was also calculated as 23±4.58 and 25.73±2.49 respectively for group A and B. The values showed not much variability between treatment groups and within treatment groups. The smaller the ration less confident the score are rejecting the H1 and accepting the H0 hypothesis ,stating there was no difference in VAS score in between two group A and B showing similar results. Secondly the P value is more than the significant the p-value is 0.115593. The result is not significant at p < .05. The difference within the group for ODQ score that the mean square between treatments 3349.633, much larger is than the mean square 60.99048 within treatments The F value for ODQ i.e. MSB/MSW after the treatment is 54.9206. As the value shows much variability between treatment groups and within treatment groups. The larger the ratio more is the confidence of score in rejecting the H0 and accepting the H1 hypothesis, stating there was a difference in ODQ score in between two group A and B. The f-ratio value is 54.9206. The p-value is < .00001. The result is significant at p < .05. Thus the pelvic floor exercise in combination abdominal exercise with routine treatment for back pain provide significant benefits in terms of pain relief and disability over routine treatment as compared to spinal hyperextensions along with abdominal muscle strengthening.[28]

Schwerla F, Rother K, Rother D, Ruetz m, Resch K (2015) conducted a study on Osteopathic Manipulative Therapy in Women with Postpartum Low Back Pain and Disability: A Pragmatic Randomized Controlled Trial. The objective is to evaluate the effectiveness of osteopathic manipulative therapy in women with persistent LBP and functional disability after childbirth. By means of external randomization, women were allocated to an OMTh group and a waitlist control group. Osteopathic manipulative therapy was provided 4 times at intervals of 2 weeks, with a follow-up after 12 weeks. The main outcome measures were pain intensity as measured by a visual analog scale and the effect of LBP on daily activities as assessed by the Oswestry Disability Index (ODI). Result shown a total of 80 women aged between 23 and 42 years (mean [SD], 33.6 [4.5] years) were included in the study, with 40 in the OMTh group and 40 in the control group. Pain intensity decreased in the OMTh group from 7.3 to 2.0 (95% CI, 4.8-5.9; *P*<.001) and in the control group from 7.0 to

6.5 (95% CI, -0.2 to -0.9; *P*=.005). The between-group comparison of changes revealed a statistically significant improvement in pain intensity in the OMTh group (between-group difference of means, 4.8; 95% CI, 4.1-5.4; *P*<.001) and level of disability (between-group difference of means, 10.6; 95% CI, 9.9-13.2; *P*<.005). The follow-up assessment in the OMTh group (n=38) showed further improvement. Conclusion revealed during 8 weeks, OMTh applied 4 times led to clinically relevant positive changes in pain intensity and functional disability in women with postpartum LBP.[29]

2.2 **SUMMARY:** This chapter reveals with the literature related to prevalence of pain in post caesarean mothers, disability related to pain and caesarean section and effectiveness of posture maintenance after caesarean section.
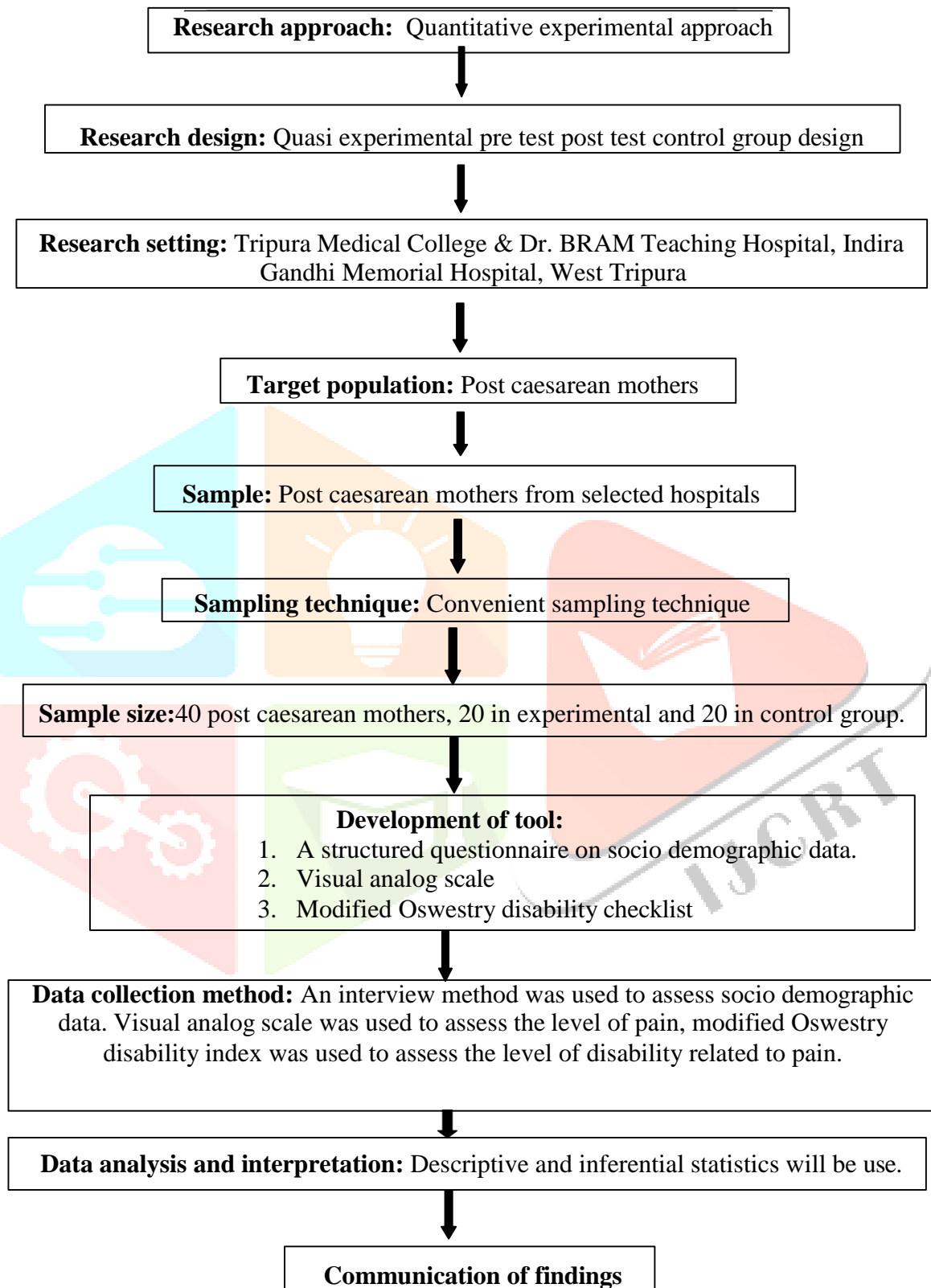
CHAPTER III

CHAPTER - III

Research approach: Quantitative experimental approach

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Research design: Quasi experimental pre test post test control group design

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Research setting: Tripura Medical College & Dr. BRAM Teaching Hospital, Indira Gandhi Memorial Hospital, West Tripura

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Target population: Post caesarean mothers

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Sample: Post caesarean mothers from selected hospitals

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Sampling technique: Convenient sampling technique

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Sample size: 40 post caesarean mothers, 20 in experimental and 20 in control group.

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Development of tool: 1. A structured questionnaire on socio demographic data. 2. Visual analog scale 3. Modified Oswestry disability checklist

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Data collection method: An interview method was used to assess socio demographic data. Visual analog scale was used to assess the level of pain, modified Oswestry disability index was used to assess the level of disability related to pain.

↓

Data analysis and interpretation: Descriptive and inferential statistics will be use.

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Communication of findings

Fig: Schematic representation of Research Methodology

METHODOLOGY:

Research methodology is a way to systematically solve the research problem. It consists of the various steps that are generally adopted by a researcher in studying the problem along with the logic behind them. The methodology of research indicates the general pattern of organizing the procedure for gathering valid and reliable data for the purpose of the study.

The present study has been undertaken to assess the level of disability related to pain after cesarean section and also evaluating the effectiveness of posture maintenance on reduction of disability related to pain among post cesarean mothers in selected hospitals, Agartala, West Tripura.

1. Research approach: The selection of research approach is a basic procedure for collecting data. "The research approach refers to a general set of orderly disciplined procedures used to acquire dependent and useful information."

With a view of accomplishing the objectives, in evaluating the effectiveness of posture maintenance, quantitative experimental approach was consider to be more appropriate.

2. Research design: Research design can be defined as blue print to conduct research study, which involves the description of research approach, study setting, sampling size, and sampling technique, tools and methods of data collection and analysis to answer is a specific research question or for testing research hypotheses.

The selection of research design depends upon the purpose of the study, research approach and variables under study.

A quasi experimental pre test post test control group design was chosen for the present study, in which posture maintenance procedure was conducted followed by pre test and then post test was conducted after 48 hours of cesarean section in the experimental group and for the control group pre test was conducted, then post test was conducted after 48 hours of cesarean section, but no intervention is given to this group after pre test.

Table 1: Schematic representation of research design.

Group	Pre test on day 1	Intervention	Post test after 48 hours of CS
A	Q_1	X	Q_2
B	Q_3	-	Q_4

A: Experimental treatment group of the post cesarean mothers in selected hospitals of Agartala, West Tripura. Intervention is given to this group.

B: Control group of the post cesarean mothers in selected hospitals of Agartala, West Tripura, where no intervention is given.

Q_1: Pre test to assess the level of disability related to pain through interview schedule on day 1 for the experimental group.

Q_3: Pre test to assess the level of disability related to pain through interview schedule on day 1 for the control group.

X: Intervention (posture maintenance) followed by the pre test for the experimental group.

Q_2: Post test to assess the level of disability among post cesarean mothers by using Oswestry Disability Questionnaire through interview schedule after 48 hours of cesarean section along with intervention for the experimental group.

Q_4: Post test to assess the level of disability among post cesarean mothers by using Oswestry Disability Questionnaire through interview schedule after 48 hours of cesarean section for the control group.

3. Variables:

- **Independent variables:** Posture maintenance on reduction of disability related to pain.
- **Dependent variables:** Disability related to pain.
- **Demographic varibles:** Age, education, occupation, type of family, gravid/parity, BMI, previous caesarean section; if yes then any disability

related to pain occur or not, previous source of information related to posture maintenance.

4. Research setting: The setting refers to the physical location and conditions in which data collection takes place for the study.

The study will be conducted in:

1. Tripura Medical College and Dr. BRAM Teaching Hospital, Hapania, Agartala, (W) Tripura.

2. Indira Gandhi Memorial Hospital, Agartala, (W) Tripura.

5. Target population: The target population is the entire population in which the researcher is interested and to which he or she would like to generalize the result of the study.

The target population for this study was post caesarean mothers in selected hospitals of Agartala, West Tripura.

Accessible population: The accessible population is the population on whom the researcher doing the present study.

The accessible population for the study was post cesarean mothers in TMC and Dr. BRAM Teaching hospital and Indira Gandhi Memorial hospital.

6. Sample: Sample refers to a subset of population to participate in research study. In this study researcher selected 40 Post caesarean mothers from selected hospitals.

7. Sampling technique: Sampling refers to the process of selecting a portion of population to represent the entire population.

In the present study the researcher used convenient sampling technique to draw the samples.

8. Sample size: The sample consists of 40 post caesarean mothers, 20 in experimental and 20 in control group.

9. **Criteria for sample selection:**

- **Inclusion criteria:**

1) The post caesarean mothers who are having disability related to pain.

2) Post caesarean mothers who are willing to participate.

- **Exclusion criteria:**

1) Post caesarean mothers who are in high risk conditions (e.g. PPH, DM, HTN).

10. **Selection and developments of tools:**

A tool in research refers to the equipment used for collecting data from the population for drawing conclusion pertinent to the study.

Selection of tool: Tool was divided into three sections:

- ➤ **Section A-** This section includes assessing the demographic data of the subject.

- ➤ **Section B-** This section includes Visual analog scale to assess the level of pain.
- ➤ **Section C-** This section includes modified Oswestry disability questionnaire to assess the level of disability related to pain.

Development of tool: The Oswestry disability questionnaire is an extremely important tool that researchers and disability evaluators use to measure a patient's functional disability. The test is considered the "gold standard" of functional outcome tools.

Scoring instructions: For each section total possible score = 5

- Score for first statement = 0
- Score for second statement = 1
- Score for third statement =2
- Score for forth statement =3
- Score for fifth statement =4
- Score for last statement = 5

If all 8 sections are completed, the calculations like –

e.g., $16/40 \times 100 = 40\%$ [16 = total carried score, 40 = total possible score]

Interpretation of scores:

0-20% = minimal disability 21-40% = moderate disability 41-60% = severe disability 61-80% =

crippled

81-100% = bed-bound.

11. Description of tool:

Section A: Contain the demographic data '8' items of the post caesarean mothers. Considered items are Age, education, occupation, type of family, gravid/parity, BMI, previous caesarean section; if yes then any disability related to pain occur or not, previous source of information related to posture maintenance.

Section B- This section includes Visual analog scale to assess the level of pain.

Section C- This section includes modified Oswestry disability questionnaire to assess the level of disability related to pain.

It contains '8' items related to the level of pain that affecting the ability to manage everyday life.

Translation of tools: The tools were translated into Bengali by an expert to determine appropriateness.

12. Validity of the tool: It refers to the degree to which the instrument measures what it is intended to measures.

Content validity of the tool was established by requesting nine experts to go through the developed tool and give their valuable suggestions.

The suggestions of experts were incorporated in the tool was further modified and finalized with expert's opinion with consultation of guide. The prepared tool was

established by obtaining the suggestions from the experts, for validity and experts were requested through principal to issue content validity certificate.

The tool was validated with the criteria checklist from the 9 experts. The experts include 6 Obstetrics and Gynaecological Nursing specialists, 2 Obstetrics and Gynaecological specialists, 1 Physiotherapist.

13. Reliability of the tool: Reliability of an instrument is the degree of consistency with which it measures the attribute it is supposed to measures. It is concerned with consistency, accuracy, precision, stability, equivalence and homogeneity.

After tool validation, the reliability of the tool was assessed by collecting data from 20 post cesarean mothers. The reliability of the tool III i.e. Modified Oswestry Disability Questionnaire was tested by Cronbach Alpha method. The reliability obtained by the method was 0.72 which indicates the tool is reliable.

14. Pilot study: According to Treece and Treece (1988), Pilot study is a major preliminary investigation of the same general character as a major study.

The pilot study was conducted in Agartala Hospital and Sarkar Nursing Home, Agartala, West Tripura for the experimental and control group separately. After obtaining the written permission from the Managing Director of each Nursing Home the data was collected among 10 post cesarean mothers.

On the day of data collection pre test, intervention and post test was done as usual in interview method. The data collection period was 15th – 19th March, 2020. The tool Modified Oswestry Disability Questionnaire was found feasible and practicable.

Major findings are:

- 60% postnatal mothers were from age group of 25-30 years in experimental group and 60% were from age group of 20-25 years in control group.
- 60% in experimental group and 80% in control group were secondary school passed.
- 80% in experimental group and 80% in control group were housewife.

- 60% in experimental group and 60% in control group were from nuclear family.

- 65% in experimental group were multipara and 80% in control group were primipara.

- 60% do previous CS in experimental group and 80% did not do previous CS in control group.

- 60% having disability related to pain in experimental group and 805 have not disability related to pain in control group during previous CS.

- 80% in both experimental and control group were having previous sources of information.

- 60% in experimental group and 80% in control group were getting information from health professionals.

- 60% in the height range of 155-160 cm in both experimental and control group.

- 80% in experimental group and 60% in control group are placed in the weight range of 55-60 kg.

- 40% in the BMI range of 20-22 and 22-24 in experimental group and 100% in the BMI range of 22-24 in control group.

- 100% postnatal mothers had severe pain during pretest in both experimental and control group. During post test 80% had mild pain and 20% had moderate pain in experimental group and 40% had mild pain and 60% had moderate pain in control group.

- The pretest mean of disability score was 29.4, SD was 2.05 and the posttest mean of disability score was 8.8, SD was 0.74 in experimental group. "t"value was 20.03.

- The pretest mean of disability score was 31.4, SD was 2.33 and the posttest mean of disability score was 17, SD was 3.03 in control group.

- There was no significant association between the levels of disability related to pain with their selected demographic variables. ANOVA was used to find out the association.

No further changes were done after the pilot study in the tool. The investigator then proceeded for the main study.

15. **Data collection procedure:** Visual analog scale was used to assess the level of pain, modified Oswestry disability questonnaire was used to assess the level of disability related to pain and a structured questionnaire used to assess socio demographic data. The data was collected by using interview method.

The data collection period was for 10 days. The sample consists of 40 post caesarean mothers, 20 in experimental and 20 in control group. In this study dependent variables are observed in experimental as well as control groups before the intervention i.e. 12 hours after caesarean section. Later the experimental group receives intervention up to 48 hours and after that post test observation of dependent variables was carried out for both the groups to assess the effect of treatment on experimental group.

In case of experimental group from day 1 to day 4 was for data collection by pretest followed by intervention. For each day there were 5 mothers and total 150 minutes or 2 hours 30 minutes (for each mother 30 minutes) for data collection. And from day 3 to day 6 was for post test of experimental group respectively.

From day 5 to day 8 there were data collection by pretest done for control group in same manner but there were no intervention. After that from day 7 to day 10 was for post test of control group respectively.

The researcher assure that there was no harmful effects on the post cesarean mothers due .to researchers intervention on them i.e. posture maintenance on reduction of disability related to pain and also modified Oswestry disability index to assess the level of disability by interview method was not do any harmful effect to the post cesarean mothers as it is a standard scale and was validated for modification.

Schedule for data collection:

Data collection procedure	Group	Group member	Interview schedule		Duration of data collection
			Pretest	Posttest	
1. Socio demographic data by interview method.	Experim ental group	5	Day 1	Day 3	5x30=150 minutes
		5	Day 2	Day 4	5x30=150 minutes
2. Visual analog scale to assess the level of pain by observation.		5	Day 3	Day 5	5x30=150 minutes
		5	Day 4	Day 6	5x30=150 minutes
3. Modified Oswestry disability index to assess the level of disability related to pain by interview method.	Control group	5	Day 5	Day 7	5x30=150 minutes
		5	Day 6	Day 8	5x30=150 minutes
		5	Day 7	Day 9	5x30=150 minutes
		5	Day 8	Day 10	5x30=150 minutes

16. **Plan of data analysis:** Data analysis were done by using the descriptive and inferential statistics.

The plan of data analysis was as follows:

1. Organization of data in excel sheet.

2. Personal data were analyzed in terms of frequencies and percentages.

3. The disability related to pain after cesarean section among post cesarean mothers before and after posture maintenance would be analyzed in terms of frequency, percentages, mean and standard deviation and would be presented in the form of graphs/diagrams.

4. Paired 't' test is used to test the significant differences in the disability scores between pre test and post test disability scores in the experimental group.

5. Unpaired 't' test is used to test the significant difference in the disability scores between post test disability scores of the experimental and control group.

6. ANOVA tests are applied to measure the association between the pre test level of disability with selected demographic variables in the experimental and control group.

SUMMARY:

This chapter consists of research approach, research design, research setting, target population, sample, sample size, sampling technique, criteria for sample selection, description of tools, validity of tools, reliability of tools, , data collection method and plan for data analysis and interpretation and pilot study.
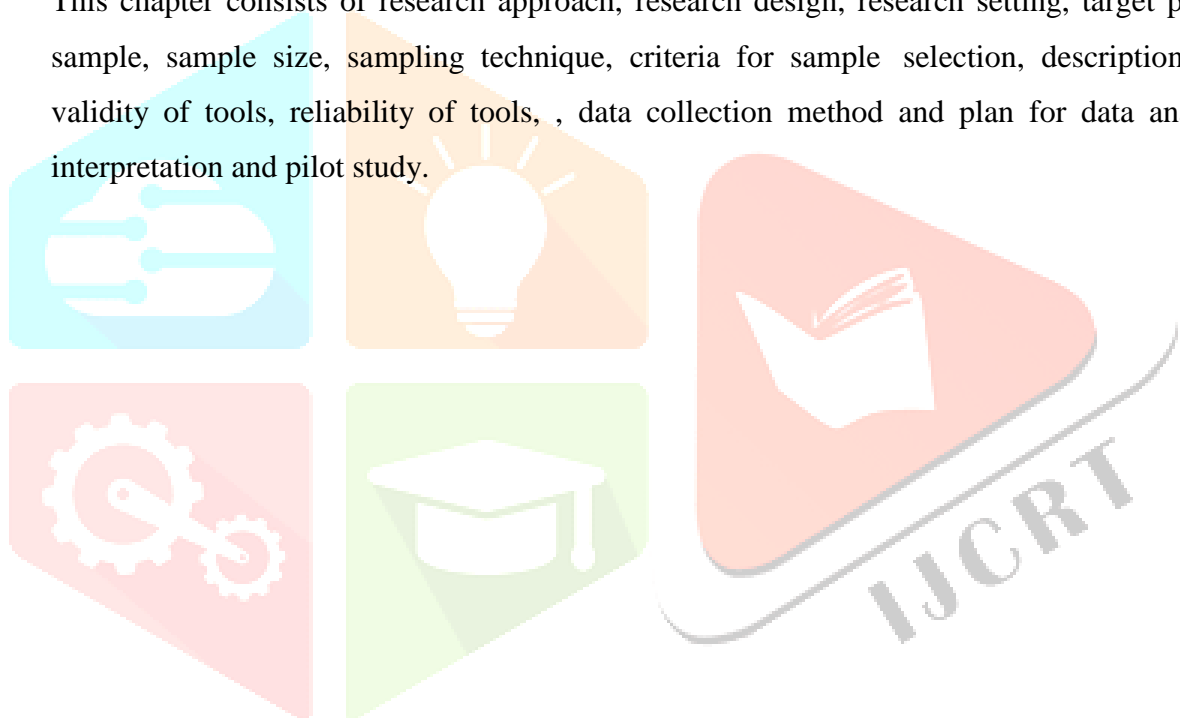
CHAPTER IV

CHAPTER – IV

Data analysis and interpretation:

Analysis of data defined as "a process by which quantitative information is reduced, summarized, organized, evaluated, interpreted and communicated in a meaningful way".

This chapter deals with analysis and interpretation of the data collected to evaluate the effectiveness of posture maintenance on reduction of disability related to pain among post cesarean mothers. The purpose of the analysis is to reduce the data to a manageable and interpretable form so that the research problem can be modified and tested.

The results were computed using descriptive and inferential statistics based on the objectives of the study as given below.

Objectives of the study:

1) To assess the level of pain.
2) To assess the pre test level of disability related to pain after caesarean section among the post caesarean mothers in both experimental and control group.
3) To administer the techniques of posture maintenance on reduction of disability related to pain among post caesarean mothers in the experimental group.
4) To evaluate the effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers in experimental group.
5) To compare the post test level of disability related to pain after caesarean section in between experimental and control group.
6) To find out the association between the pre test level of disability related to pain among post caesarean mothers with their selected demographic variables.

Hypotheses:

H_1: The level of disability related to pain in post test score is significantly lower than the level of disability related to pain in pre test score among postnatal mothers in experimental group at $p<0.05$ level of significance.

H₂: The level of disability related to pain in post test score of experimental is significantly lower than the level of disability related to pain in post test score of control group.

H₃: There is significant association between the levels of disability related to pain with their selected demographic variables.

All the research hypotheses are converted to null hypotheses for analysis purpose.

Null Hypotheses:

H₀₁: The level of disability related to pain in post test score is significantly higher than the level of disability related to pain in pre test score among postnatal mothers in experimental group at $p<0.05$ level of significance.

H₀₂: The level of disability related to pain in post test score of experimental is significantly higher than the level of disability related to pain in post test score of control group.

H₀₃: There is no significant association between the levels of disability related to pain with their selected demographic variables.

Presentation of data: The data obtained were organized in the master sheet for tabulation, statistically analyzed and interpreted by using descriptive and inferential statistics.

The data is presented under the following headings:

Section-1: Findings related to demographic data of the post caesarean mothers regarding posture maintenance on reduction of disability related to pain in experimental and control group.

Section-2: Findings related to assess the pre test and post test level of pain among post caesarean mothers in experimental and control group.

Section-3: Findings related to evaluate the effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers in experimental group.

Section-4: Findings related to comparison of post test level of disability related to pain after caesarean section in between experimental and control group.

Section-5: Findings related to association between the pre test level of disability related to pain among post caesarean mothers with their selected demographic variables in experimental and control group.

Section-1: Findings related to demographic data of the post caesarean mothers regarding posture maintenance on reduction of disability related to pain in experimental and control group.**N=40**

Sl. No.	Demographic variables	Category	Experimental group		control group	
			Frequency (f)	percentage (%)	frequency (f)	percentage (%)
1.	Age	a.15-20	3	15	3	15
		b.20-25	5	25	2	10
		c.25-30	4	20	7	35
		d.30-35	5	25	7	35
		e.35-40	3	15	1	5
2.	Educational qualification	a. Can read and write local languages	0	0	0	0
		b. Primary school	3	15	2	10
		c. Senior basic school	3	15	5	25
		d. Secondary school	8	40	4	20
		e. Higher secondary school	2	10	5	25
		f. Graduate	3	15	4	20
		g. Post graduate	1	5	0	0
3.	Occupation	a. Housewife / Unemployed	17	85	14	70
		b. Daily wages	0	0	0	0
		c. Self employed	2	10	1	5
		d. Private employed	1	5	2	10
		e. Govt. employed	0	0	3	15

No.	Category	Option	Exp	Exp %	Cont	Cont %
4.	Type of family	a. Nuclear	8	40	5	25
		b. Joint	12	60	15	75
		c. Extended	0	0	0	0
5.	Parity	a. Primipara	13	65	12	60
		b. Multipara	7	35	8	40
		c.Grand multipara	0	0	0	0
6.	Previous CS	a. yes	3	15	3	15
		b. No	17	85	17	85
	If yes any disability related to pain	a. yes	3	15	3	15
		b. no	17	85	17	85
7.	Previous sources of information	a. yes	17	85	19	95
		b. no	3	15	1	5
	If yes, sources of information	a.newspaper/ magazine/ books/ journals	0	0	0	0
		b.radio/television	0	0	0	0
		c.family members	0	0	0	0
		d.friends/neighbours	0	0	0	0
		e.health professionals	17	100	19	100
		f.others	0	0	0	0
8.	Height (m)	a.1.40-1.50	4	20	8	40
		b.1.50-1.60	11	55	8	40
		c.1.60-1.70	5	25	4	20
	Weight (kg)	Exp. Cont.				
		a.45-50 a.50-55	3	15	1	5
		b.50-55 b.55-60	1	5	11	55
		c.55-60 c.60-65	8	40	7	35
		d.60-65 d.65-70	8	40	1	5
	BMI(kg/m^2)	Exp. Cont.				
		a.15-20 a.20-25	2	10	8	40
		b.20-25 b.25-30	12	60	12	60
		c.25-30	6	30		

Fig 3: Bar graph shows frequency percentage distribution of post caesarean mothers according to age in years.

Figure 3 depicts that among 20 post caesarean mothers, 25% were between 20-25 years and 30-35 years of age group, 20% were between the age group of 25-30 years, 15% were between the age groups of 15-20 years and 35-40 years in experimental group. In control group among 20 post caesarean mothers 35% were between the age group of 25-30 years and 30-35 years, 15% were between the age group of 15-20 years, 10% were from 20-25 years and 5% were from 35-40 years of age group.
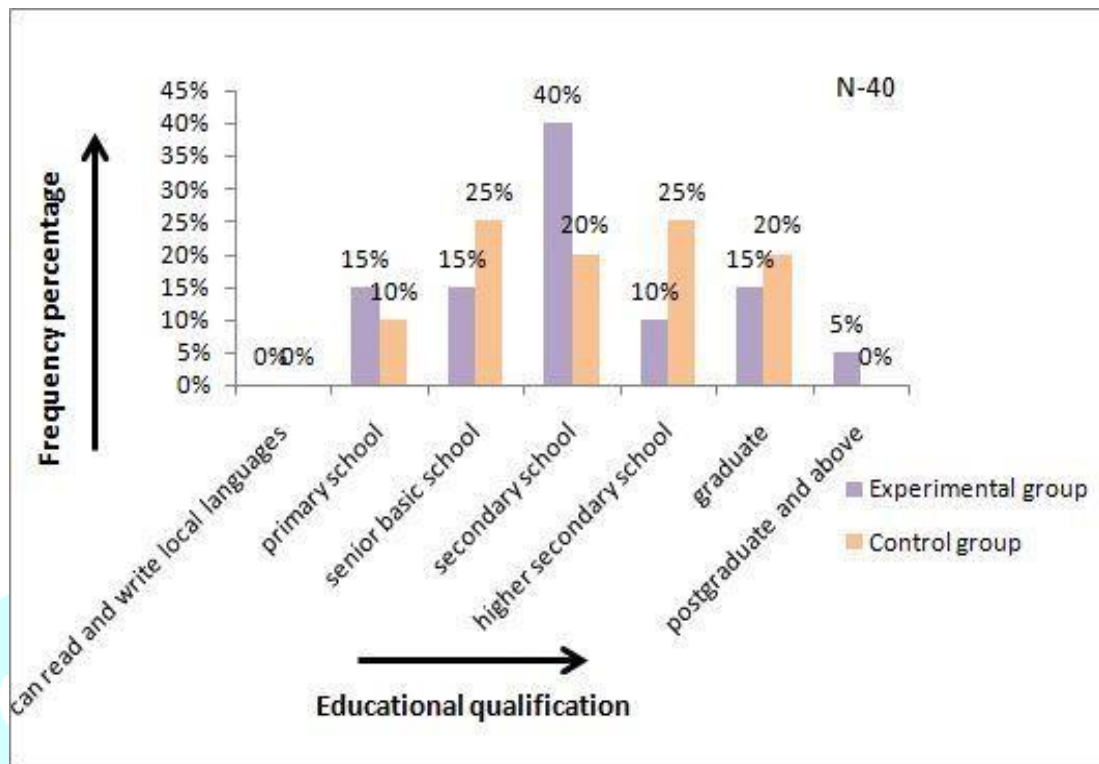
Fig 4: Bar graph shows frequency percentage distribution of post caesarean mothers according to educational qualification.

In figure 4 Educational qualification of post caesarean mothers reveals that 40% were from secondary school, 15% were from primary, senior basic and graduate qualification, 10% from higher secondary school and 5% were from postgraduate in experimental group. In control group 25% were from senior basic and higher secondary school, 20% from secondary school and graduate and 10% were from primary school.
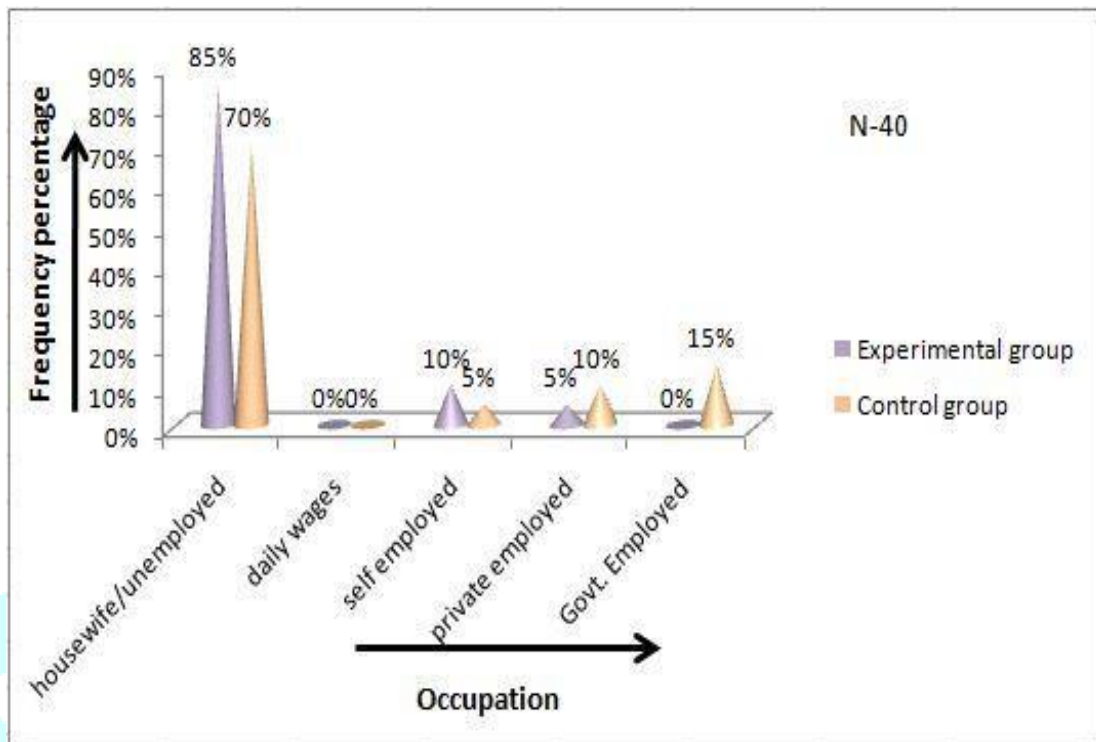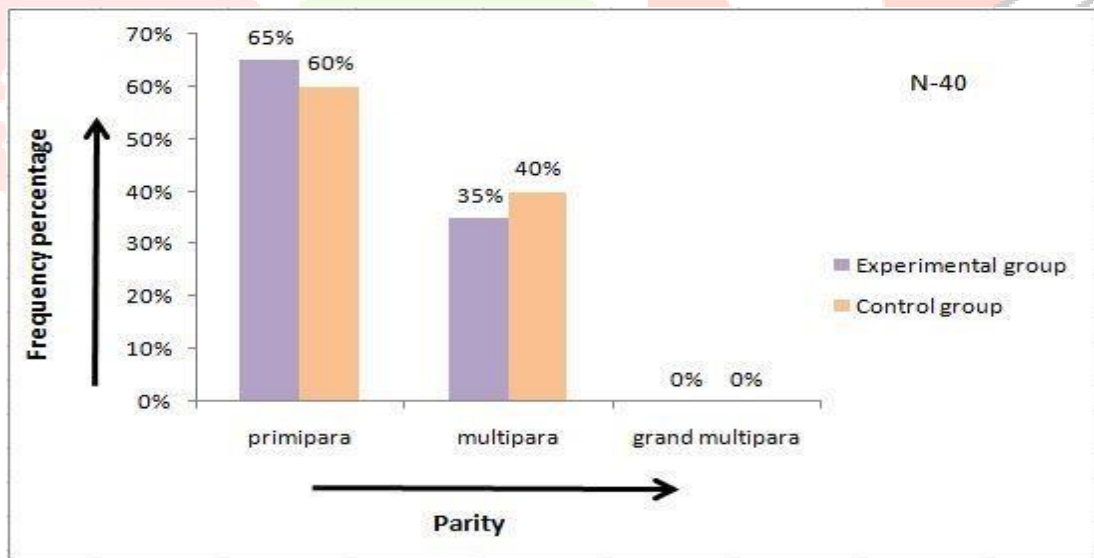
Fig 5: Cone graph shows frequency percentage distribution of post caesarean mothers according to occupation.

Figure 5 depicts that in occupation 85% of post caesarean mothers were from housewife/unemployed, 10% were from self employed, 5% were from private employed in experimental group. In control group 70% were from housewife/unemployed, 15% were from govt. Employed, 10% were from private employed and 5% were from self employed.
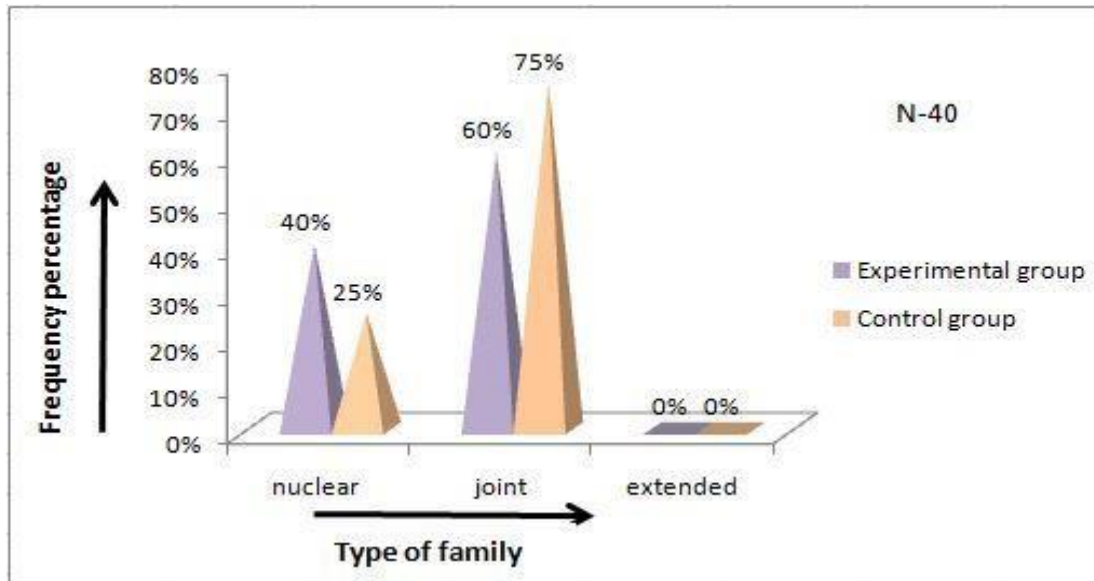
Fig 6: Pyramid graph shows frequency percentage distribution of post caesarean mothers according to type of family.

Figure 6 describes that in type of family 60% were from joint family and 40% were from nuclear family in experimental group. In control group 75% were from joint family and 25% were from nuclear family.

Fig 7: Bar graph shows frequency percentage distribution of post caesarean mothers according to parity.

Figure 6 depicts that among 20 post caesarean mothers 65% were primipara mothers and 35% were multipara mothers. In control group among 20 post caesarean mothers 60% were primipara mothers and 40% were multipara mothers.
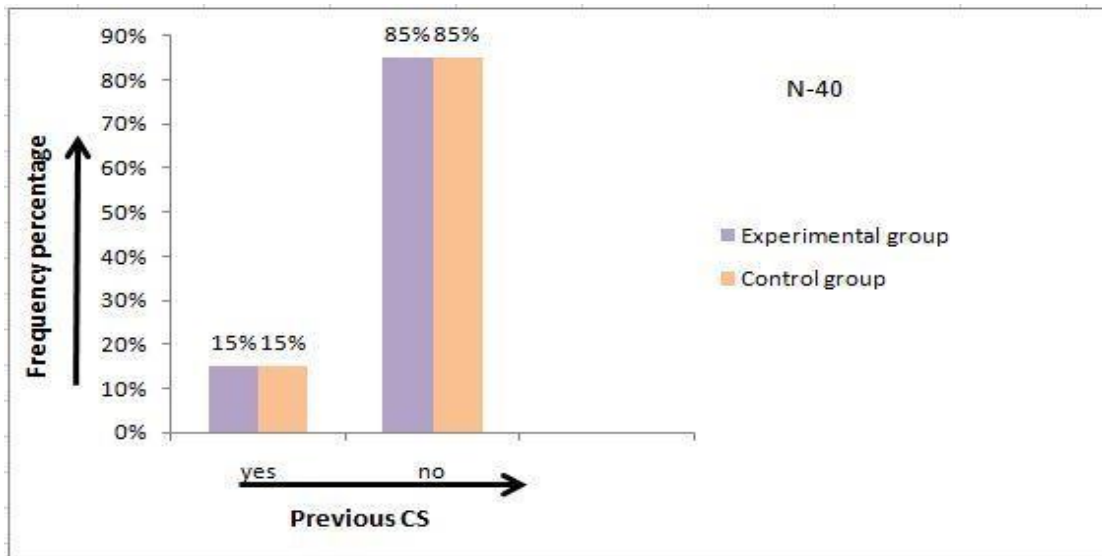
Fig 8: Bar graph shows frequency percentage distribution of post caesarean mothers according to previous CS.

Figure 8 depicts that regarding previous caesarean section among post caesarean mothers 85% had no previous CS and 15% had previous CS in both experimental and control group.
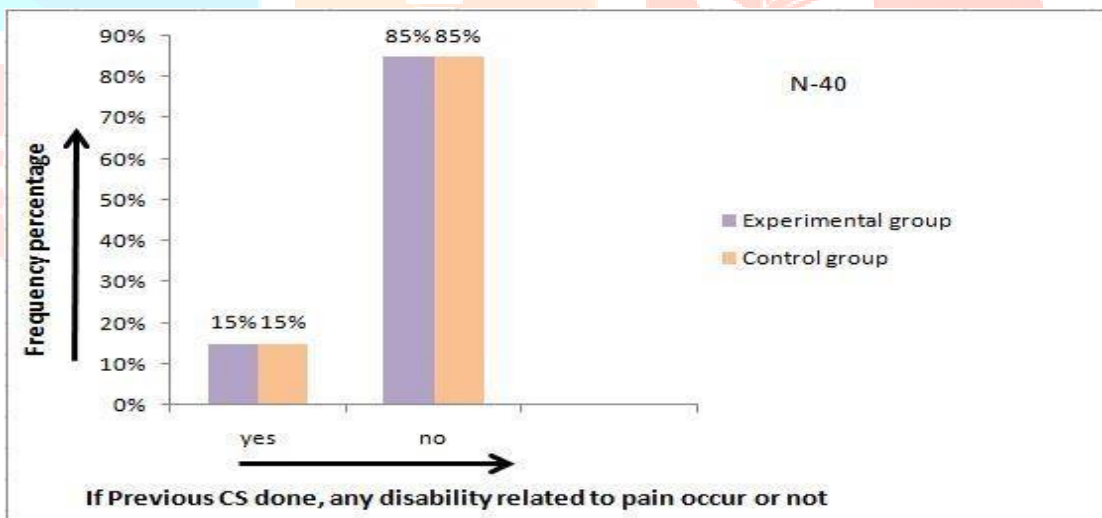

Fig 9: Bar graph shows frequency percentage distribution of post caesarean mothers according to if previous CS done, any disability related to pain occur or not.

Figure 9 depicts that 85% of postcesarean mothers had no disability related to pain after previous CS and 15% had disability related to pain after previous CS in both experimental and control group.
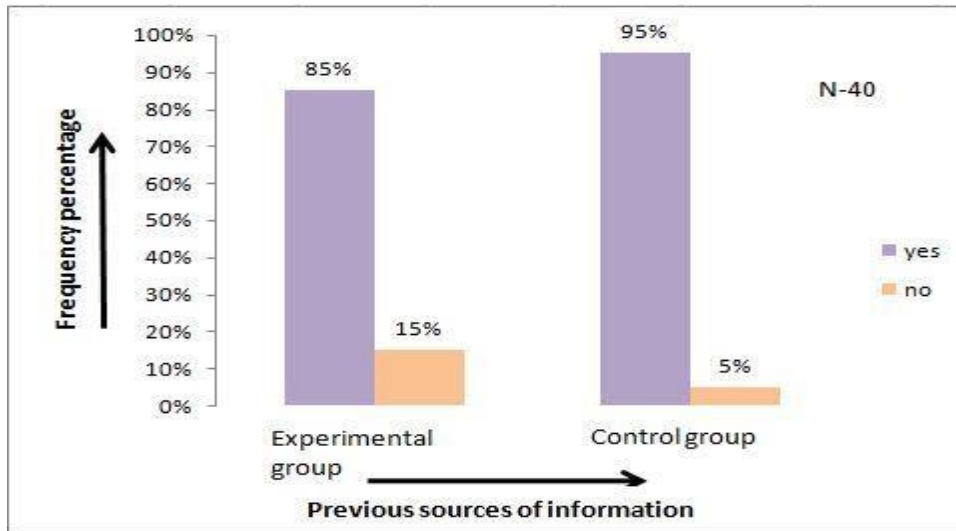
Fig 10: Bar graph shows frequency percentage distribution of post caesarean mothers according to previous sources of information.

Figure 10 describes that regarding previous sources of information on posture maintenance 85% had information about it and 15% had no information in experimental group. In control group 95% had information about it and 5% had no information.
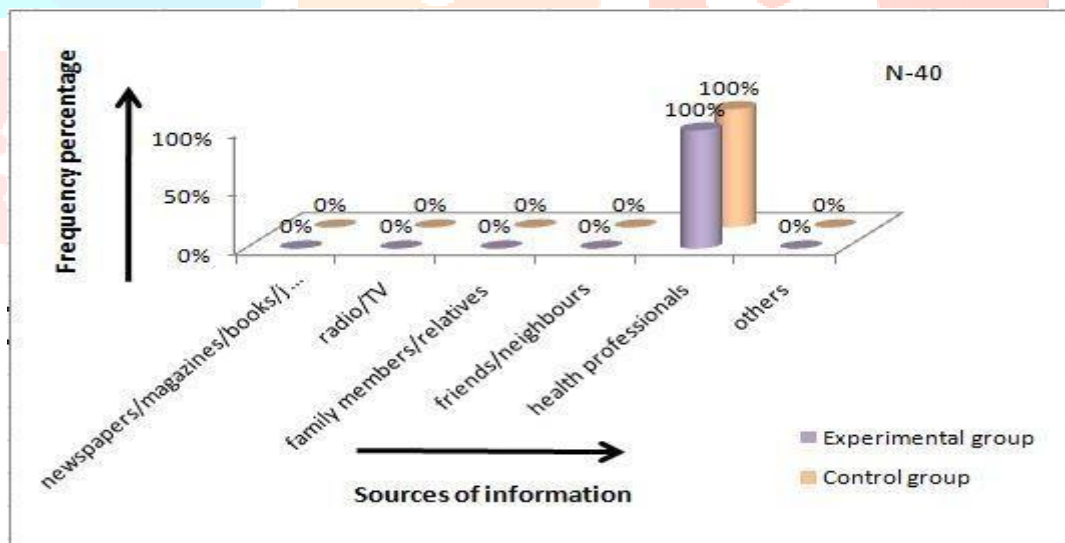

Fig 11: Cylinder graph shows frequency percentage distribution of post caesarean mothers according to sources of information.

In figure 11 sources of previous information on posture maintenance reveals that 100% mothers got information from health professionals in both experimental and control group.
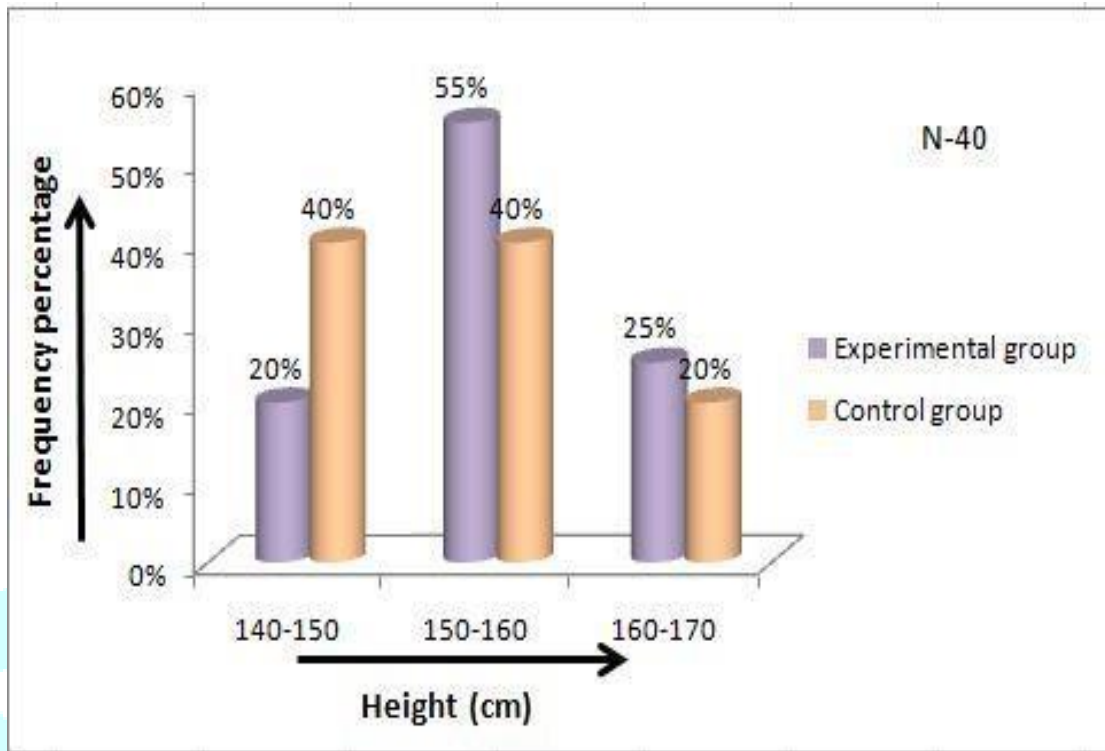
Fig 12: Cylinder graph shows frequency percentage distribution of post caesarean mothers according to height in cm.

In figure 12 among 20 post caesarean mothers 55% mothers were from the group of 140-150 cm, 25% were from 160-170 cm of group, 20% were from 140-150 cm of group in experimental group. In control group among 20 post caesarean mothers 40% were from 140-150 cm and 150-160 cm of group and 20% were from 160-170 cm of group.
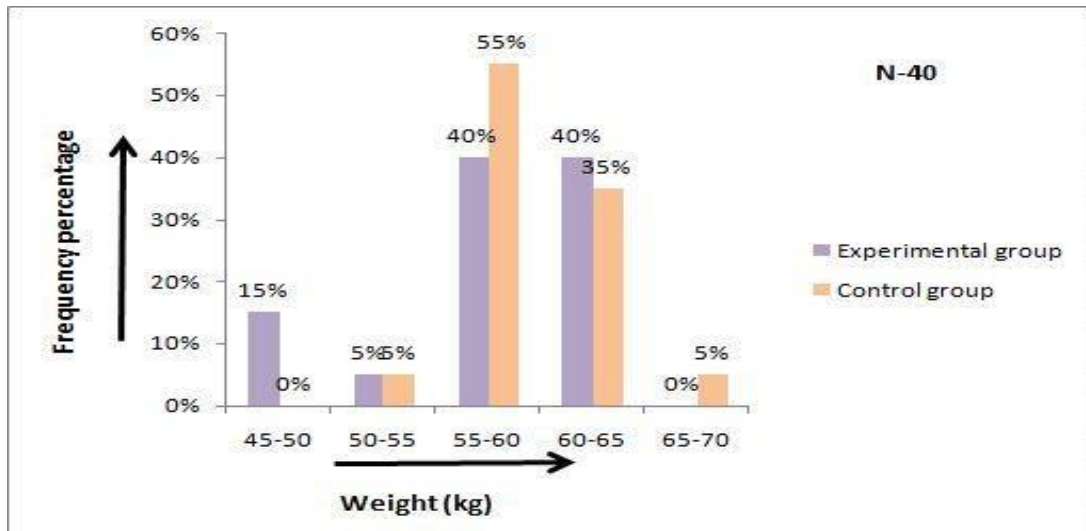
Fig 13: Bar graph shows frequency percentage distribution of post caesarean mothers according to weight in kg.

In figure 13 40% post caesarean mothers were from 55-60 kg and 60-65 kg of group, 15% were from 45-50 kg of group and 5% were from 50-55 kg of group in experimental group. In control group 55% were from 55-60 kg of group, 35% were from 60-65 kg of group and 5% were from 50-55 kg and 65-70 kg of group.
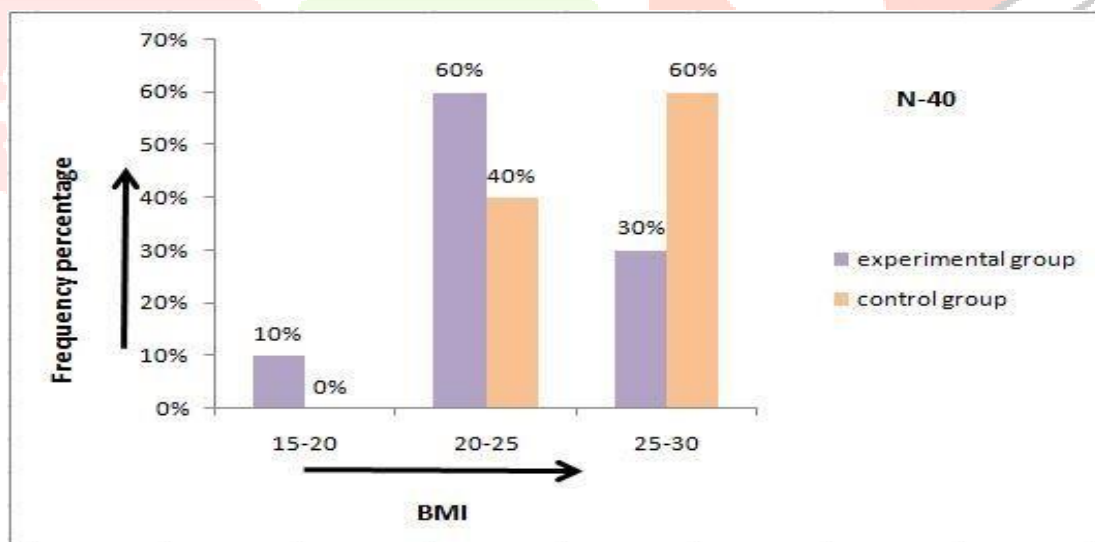

Fig 14: Bar graph shows frequency percentage distribution of post caesarean mothers according to BMI.

In figure 14 60% post caesarean mothers were from 20-25 kg/m^2 of group, 30% were from 25-30 kg/m^2 of group and 10% were from 15-20 kg/m^2 of group. In control group 60% were from 25-30 kg/m^2 and 40% were from 20-25 kg/m^2 of group.

Section-2: Findings related to assess the pre test and post test level of pain among post caesarean mothers in experimental and control group.

Table 3: Level of pain among post caesarean mothers according to the VAS scale.

Level of VAS scale	Experimental group		Control group	
	Pretest	posttest	Pretest	posttest
No pain (0) Mild(1-3)	0	0	0	0
Moderate(3-6) Severe	0	95%	0	85%
(6-9)	0	5%	0	15%
Worst pain (10)	100%	0	100%	0
	0	0	0	0

Section-3: Findings related to evaluate the effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers in experimental group.

Table 4: Effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers in the experimental group.

Sl. no.	Mean	Mean Difference	SD	't' value
Pre test	28.5	18.5	4.8	9.05*
Post test	10		5.12	

* - significant at 0.05 level, df=19, table value= 2.09

Table 4 reveals that, mean and SD value of the post test score is 10 and 5.12 and mean and SD value of the pre test score is 28.5 and 4.8. further "t" value is 9.05^* of pre test and post test of the sample was found to be significant at $p<0.05$. therefore, the finding reveals that, the posture maintenance procedure was effective to reduce disability related to pain among post cesarean mothers in experimental group. Hence, null hypothesis is rejected and research hypothesis is accepted.
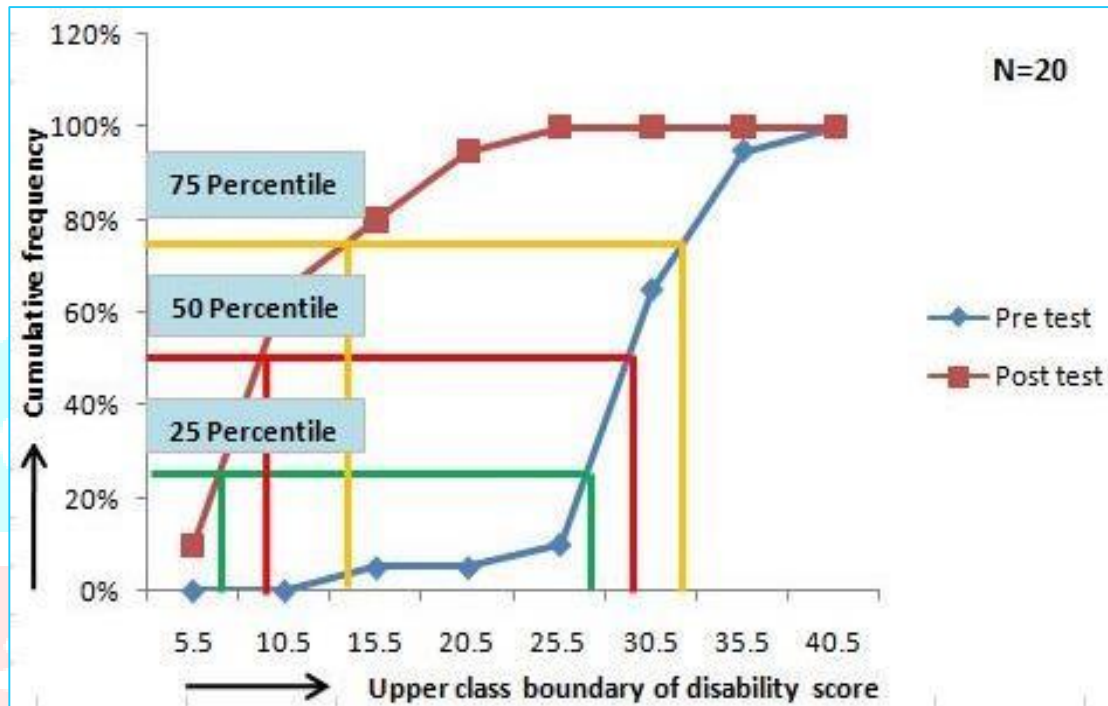

Fig 15: O-give on pre-test post-test disability scores regarding posture maintenance on reduction of disability related to pain in Experimental group.

The data presented in the figure 15 showed that the post-test O-give lie in the left side of the pre-test O-give over the entire range. At 25 percentile post-test score (6.85) was left side to pre-test score (26.85), at 50 percentile post test score (9.1) was left side of to pre-test score (29.1), at 75 percentile post test score (13.8) was left side to pre test score (32.15), indicating that the post test disability score regarding disability related to pain after caesarean section were lower than the pre test disability score. The reduction of disability related to pain among post caesarean mothers after implementation of posture maintenance was obvious by significant differences in pre test and post test disability scores at various levels of O-give.

Section-4: Findings related to comparison of post test level of disability related to pain after caesarean section in between experimental and control group.

Table 5: Mean, mean difference, SD and 't' value of post test level of disability related to pain after caesarean section in between experimental and control group.

Sl. No.	Group	Mean	Mean difference	SD	't' value
Post test	Experimental group	10	5.25	5.12	4.16*
	Control group	15.25		2.48	

* - significant at 0.05 level, df=38, table value= 2.02

Table 5 reveals that, the mean post test disability score of the experimental group is 10 which is lower than the mean post test disability score of the control group i.e.
15.25 with a mean difference 5.25 which is found to be statistically significant as evident from 't' value 4.16[*] at p<0.05. It represented that posture maintenance is effective to reduce the disability related to pain in experimental group.

Section-5: Findings related to association between the pre test level of disability related to pain among post caesarean mothers with their selected demographic variables in experimental and control group.

Table 6: ANOVA on disability related to pain with their selected demographic variables in experimental group.

Sl. No.	Demographic variables	category	frequency	DF of between group	DF of within group	Mean of sum of square of		Tabulated F value	Calculated F value
						Between group	Within group		
1	Age (years)	a.15-20 b.20-25 c.25-30 d.30-35 e.35-40	3 5 4 5 3	4	15	105.98	6.22	3.06	64.60*
2	Height (cm)	a.140-150 b.150-160 c.160-170	4 11 5	4	17	11.56	100.64	2.96	0.48[NS]
3	Weight (kg)	a.45-50 b.50-55 c.55-60 d.60-65	3 1 8 8	3	16	95.2	17	3.24	29.86*
4	BMI	a.15-20 b.20-25 b.25-30	2 12 6	2	17	22.86	89.34	3.59	2.17[NS]

Table 6 describes that there were significant association between the pre test level of disability related to pain among post caesarean mothers with the age and weight of the mothers in experimental group at 0.05 level of significance.

Table 7: ANOVA on disability related to pain with their selected demographic variables in control group.

Sl. No.	Demographic variable	category	frequency	DF of between group	DF of within group	Mean of sum of square of		Tabulated F value	Calculated F value
						Between group	Within group		
1	Age (years)	a. 15-20 b.20-25 c.25-30 d.30-35 e.35-40	3 2 7 7 1	4	15	36.7	248.3	3.06	0.49[NS]
2	Height (cm)	a.140-150 b.150-160 c.160-170	8 8 4	2	17	25	290	3.59	0.67[NS]
3	Weight (kg)	a.50-55 b.55-60 c.60-65 d.65-70	1 11 7 1	3	16	25.02	289.98	3.24	0.46[NS]

Table 7 describes that there were no significant association between the pre test levels of disability related to pain with their selected demographic variables in control group.

Summary: This chapter dealt with objective of the study, presentation of data, different tables and graphs to present the result of the present study.

CHAPTER V

Summary
Major findings
Discussion
Conclusion
Implications
Limitations
Recommendations

CHAPTER – V

SUMMARY OF THE STUDY:

This chapter deals with summary of the whole study, explanation and is based on the objective. The present study was concerned with 'evaluating the effectiveness of posture maintenance on post cesarean mothers in selected hospitals, Agartala, West Tripura'.

The study concluded with the objectives of the study:

1. To assess the level of pain.
2. To assess the pre test level of disability related to pain after caesarean section among the post caesarean mothers in both experimental and control group.
3. To administer the techniques of posture maintenance on reduction of disability related to pain among post caesarean mothers in the experimental group.
4. To evaluate the effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers in experimental group.
5. To compare the post test level of disability related to pain after caesarean section in between experimental and control group.
6. To find out the association between the pre test level of disability related to pain among post caesarean mothers with their selected demographic variables.

The study is based on following assumption:

Posture maintenance may be effective to reduce the disability related to pain among post caesarean mothers.

The study attempted to examine the following hypotheses:

H1: The level of disability related to pain in post test score is significantly lower than the level of disability related to pain in pre test score among postnatal mothers in experimental group at $p<0.05$ level of significance.

H2: The level of disability related to pain in post test score of experimental is significantly lower than the level of disability related to pain in post test score of control group.

H₃: There is significant association between the levels of disability related to pain with their selected demographic variables.

The conceptual framework of this study was based on King's Goal Attainment theory. King's theory offers insight into nurse's interaction with individual and group within the environment. It highlights the importance of client's participations in decision that influences care and focuses on both the process of nurse client interaction and the outcome of care. In this study investigator and post caesarean mothers perceive the need of posture maintenance. Both investigator and post caesarean mothers set the goal to reduce disability related to pain after caesarean section.

Review of literature helped the investigator to collect the appropriate and relevant information to support the study, design the methodology, conceptual framework, and development of the tool and posture maintenance procedure also helped to plan the analysis of data. In the present study the review of literature was organized and presented under the following headings:

a. Literature related to prevalence of pain in post caesarean mothers.
b. Literature related to disability related to pain and caesarean section.
c. Literature related to effectiveness of postural maintenance after caesarean section.

Research approach for the study was experimental evaluative approach.

Research design used was a quasi experimental pre test post test control group design to assess the effectiveness of posture maintenance on reduction of disability related to pain among post cesarean mothers.

The study was conducted in selected hospitals named Tripura Medical College and Dr. BRAM Teaching Hospital and Indira Gandhi Memorial Hospital, Agartala, West Tripura.

The sample consist of post ceasarean mothers.

The convenient sampling technique was used to select the sample.

The tool developed and used for data collection was in interview schedule.

Tool was divided into three sections:

- ➢ **Section A-** This section includes assessing the demographic data of the subject. Demographic variables includes age, education, occupation, type of family, gravid/parity, BMI, previous caesarean section; if yes then any disability related to pain occur or not, previous source of information related to posture maintenance.
- ➢ **Section B-** This section includes Visual analog scale to assess the level of pain.
- ➢ **Section C-** This section includes modified Oswestry disability questionnaire to assess the level of disability related to pain.

The content validity of the tool was established by 9 experts from different field. The tool was found reliable and valid. The reliability of the tool was established by cronbach alpha method. The computed value of reliability r= 0.72 which was found reliable.

The pilot study was conducted on the month of March, 2020 find out the feasibility of the study.

The final study was conducted on the month of July, 2020, using interview schedule followed by posture maintenance procedure. After a gap of 48 hours post test was conducted by using the same interview schedule for the experimental and control group. No intervention given to the control group. The collected data was coded, grouped, tabulated and interpreted according to the objectives of the study. Descriptive and inferential statistics were used for data analysis.

FINDINGS OF THE STUDY:

In findings the majority of post cesarean mothers i.e.,

- ❖ 25% in the age group of 20-25 years and 30-35 years in experimental group. 35% in the age group of 25-30 years and 30-35 years in control group.
- ❖ 40% in experimental group were secondary school passed and 25% in control group were higher secondary and senior basic school passed.
- ❖ 85% in experimental group and 70% in control group were housewife.
- ❖ 60% in experimental group and 75% in control group were from joint family.

- ❖ 65% in experimental group and 60% in control group were primipara.
- ❖ 85% having previous CS in both experimental and control group.
- ❖ 85% having disability related to pain in both experimental and control group.
- ❖ 85% in experimental group and 95% in control group were having previous sources of information.
- ❖ 100% in both experimental group and control group were getting information from health professionals.
- ❖ 55% in the height range of 150-160 cm in experimental group and 40% in the height range of 140-150 cm and 150-160 cm in control group.
- ❖ 40% in the weight range of 55-60 kg and 60-65 kg in experimental group. 55% in the weight range of 55-60 kg in control group.
- ❖ 60% in the BMI range of 20-25 in experimental group and 60% in the BMI range of 25-30 in control group.
- ❖ 100% having severe pain during pretest in both experimental and control group. During post test 95% having mild pain and 5% having moderate pain in experimental group and 85% having mild pain and 15% having moderate pain in control group.
- ❖ The mean pretest score of experimental group was 28.5 and SD was 4.8. The mean posttest score was 10 and SD was 5.12."t" value was 9.05.
- ❖ The mean pre test score of control group was 27.25 and SD was 4.02. The mean posttest score was 15.25 and SD was 2.48.
- ❖ There were significant association between the pre test level of disability related to pain among post caesarean mothers with the age of the mothers in experimental group at 0.05 level of significance.

DISCUSSION:

Problem statement: A quasi experimental study to evaluate the effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers in selected hospitals, Agartala, West Tripura.

The study is a quasi experimental study. The aim is to evaluate the effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers. It consists of quasi experimental pre test post test control group design. The structured interview schedule was used to collect the data from the post caesarean

mothers of selected hospital, Agartala, West Tripura. After the pre test intervention was implemented and post test was conducted after 48 hours of caesarean section to evaluate the effectiveness of posture maintenance for the experimental group. For control group pre test was followed by post test after 48 hours of caesarean section. There was no intervention for the control group.

The findings of the study discussed were based on the objectives, hypotheses and conceptual framework of the study:

Objective 1: To assess the level of pain.

The statistical findings of the present study revealed that 100% had severe pain in pre test in both experimental and control group. During post test 95% had mild pain and 5% had moderate pain in experimental group. In control group 85% had mild pain and 15% had moderate pain.

According to the conceptual framework based on Imogene King's goal attainment theory, where the researcher assessed the level of pain among post caesarean mothers through Visual Analog Scale.

The present study was supported by the findings of the following study:

Dhyanis j and Shanthi T conducted an experimental study to assess the effectiveness of yoga therapy on low back pain among postnatal mothers who underwent lower segment caesarean section in selected maternity hospital at selected city. This study result shows that in control group, out of 30 samples, 0(0%) of having mild pain, 23(76.67%) were having moderate pain, 7(32.33%) having severe pain. In experimental group out of 30 samples 0(0%) of having mild pain, 19(63.33%) having moderate pain, 11(36.67%) having severe pain. The findings of the study concluded that Yoga Therapy is a non-pharmacological intervention which should be carried out independently in the field of nursing and yoga therapy is effectiveness on low back pain for postnatal LSCS mothers. [31]

Objective 2: To assess the pre test level of disability related to pain after caesarean section among the post caesarean mothers in both experimental and control group.

The statistical findings of the present study revealed that mean and SD value of the pre test score is 28.5 and 4.8 in experimental group and in control group mean and SD value of pre test score is 27.25 and 4.02.

According to the conceptual framework based on Imogene King's goal attainment theory, where the researcher used modified Oswestry disability questionnaire to assess the level of disability related to pain and structured knowledge questionnaire to assess socio demographic data both for experimental and control group.

The present study was supported by the findings of the following study:

Maheswari M (2018) conducted an experimental study to evaluate the effectiveness of Lumbar stabilization exercises on low Back pain disability among women working In fireworks factory of selected villages At tiruneveli district. The Modified Quebec scale was used to assess the level of low back pain disability among women working in fireworks factory. This study result revealed that the comparison of mean pre test level of low back pain disability in the experimental group was 29.63 and SD was

5.09 and for control group the mean pre-test value was 30.80 and SD was 5.06.Their mean difference is 1.17, and the calculated "t' value was 0.893. From the result of the study, it was concluded that administration of lumbar stabilization exercises to reduce low back pain disability was effective in reducing the low back pain disability. Therefore the investigator felt that more importance should be given to lumbar stabilization exercises to reduce low back pain disability.[32]

Objective 3: To administer the techniques of posture maintenance on reduction of disability related to pain among post caesarean mothers in the experimental group.

In present study there was implementation of posture maintenance procedure to the post caesarean mothers after 12 hours of caesarean section in experimental group.

According to the conceptual framework based on Imogene King's goal attainment theory, where the researcher implemented appropriate posture on reduction of disability related to pain among post caesarean mothers in experimental group.

The present study was supported by the findings of the following study:

Maheswari M (2018) conducted an experimental study to evaluate the effectiveness of Lumbar stabilization exercises on low Back pain disability among women working In fireworks factory of selected villages At tiruneveli district. In this study Lumbar Stabilization Exercises was practiced for two times a day (9am and 5pm), 30 minutes each time, continuously for three weeks has been found to be effective in reduction of low back pain disability by strengthening the back muscle and increasing the back muscle flexibility. From the result of the study, it was concluded that administration of lumbar stabilization exercises to reduce low back pain disability was effective in reducing the low back pain disability. Therefore the investigator felt that more importance should be given to lumbar stabilization exercises to reduce low back pain disability.[33]

Objective 4: To evaluate the effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers in experimental group.

The statistical findings of the present study revealed that the mean pretest score of experimental group was 28.5 and SD was 4.8. The mean posttest score was 10 and SD was 5.12. "t" value was 9.05, which was significant at the level of p<0.05.

According to the conceptual framework based on Imogene King's goal attainment theory, where the researcher found that in experimental group there was reduction of disability related to pain as appropriate posture maintenance was implemented.

The present study was supported by the findings of the following study:

Maheswari M (2018) conducted an experimental study to evaluate the effectiveness of Lumbar stabilization exercises on low Back pain disability among women working In fireworks factory of selected villages At tiruneveli district. This study result revealed that in the experimental group mean pre-test value was 29.63 and SD was

5.09 and the Mean post-test on day 10 value was 22.96 and SD was 4.84.Their mean difference was 6.66 The calculated "t" value was 13.74, which was significant at the level of p<0.05. From the result of the study, it was concluded that administration of lumbar stabilization exercises to reduce low back pain disability was effective in

reducing the low back pain disability. Therefore the investigator felt that more importance should be given to lumbar stabilization exercises to reduce low back pain disability.[34]

Objective 5: To compare the post test level of disability related to pain after caesarean section in between experimental and control group.

The statistical findings of the present study revealed that the mean posttest score of experimental group was 10 and SD was 5.12 and the mean posttest score of control group was 15.25 and SD was 2.48. "t" value was 4.16, which was significant at the level of $p < 0.05$.

The present study was supported by the findings of the following study:

Maheswari M (2018) conducted an experimental study to evaluate the effectiveness of Lumbar stabilization exercises on low Back pain disability among women working In fireworks factory of selected villages At tiruneveli district. This study result revealed that the mean post-test value for experimental group was 18.70 and SD was 4.50, for control group the mean post-test value was 32.96 and SD was 4.16. Their mean difference is 14.26.The calculated "t' value was 12.76, which was significant at the level of $p < 0.05$. From the result of the study, it was concluded that administration of lumbar stabilization exercises to reduce low back pain disability was effective in reducing the low back pain disability. Therefore the investigator felt that more importance should be given to lumbar stabilization exercises to reduce low back pain disability.[35]

Objective 6: To find out the association between the pre test level of disability related to pain among post caesarean mothers with their selected demographic variables.

The statistical findings of the present study revealed that there were significant association between the pre test level of disability related to pain among post caesarean mothers with the age of the mothers in experimental group at 0.05 level of significance.

The present study was supported by the findings of the following study:

Maheswari M (2018) conducted an experimental study to evaluate the effectiveness of Lumbar stabilization exercises on low Back pain disability among women working In fireworks factory of selected villages At tiruneveli district. This study result revealed that Chi-square test to associate the post-test level of low back pain disability with the selected demographic variables in the experimental group. While analyzing the statistical significance at (P<0.05) level it shows that, there was significant association of the post-test level of low back pain disability with the selected demographic variables like age, nature of work, nutritional status, years of suffering with low back pain and years of working in factory except marital status, type of family, income and educational status at p<0.05 level. The chi-square test to associate the post test level of low back pain disability with the selected demographic variables in the control group. While analyzing the statistical significance at (P<0.05) level it shows that, there was significant association of the post-test level of low back pain disability in the selected demographic variables like age, nutritional status, years of suffering with low back pain and years of working in factory except marital status, type of family, income, educational status, and nutritional status at p<0.05 level. From the result of the study, it was concluded that administration of lumbar stabilization exercises to reduce low back pain disability was effective in reducing the low back pain disability. Therefore the investigator felt that more importance should be given to lumbar stabilization exercises to reduce low back pain disability.[36]

CONCLUSION:

The study was undertaken to evaluate the effectiveness of posture maintenance on reduction of disability related to pain among post cesarean mothers in selected hospitals, Agartala, West Tripura. The study involved quasi experimental pre test post test control group design with convenient sampling technique to draw the samples.

The size of the samples was 20 post cesarean mothers for experimental group and 20 post cesarean mothers for control group. Samples were selected based on inclusion and exclusion criteria. The respondents were interviewed by using modified Oswestry Disability Questionnaire. After the pre test posture maintenance was implemented upto 48 hours of cesarean section then post test taken using the same questionnaire to find out the effectiveness for the experimental group. For the control group pre test

was taken and post test taken after 48 hours. No intervention was given to the control group. The results were described by using descriptive and inferential statistics.

Findings of the study:

In findings the majority of post cesarean mothers i.e.,

- ❖ 25% in the age group of 20-25 years and 30-35 years in experimental group. 35% in the age group of 25-30 years and 30-35 years in control group.
- ❖ 40% in experimental group were secondary school passed and 25% in control group were higher secondary and senior basic school passed.
- ❖ 85% in experimental group and 70% in control group were housewife.
- ❖ 60% in experimental group and 75% in control group were from joint family.
- ❖ 65% in experimental group and 60% in control group were primipara.
- ❖ 85% having previous CS in both experimental and control group.
- ❖ 85% having disability related to pain in both experimental and control group.
- ❖ 85% in experimental group and 95% in control group were having previous sources of information.
- ❖ 100% in both experimental group and control group were getting information from health professionals.
- ❖ 55% in the height range of 150-160 cm in experimental group and 40% in the height range of 140-150 cm and 150-160 cm in control group.
- ❖ 40% in the weight range of 55-60 kg and 60-65 kg in experimental group. 55% in the weight range of 55-60 kg in control group.
- ❖ 60% in the BMI range of 20-25 in experimental group and 60% in the BMI range of 25-30 in control group.
- ❖ 100% having severe pain during pretest in both experimental and control group. During post test 95% having mild pain and 5% having moderate pain in experimental group and 85% having mild pain and 15% having moderate pain in control group.
- ❖ The mean pretest score of experimental group was 28.5 and SD was 4.8. the mean posttest score was 10 and SD was 5.12."t"value was 9.05.
- ❖ The mean posttest score of control group was 15.25 and SD was 2.48.

❖ There were significant association between the pre test level of disability related to pain among post caesarean mothers with the age of the mothers in experimental group at 0.05 level of significance.

NURSING IMPLICATIONS:

Nursing practice:

1. The study result shows that nurses should maintain appropriate posture on reduction of disability related to pain among post caesarean mothers.
2. The study result shows that, nurses should create awareness for the post caesarean mothers as they are in need of posture maintenance after caesarean section.

Nursing education:

1. The obstetrics and gynaecological nursing curriculum needs to be recognized so as to enable nursing personnel to maintain posture among post caesarean mothers.
2. As nurse educator there is ample opportunity for nursing professionals to educate the post cesarean mothers regarding posture maintenance to reduce the disability related to pain after cesarean section in the hospital setting and workshops.

Nursing research:

1. This study helps the Nurse researcher to develop insight into the maintenance of posture for post caesarean mothers towards the reduction of disability related to pain after caesarean section.
2. The posture maintenance procedure will be very helpful for the post cesarean mothers to prevent complications related to pain after cesarean section.
3. Refresher courses and seminars to be conducted periodically to the nurses which will help them to update their knowledge. In the school of nursing and college of nursing, the teachers should encourage the students to give planned health talks regarding posture maintenance to reduce the disability related to pain.

Nursing administration:

1. Nursing administrators should take part in health policy making and developing protocols, management of disability related to pain among post caesarean mothers.

2. Nursing administrators should concentrate on proper selection, placement and effective utilization of nurses in all areas, giving opportunity for creativity, creating interest and enhance ability in educating the women regarding menopausal syndrome.
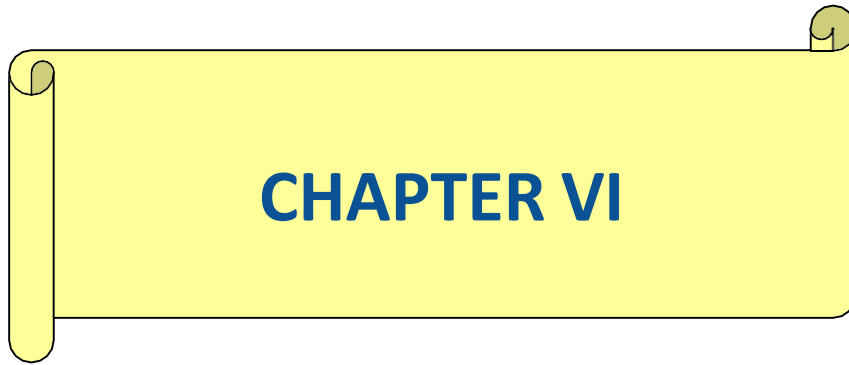
LIMITATIONS:

1. The study was confined to only postnatal mothers.

RECOMMENDATIONS:

1. Similar study can be replicated by postnatal exercises.
2. A comparative study can be done between primi and multi para mothers.
3. A similar study can be replicated on a large sample.

SUMMARY: This chapter dealt with the summary, findings, discussion and conclusion of the study. This chapter also includes the major implication of the nursing service related to nursing education, nursing practice, nursing administration, nursing research area, limitation and recommendations.

CHAPTER VI
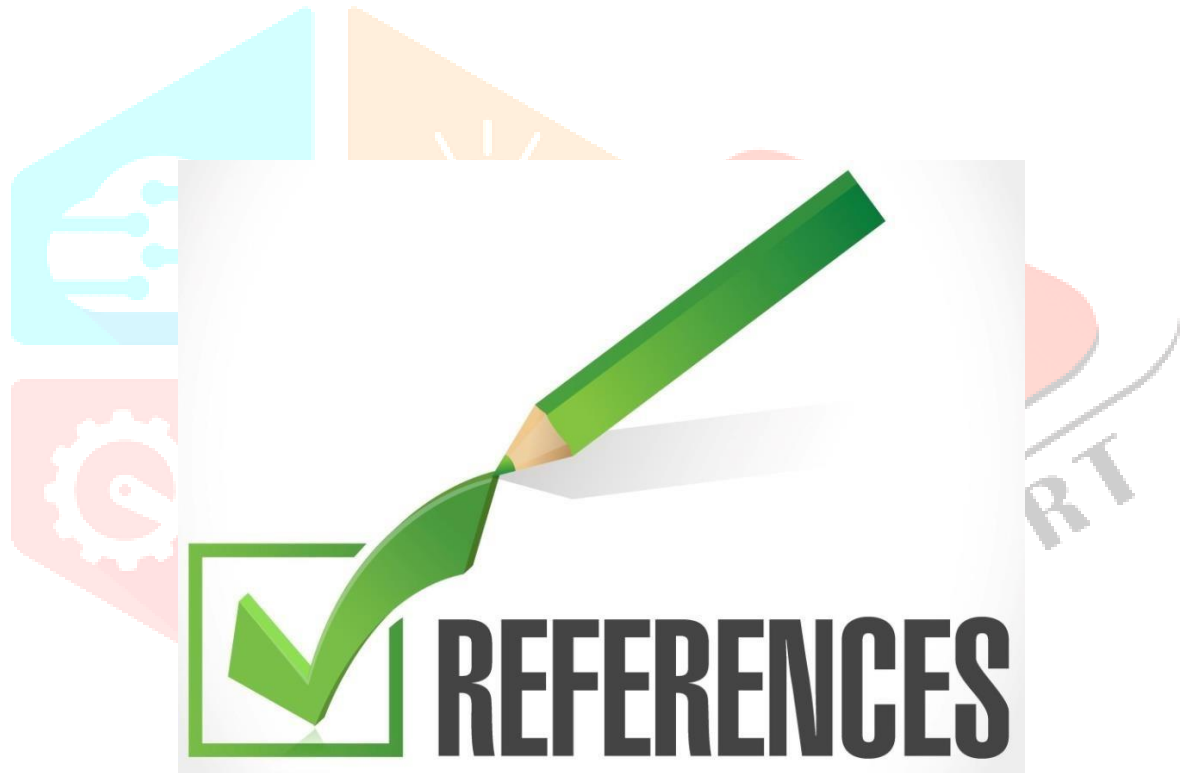
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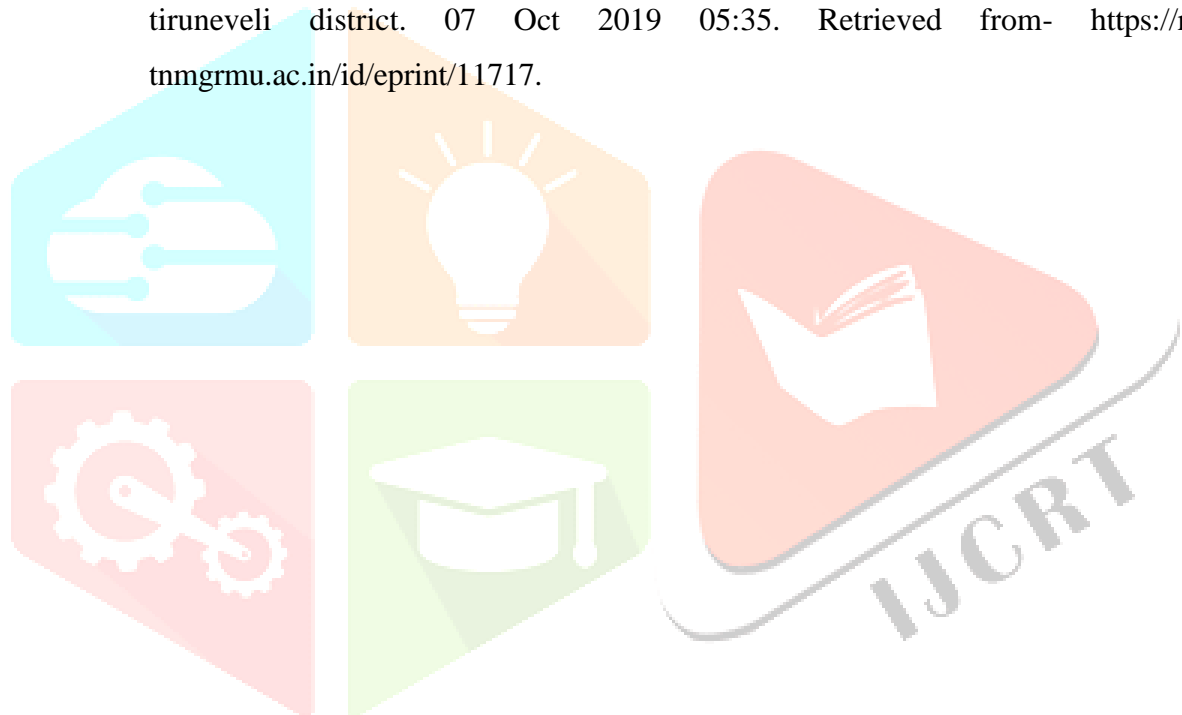
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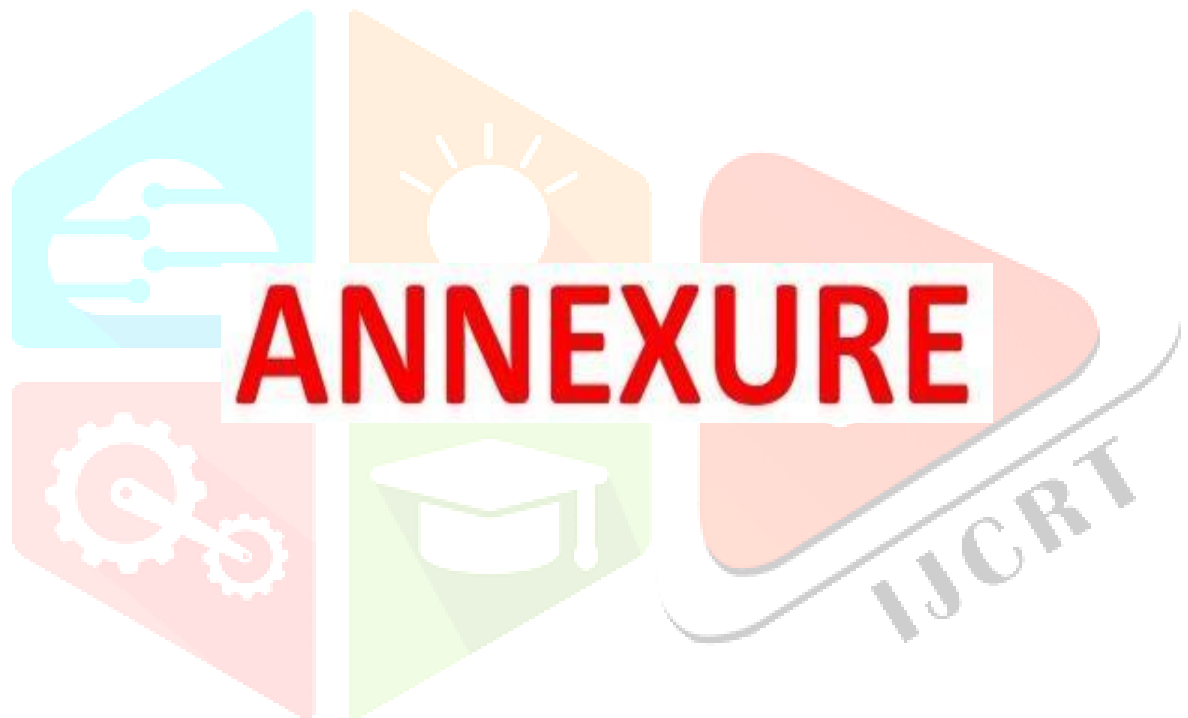
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ANNEXURE

ANNEXURE-I

COPY OF LETTER SEEKING PERMISSION TO CONDUCT THE RESEARCH STUDY TO RESEARCH COMMITTEE

TRIPURA COLLEGE OF NURSING

A unit of the

Tripura Medical College & Dr. BRAM Teaching Hospital

Hapania, Agartala – 799014

Date: 14th June, 2019

To
The Chairperson,
Research committee,
Society for TMC & Dr. BRAM Teaching Hospital,
Hapania, Agartala.

Subject: Permission for Conducting Research for partial fulfillment of requirements for M.Sc. Nursing programme.

Respected Sir/Madam,

In partial fulfillment of requirements for M.Sc. Nursing Degree, students are required to conduct a dissertation. So, I request you to permit the following student to conduct the study with respective research proposals as follows:

Nandita Das,
"A quasi experimental study to evaluate the effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers in selected hospitals, Agartala, West Tripura".

Thanking you

Yours sincerely

Guide, Obstetrics and Gynecological Nursing

Tripura College of Nursing

Please give your consent/permission (Research Committee Members)

1. Mrs. S. Deb, Principal, TCN
2. Ms. Sutapa Paul, Asso. Prof. TCN
3. Mrs. Leena Debbarma, Asst. Prof. TCN
4. Immaculate Cinderella, Asst. Prof. TCN
5. Mrs. Mousumi Debnath, Asst. Prof. TCN
6. Ms. Manaswi Debbarma, Tutor, TCN

ANNEXURE-II

COPY OF LETTER SEEKING PERMISSION TO CONDUCT THE RESEARCH STUDY TO ETHICAL COMMITTEE

TRIPURA MEDICAL COLLEGE &
Dr. B. R. AMBEDKAR MEMORIAL TEACHING HOSPITAL
(Managed by a Society registered under Societies Registration Act, 1860 having
Registration No 5770 of 2009)
Hapania, Agartala, West Tripura - 799 014
Telefax :- 0381-237-3143/237-6657/237-4144,   Website :- www.tmc.nic.in   Email :- tmc.agt@gmail.com

No. F.3 (PO-75)/Inst. Ethical Com./SFTMC/2010-11/4988-4517   Date: 24/07/2019

MEMO

A meeting of the Institutional Ethics Committee of Tripura Medical College (TMC) & Dr. BRAM Teaching Hospital was held on 05/07/2019 in the office chamber of the Principal, TMC at 2.00 PM.

The committee members considered the following research proposal of different faculty members, 3rd year Postgraduate student of Tripura Medical College & Dr. BRAM Teaching Hospital and Synopsis topic of 2nd semester M.Sc. Nursing students of Tripura College of Nursing and subsequently approved them to conduct their studies in TMC & Dr. BRAM Teaching Hospital (including Urban Health Training Centre, Dukli and Rural Health Training Centre, Madhupur) from the ethical point of view.

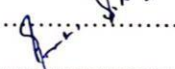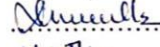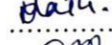| Ref. Sl.	Title of research proposal/Synopsis topic	Name of the faculty members/ Postgraduate student/ M.Sc. Nursing students as Principal investigator
IEC/SFTMC/2019/1/001	Perceptual learning style preference among medical undergraduates: a cross sectional study in a Medical College Hospital of Tripura	Dr. Anjan Datta, Assistant Professor, Community Medicine, Tripura Medical College & Dr. BRAM Teaching Hospital
IEC/SFTMC/2019/1/002	Knowledge, attitude and practice of antenatal care among mothers of under five children: a rural urban comparison	Dr. Anjan Datta, Assistant Professor, Community Medicine, Tripura Medical College & Dr. BRAM Teaching Hospital
IEC/SFTMC/2019/1/003	Perception, Attitude, Practice and Barriers regarding Research among undergraduate medical students in Tripura, North-East India	Dr. Nabarun Karmakar, Assistant Professor, Community Medicine, Tripura Medical College & Dr. BRAM Teaching Hospital
IEC/SFTMC/2019/1/004	Prevalence of distal caries of second molars due to impacted mandibular Third molars	Dr. Amit Lal Goswami, Assistant Professor, Dentistry, Tripura Medical College & Dr. BRAM Teaching Hospital
IEC/SFTMC/2019/1/005	Study to determine pattern of fungal infection causing acute exacerbation of COPD in patients attending Tripura medical college and Dr B.R. Ambedkar Teaching hospital	Dr. Saptadipa Das, 3rd Year Postgraduate student of General Medicine, Tripura Medical College & Dr. BRAM Teaching Hospital
IEC/SFTMC/2019/1/006	A quasi experimental study to evaluate the effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers in selected hospitals, Agartala, West Tripura	Ms. Nandita Das, 2nd Semester student of M.Sc. Nursing, Tripura College of Nursing
IEC/SFTMC/2019/1/007	A comparative study to assess the level of anxiety among primi gravida mothers planned for normal vaginal delivery and caesarean section in the selected hospitals, Agartala, West Tripura, with a view to develop an information booklet on prevention and management of anxiety	Ms. Ishita Nath, 2nd Semester student of M.Sc. Nursing, Tripura College of Nursing
IEC/SFTMC/2019/1/008	A study to compare the effectiveness of structured teaching programme on knowledge regarding HIV/AIDS and its prevention among adolescents in selected urban and rural higher secondary school of west district, Tripura	Ms. Archita Goswami, 2nd Semester student of M.Sc. Nursing, Tripura College of Nursing
IEC/SFTMC/2019/1/009	A pre-experimental study to evaluate the effectiveness of self instructional module regarding adolescence depression on knowledge among parents of adolescence, in the selected urban area, Anandapara, Sabroom, South Tripura	Ms. Sharmila Dey, 2nd Semester student of M.Sc. Nursing, Tripura College of Nursing
IEC/SFTMC/2019/1/010	A study to assess the knowledge regarding diaper rash and diaper hygiene practice among mothers of diaper wearing child in selected hospital at Agartala with a view to develop an information booklet	Ms. Swapna Das, 2nd Semester student of M.Sc. Nursing, Tripura College of Nursing
IEC/SFTMC/2019/1/011	An observational study for analysis of outcome of peripheral intravenous line cannula with splint & without splint application among under five children admitted in selected hospital, Agartala, West Tripura	Ms. Rumpa Das, 2nd Semester student of M.Sc. Nursing, Tripura College of Nursing

24-07-19
(Prof. Asiruddin Ahmed),
Principal,
Tripura Medical College &
Dr. BRAM Teaching Hospital

24.07.2019
(Prof. Mihir Deb),
Chairperson,
Institutional Ethics Committee
Tripura Medical College &
Dr. BRAM Teaching Hospital

ANNEXURE-III

LIST OF MEMBERS OF RESEARCH COMMITTEE

TRIPURA COLLEGE OF NURSING

MANAGED BY SOCIETY FOR TRIPURA MEDICAL COLLEGE & DR. B.R AMBEDKAR MEMORIAL TEACHING HOSPITAL

Hapania, Agartala-799014 , West Tripura

Telephone No:-0381-237-6558, Email: - tripuracollegeofnursing123@gmail.com

No.TCN/PRI/memo- 2/119/15 Date:- 16/7/18

MEMO

A Research committee is formed with the following faculty members to propose dissertation topics to the ethical committee.

1. Mrs. S.Deb — Chairperson
   Principal,Tripura College of Nursing
2. Ms.Sutapa Paul — Member
   Asso.Prof.Tripura College of Nursing
3. Mrs.Leena Debbarma — Member
   Asst.Prof.Tripura College of Nursing
4. Immaculate Cinderella — Member
   Asst.Prof.Tripura College of Nursing
5. Mrs.Mousumi Debnath — Member
   Asst.Prof.Tripura College of Nursing
6. Manaswee Debbarma — Member
   Tutor, Tripura College of Nursing

To
All Concerned

Chief Executive Officer
Society for TMC & DR.BRAM Teaching Hospital
(S. B. Sen)
Chief Executive Officer,

ANNEXURE-IV

LIST OF MEMBERS OF ETHICAL COMMITTEE

TRIPURA MEDICAL COLLEGE & Dr. B R AMBEDKAR MEMORIAL TEACHING HOSPITAL
(A Society, registered under Societies Registration Act, 1860)

Hapania, West Tripura

No. F.3 (PO-75) IEC/SFTMC/09/5176   Date: 09-06-2015

Memorandum

Referring the earlier notification No. F.3 (PO-75) IEC/SFTMC/09/6570-92 dated 1st October, 2013 as per guideline of Indian Council of Medical Research, the Institutional Ethics Committee of Tripura Medical College & Dr. BRAM Teaching Hospital is hereby re-constituted as follows-

1	Prof. Mihir Deb, Chairman, Tripura Board of Secondary Education	Chairperson
2	The Director Medical Education, Govt. of Tripura	Member (Basic Medical Scientist)
3	Prof. Durgadas Ghosh, Department of Zoology, Tripura University	Member (Basic Medical Scientist)
4	Mrs. Aditi Sarma Lodh, Advocate, Agartala	Member (Legal Expert)
5	Mrs. Rita Roy, Secretary, Tripura Adibasi Mahila Samiti, Agartala	Member (Representative of N.G.O)
6	The Principal, Tripura Medical College & Dr. BRAM Teaching Hospital	Member (Ethicist)
7	The HOD of Community Medicine, Tripura Medical College & Dr. BRAM Teaching Hospital	Member (Clinician)
8	The HOD of General Medicine, Tripura Medical College & Dr. BRAM Teaching Hospital	Member (Clinician)
9	Dr. Ranjib Ghosh, Associate Professor, Pharmacology, Tripura Medical College & Dr. BRAM Teaching Hospital	Member-Secretary

Others activity of the committee will remain same as earlier notification.

(A.K. Podder) 9/6/15
Chief Executive Officer
Society for TMC &
Dr. BRAM Teaching Hospital,
Hapania, Agartala

To
All concerned

Hapania -799014, Agartala, Tripura (w) Tele Fax - (0381) - 2374144/2376657, Email - tmc.agt@gmail.com, Website - www.tmc.nic.in

ANNEXURE-V

COPY OF LETTER SEEKING PERMISSION TO CONDUCT THE PILOT STUDY

TRIPURA COLLEGE OF NURSING

A unit of the

Tripura Medical College & Dr. BRAM Teaching Hospital

Hapania, Agartala – 799014

To,
The Administrator
Sarkar Nursing Home
Agartala, West Tripura

Sub: Requesting for permission to conduct a pilot study, w.e.f. 05.03.20 to 18.03.20.

Respected Sir,

In partial fulfilment of requirement for M.Sc. Nursing Degree, students are required to submit a dissertation. Miss Nandita Das, M.Sc. Nursing 4th semester student (Obstetrical and Gynaecological Nursing) has selected a topic on "A quasi experimental study to evaluate the effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers in selected hospitals, Agartala, West Tripura".

I request you to permit her to conduct the study area. I assure you that she will not disturb the routine work of that department in any way and will also follow the ethical principles.

Thanking you.

Yours faithfully

Date: 05.03.2020

Place: Agartala

Principal
Tripura College of Nursing
Hapania, Agartala, West Tripura

Permitted

TRIPURA COLLEGE OF NURSING

A unit of the

Tripura Medical College & Dr. BRAM Teaching Hospital

Hapania, Agartala – 799014

To,

The Administrator

Agartala Hospital

Agartala, West Tripura

Sub: Requesting for permission to conduct a pilot study, w.e.f. 05.03.20 to 18.03.20.

Respected Sir,

     In partial fulfilment of requirement for M.Sc. Nursing Degree, students are required to submit a dissertation. Miss Nandita Das, M.Sc. Nursing 4th semester student (Obstetrical and Gynaecological Nursing) has selected a topic on "A quasi experimental study to evaluate the effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers in selected hospitals, Agartala, West Tripura".

     I request you to permit her to conduct the study area. I assure you that she will not disturb the routine work of that department in any way and will also follow the ethical principles.

Thanking you.

Yours faithfully

Principal

Tripura College of Nursing

Hapania, Agartala, West Tripura

Date: 05. 03. 2020

Place: Agartala

ANNEXURE-VI

COPY OF LETTER SEEKING PERMISSION TO CONDUCT THE MAIN STUDY

To
The Medical Superintendent
Indira Gandhi Memoria Hospital
Agartala, West Tripura

Subject: Requesting for permission to conduct main study w.e.f. 10/07/2020.

Respected Sir,

In partial fulfillment of requirement for M.Sc. Nursing Degree, students are required to submit a dissertation. Mrs. Nandita Das our M.Sc. Nursing student in the specialty of Obstetrics and Gynecological nursing has selected a topic on **"A quasi experimental study to evaluate the effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers in selected hospitals, Agartala, West Tripura."**

I requested you to permit her to conduct main study in your hospital. I assure you that she will collect data for required samples as soon as possible from 10/07/2020 and she will not disturb your routine work in any way and will also confirm to ethical principles.

Thanking you.

Yours sincerely,

Dated: 09/07/20.

(Mrs. Shikha Deb)

Principal

Tripura College of Nursing

To

The Medical Superintendent

TMC and Dr. BRAM Teaching Hospital

Agartala, West Tripura

Subject: Requesting for permission to conduct main study w.e.f. 10/07/2020.

Respected Sir,

In partial fulfilment of requirement for M.Sc. Nursing Degree, students are required to submit a dissertation. Mrs. Nandita Das our M.Sc. Nursing student in the specialty of Obstetrics and Gynecological nursing has selected a topic on **"A quasi experimental study to evaluate the effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers in selected hospitals, Agartala, West Tripura."**

I requested you to permit her to conduct main study in your hospital. I assure you that she will collect data for required samples as soon as possible from 10/07/2020 and she will not disturb your routine work in any way and will also confirm to ethical principles.

Thanking you.

Yours sincerely,

Dated: 09/07/20.

PRINCIPAL
TRIPURA COLLEGE OF NURSING
HAPANIA, AGARTALA

(Mrs. Shikha Deb)

Principal

Tripura College of Nursing

ANNEXURE-VII LIST OF VALIDATORS

Sl No.	Name of Validators	Designation	Signature of Validators
1	Mrs. Pratima Chatterjee.	Associate Professor, Obstetrical and Gynecological Nursing, College Of Nursing Asia Heart Foundation, Kolkata.	*Pratima Chatterjee* Associate Professor College of Nursing Asia Heart Foundation
2	Mrs. Tanusri Barui.	Assistant Professor, Obstetrical and Gynecological Nursing, College Of Nursing Asia Heart Foundation, Kolkata.	*Tanusri Barui* Assistant Professor College of Nursing Asia Heart Foundation
3	Mrs. Sabitri Kuila.	Vice Principal, Obstetrical and Gynecological Nursing, Apollo Gleneagles Nursing College, Kolkata.	*Sabitri Kuila* 7.12.19 Vice - Principal Apollo Gleneagles Nursing College. RGN / 6 / A / S / 1044, Gopalpur Narayanpur Battala Kolkata - 700 136
4	Miss. Manasi Jana.	Reader, Obstetrical and Gynecological Nursing, College Of Nursing, Calcutta Medical College and Hospital, Kolkata.	*Manasi Jana* 11-12-19 MANASI JANA Reader, C.O.N. MCH, Kolkat
5	Mrs. Enu Boro.	Lecturer, Obstetrical and Gynecological Nursing, Regional College of Nursing, Assam.	*Enu Boro* 26/12/2019 Enu Boro Lecturer, O & G Nursing Regional College of Nursing
6	Mrs. Namita R. Basumatary.	Lecturer, Obstetrical and Gynecological Nursing, Regional College of Nursing, Assam.	*Namita* 18/12/19 ture & seal of Expert LECTURER O & G NURSING REGIONAL COLLEGE OF NURSING GUWAHATI-32
7	Dr. Jahar Lal Baidya.	Associate Professor, Department of Obstetrics and Gynecology, AGMC and GBP Hospital, Agartala, Tripura.	*Baidya* 05/12/2020 Associate Prof. Dept. of Obst & Gynae AGMC & GBP Hospital Agartala, Tripura (W)
8	Dr. Bappaditya Som.	Assistant Professor, Department of Obstetrics and Gynecology, TMC and Dr. BRAM Teaching Hospital, Hapania, Tripura.	*Bappaditya Som* Dept. of OBG Tripura Medical College & Dr. B. R. Ambedkar Memorial Teaching Hospital, Hapania Agartala, Tripura (W)
9.	Dr. Kaushik Guha. (P.T)	Associate Professor, PT, Peerless College of Physiotherapy, Kolkata.	*Kaushik Guha* 30.11.2019 Teach + n-Charg College of Physiotherapy WB Panchasayar Kol - 700094

ANNEXURE-VIII

LETTER SEEKING EXPERT'S OPINION AND SUGGESTIONS FOR THE CONTENT VALIDITY OF THE TOOL

LETTER SEEKING EXPERT'S OPINION AND SUGGESTIONS FOR THE CONTENT VALIDITY OF THE TOOL

From

Miss Nandita Das
3rd Semester, M.Sc. Nursing Student
Tripura College of Nursing
Hapania, Agartala, West Tripura

To...
....
....
Forwarded Through

Mrs. Sikha Deb
Principal,
Tripura College of Nursing

Subject: Expert opinion for content validity of the research tool.

Respected Sir/Madam,

     I, Miss Nandita Das, 3rd Semester, M.Sc. Nursing student in the specialty of Obstetrical and Gynaecological Nursing in Tripura College of Nursing, request your good self, if you could kindly accept to validate my research tool on project title **"A quasi experimental study to evaluate the effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers in selected hospitals, Agartala, West Tripura."**

     I would be obliged if you kindly affirm your acceptance to the undersigned with your valuable suggestions on this topic.

Thanking you in anticipation.

Your's sincerely,

(Miss Nandita Das)

Date:
Place:

Enclosure:
1. Problem statement and objectives of the study
2. Socio-demographic data
3. Visual analogue scale
4. Modified Oswestry disability questionnaires
5. Scoring instructions
6. Evaluation criteria checklist
7. Content validity certificate

ANNEXURE-IX

EVALUATION CRITERIA CHECKLIST FOR VALIDATION OF THE TOOLS

Respected Evaluator,

Kindly go through the evaluation criteria listed below for the evaluation and validation of the tool. There are two columns given for your responses and a column for the remarks. Evaluator is requested to go through and express opinion by marking against the specific column of the criteria checklist. Kindly place a tick '√' marks in the appropriate column and give the remarks.

Sl no.	Criteria	Yes	No	Remarks
1.	Socio-demographic data: All characteristics necessary for the study are included.			
2.	Modified Oswestry disability questionnaire covers the adequate content about Disability related to pain among post caesarean mothers related to the study. • Items are arranged in sequence • Items are arranged in logical order • Language is simple and easy to follow • All items necessary to achieve the objectives of the study are included • Any technical terms that can be replaced by simple terms.			

SECTION A : SOCIO-DEMOGRAPHIC DATA

Respected Evaluator,

Kindly go through the items in the enclosed tools and place tick marks '√' against each item in the column provided with regard to its relevancy, accuracy and appropriateness in the criteria checklist namely agree, disagree and kindly give your expert opinion in the remarks column.

Item no.	Relevancy		Adequacy		Appropriateness		Remarks
	Agree	Disagree	Agree	Disagree	Agree	Disagree	
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							

Any other comments:

Name of the evaluator:

Designation:

SECTION : C

MODIFIED OSWESTRY DISABILITY QUESTIONNAIRES TO ASSESS THE DISABILITY RELATED TO PAIN AMONG POST CESAREAN MOTHERS.

Respected Evaluator,

Kindly go through the items in the enclosed tools and place tick marks '√' against each item in the column provided with regard to its relevancy, accuracy and appropriateness in the criteria checklist namely agree, disagree and kindly give your expert opinion in the remarks column.

Item no.	Relevancy		Adequacy		Appropriateness		Remarks
	Agree	Disagree	Agree	Disagree	Agree	Disagree	
1.Pain intensity							
2.Sitting							
3.Standing							
4.Walking							
5.Sleeping							
6.Lifting							
7.Movement							
8.Feeding of baby							

Any other comments:

Name of the evaluator: Designation:

ANNEXURE-X

CONTENT VALIDITY CERTIFICATE

This is to certify that, I have gone through the tools developed by Miss Nandita Das, M.Sc. Nursing 3rd semester student from Tripura College of Nursing, Tripura University, Agartala, Tripura for her research study entitled, **"A quasi experimental study to evaluate the effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers in selected hospitals, Agartala, West Tripura",** has been validated by me and find it appropriate to use in the study.
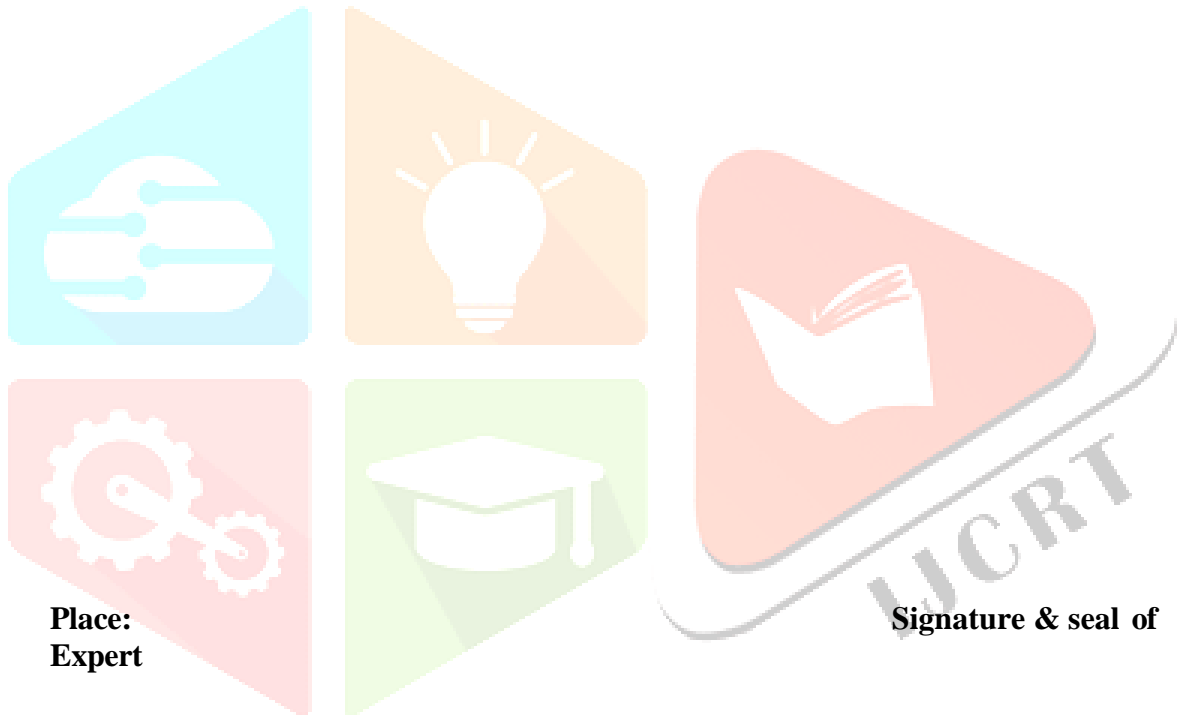
Place:
Expert

Signature & seal of

Date:

Name & Designation

Address:

ANNEXURE-XI

VALIDATORS OPINION REGARDING SOCIO-DEMOGRAPHIC DATA

Item no	V1			V2			V3			V4			V5			V6			V7			V8			V9			Total			Percentage			Remarks
	Relevancy	Adequacy	Appropriateness	Relevancy	Adequacy	Appropriateness	Relevancy	Adequacy	Appropriateness	Relevancy	Adequacy	Appropriateness	Relevancy	Adequacy	Appropriateness	Relevancy	Adequacy	Appropriateness	Relevancy	Adequacy	Appropriateness	Relevancy	Adequacy	Appropriateness	Relevancy	Adequacy	Appropriateness	Relevancy	Adequacy	Appropriateness	Relevancy	Adequacy	Appropriateness	
1.	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	9	9	9	100	100	100	Suggestion was to take raw data from samples, it is changed to open ended.
2.	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	9	9	9	100	100	100	Suggestion was to change options, and it is changed.
3.	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	9	9	9	100	100	100	
4.	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	9	9	9	100	100	100	
5.	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	9	9	9	100	100	100	
6.	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	9	9	9	100	100	100	
7.	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	9	9	9	100	100	100	
8.	×	×	×	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	8	8	8	88.8	88.8	88.8	Suggestion was to remove this option, but its not removed.

Key-

√- Agree

×- Disagree

22/2/20

VALIDATORS OPINION REGARDING MODIFIED OSWESTRY DISABILITY QUESTIONNAIRE

Item no	V1			V2			V3			V4			V5			V6			V7			V8			V9			Total			Percentage			Remarks
	Relevancy	Adequacy	Appropriateness	Relevancy	Adequacy	Appropriateness	Relevancy	Adequacy	Appropriateness	Relevancy	Adequacy	Appropriateness	Relevancy	Adequacy	Appropriateness	Relevancy	Adequacy	Appropriateness	Relevancy	Adequacy	Appropriateness	Relevancy	Adequacy	Appropriateness	Relevancy	Adequacy	Appropriateness	Relevancy	Adequacy	Appropriateness	Relevancy	Adequacy	Appropriateness	
1.	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	9	9	9	100	100	100	
2.	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	9	9	9	100	100	100	
3.	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	9	9	9	100	100	100	
4.	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	9	9	9	100	100	100	Suggestion were to translate the measuring unit, and it is translated.
5.	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	9	9	9	100	100	100	
6.	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	×	×	×	8	8	8	88.8	88.8	88.8	Suggestion was to specify the appropriate weight for lifting, its specified.
7.	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	9	9	9	100	100	100	Suggestion was to specify the area coverage for movement, its specified.
8.	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	√	9	9	9	100	100	100	

Key-

√- Agree

×- Disagree

ANNEXURE-XII

STRUCTURED KNOWLEDGE QUESTIONNAIRE ON SOCIO DEMOGRAPHIC DATA:

INSTRUCTIONS: Here are some information regarding demographic background and disability related to pain after caesarean section. The researcher will ask some questions and subjects are requested to listen and understand carefully and answer the questions.

The data collected from subject will be used for research study purpose and will be kept confidential.

Code No:................................ Date:................................

I. Demographic performa:

1. Age .... Years.

2. Educational status:
   a. Can read and write local language ( )
   b. Primary school ( )
   c. Senior basic school ( )
   d. Secondary school ( )
   e. Higher secondary school ( )
   f. Graduate ( )
   g. Postgraduate and above ( )

3. Occupation:
   a. House wife / unemployed ( )
   b. Daily wages ( )
   c. Self employed ( )
   d. Private employed ( )
   e. Government employed ( )

4. Type of family:

    a. Nuclear   (   )

    b. Joint   (   )

    c. Extended   (   )

5. Parity:

    a. Primipara   (   )

    b. Multipara   (   )

    c. Grand multipara   (   )

6. Previous caesarean section:

    a. Yes   (   )

    b. No   (   )

If yes, any disability related to pain occur

    a. Yes   (   )

    b. No   (   )

7. Previous sources of information related to posture maintenance:

    a. Yes   (   )

    b. No   (   )

If yes, source of information:

    a. Newspaper/ Magazine/ Books/ Journals   (   )

    b. Radio/ Television   (   )

    c. Family members/ Relatives   (   )

    d. Friends/ Neighbours   (   )

    e. Health professionals   (   )

    f. Others (specify)   (   )

II. Physical measurements :

8. a. Height:...................................

   b. Weight:................................

   c. BMI:.....................................

SECTION : B VISUAL ANALOGUE SCALE

This pain assessment tool is intended to help patient care providers to assess pain according to individual patient needs.

By observing faces or behavioral changes researcher will interpret expressed pain when patient cannot communicate her pain intensity.
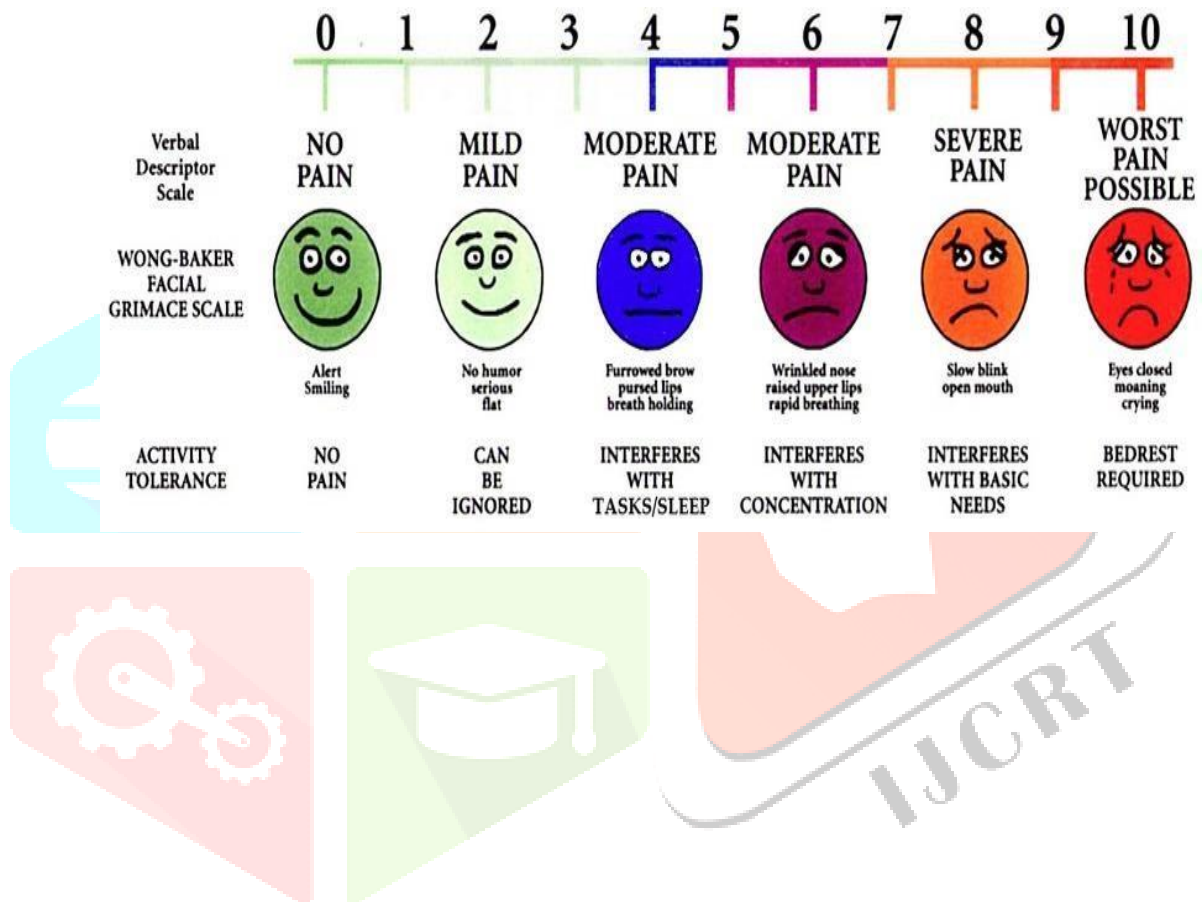
SECTION C:

MODIFIED OSWESTRY DISABILITY INDEX

The Oswestry disability questionnaire is an extremely important tool that researchers and disability evaluators use to measure a patient's functional disability. The test is considered the "gold standard" of functional outcome tools.

SCORING INSTRUCTIONS:

For each section total possible score = 5

- Score for first statement = 0
- Score for second statement = 1
- Score for third statement = 2
- Score for forth statement = 3
- Score for fifth statement = 4
- Score for last statement = 5

If all 8 sections are completed, the calculations like –

e.g., $16/40 \times 100 = 40\%$ [16 = total carried score, 40 = total possible score]

INTERPRETATION OF SCORES:

0-20% = minimal disability 21-40% = moderate disability 41-60% = severe disability

61-80% = crippled

81-100% = bed-bound.

OSWESTRY DISABILITY INDEX

INSTRUCTIONS: Here are some informations regarding disability related to pain after caesarean section. The researcher will ask some questions and subjects are requested to listen and understand carefully and answer the questions.

The data collected from subject will be used for research study purpose and will be kept confidential.

SECTION-1 : Pain intensity

1) I have no pain at the moment.
2) The pain is very mild.
3) The pain is moderate.
4) The pain is fairly severe.
5) The pain is very severe.
6) The pain is worst imaginable.

SECTION-2 : Sitting

1) I can sit as long as I like.
2) I can only sit in my comfortable position as long as I like.
3) Pain prevents me sitting more than 1 hour.
4) Pain prevents me sitting more than 30 minutes.
5) Pain prevents me sitting more than 10 minutes.
6) Pain prevents me from sitting at all.

SECTION-3 : Standing

1) I can stand as long as I want without extra pain.
2) I can stand as long as I want but it gives me extra pain.
3) Pain prevents me from standing for more than 1 hour.
4) Pain prevents me from standing for more than 30 minutes.
5) Pain prevents me from standing for more than 10 minutes.
6) Pain prevents me from standing at all.

SECTION-4: Walking

1) Pain does not prevent me walking any distance.

2) Pain prevents me from walking more than 300 feet.

3) Pain prevents me from walking more than 150 feet.

4) Pain prevents me from walking more than 75 feet.

5) I can only walk using a stick or crutches.

6) I am in bed most of the time.

SECTION-5 : Sleeping

1) My sleep never disturbed by pain.

2) My sleep is occasionally disturbed by pain.

3) Because of pain I have less than 6 hours sleep.

4) Because of pain I have less than 4 hours sleep.

5) Because of pain I have less than 2 hours sleep.

6) Pain prevents me from sleeping at all.

SECTION-6 : Lifting

1) I can carry my baby without extra pain.

2) I can carry my baby but it gives extra pain.

3) Pain prevents me from carrying my baby, but I can manage if my baby are in conveniently placed, e.g., in bed.

4) Pain prevents me from carrying my baby, but I can manage with the help of assistance.

5) I can carry my baby for a little time only.

6) I can't carry my baby at all.

SECTION-7 : Movement

1) I can move in hospital premises without pain.

2) I can move in hospital premises but it gives me extra pain.

3) Pain is bad but I can manage movement over 2 hours.

4) Pain restricts me to movement of less than 1 hour.

5) Pain restricts me to short necessary movement under 30 minutes.

6) Pain prevents me from movement except to receive treatment.

SECTION-8 : Feeding of child/baby

1) I can breastfeed/feed the baby without extra pain.

2) I can breastfeed/feed the baby but it gives extra pain.

3) Pain prevents me from breastfeed/feed the baby, but I can manage in comfortable position.

4) Pain prevents me from breastfeed/feed the baby, but I can manage in comfortable position for some time.

5) I can breastfeed/feed the baby very oftenly but can't continue for required time.

6) I can't breastfeed/feed the baby at all.

অধ্যায় – 'ক'

ব্যাক্তিগত তথ্যর উপ রপ্রশ্নাল্র িঃ

লিথ্দেশাব্ িঃ এখাথ্িি লিজালরয়ািি সিকশথ্িরের পরব্ৃতী ব্যাযর জিয শারালরক অক্ষমতার উপর লকছু িমাক্তজক ব্যাক্তিগত তযয উথ্িখ করা রথ্যথ্ছ। দয়া কথ্ মথ্িথ্িথ্hিাগ িহিকাথ্ শুিিিি এব্ং গথ্ব্ৃষক কতৃ ক ক্তুজ্জ্বালিত প্রশ্নগুল র hযাhয উত্তরলদি।

আপার সদওয়া িমস্ত তযযাব্ া গথ্ব্ৃষক কতৃ ক সগাপি যালকথ্ব্।

সকাড িঃ-_____   তালরখ-_____

িমাক্তজক ব্যাক্তিগত তযযাব্ ািঃ

১) ব্িয়_____ব্ছর।

২) লশক্ষাগত সhিাগযতািঃ

(ক) আঞুল ক ভাষা পড়থ্ত ও ল খথ্ত পারা (খ) প্রাযলমক লব্দযা য সযথ্ক পাশ করা

(গ) লিলিয়র সর্ব্িক লব্দযা য সযথ্ক পাশ করা (ঘ) উচ্চ লব্দযা য সযথ্ক পাশ করা

(ঙ) উচ্চতর লব্দযা য সযথ্ক পাশ করা (চ) স্নাতক

(ছ) স্নাতথ্কাওর

৩) সপশািঃ

(ক) গৃলহিা

(খ) দদলিক কমী (গ) স্বলিভর

(ঘ) সব্িরকালর কমীজাব্া (ঙ) িরকালর কমীজাব্া

৪) পলরব্ািথ্র ধ্রিঃ

(ক) একক পলরব্ার (খ) সhিৌয পলরব্ার (গ) প্রিালরত পলরব্ার

৫) গভোৱস্থার িংখযাি◌ঃ

(ক) প্রযম গভোৱস্থা (খ) লিতায় গভোৱস্থা

(গ) দুই এর অলধ্ক গভোৱস্থা

৬) পুৱৱ্তী লিজালরয়াি সিকিশি◌ঃ (ক) হ্য়য়ৎছ

(খ) হয়লি

ᴴলদ হয়, তখি সকায়◌ি ব্যাযার জিয শারারাক অক্ষমতাি◌ঃ (ক) হ্য়য়ৎছ

(খ) হয়লি

৭) লিজালরয়াি প্রিয়ৱ্ পর শরায়রর ি◌ঠিক অঙ্গলৱ্ি◌যাি ি◌স্পলকেত সকায়◌ি পূৱৱ্তী তযয জাি◌◌া আয়ছ লক?

(ক) হযাঁ (খ) ি◌◌া

ᴴলদ যায়ক, তাহয় তযযযর উিৎ লছ ি◌ঃ

(ক) ি◌◌ংৱ্◌াদপত্র / ি◌◌ামলয়ক পন্তুএকা / ৱ্ই / লদিপন্তুএকা (খ) সৱ্তার / দূরদিশ◌ে

(গ) পলরৱ্◌ায়রর ি◌দিয / আত্মায়য়স্বজি (ঘ) ৱ্ন্ধু মহ / প্রলতয়ৱ্শাি◌মূহ

(ঙ) স্বাস্যযাকমী

(চ) অযাি◌য (উ্য়◌েলখত)

<u>ব্যান্তিগত তযযাৱ ি◌ঃ</u>

৮) উচ্চতা_____। ওজি ___।

ৱ্লড মাি◌ হি়ডক্স_____।

অধ্যায় - 'খ'

ভিজুয়াল অ্যানালগ স্কেল

এই ব্যথা মুল্যায়ন টুলটির লক্ষ হল রোগীর যত্ন প্রদানকারীকে পৃথক পৃথক রোগীর প্রয়োজন আনুসারে ব্যাথা নির্ণয় করতে সাহায্য করা।

যখন রুগি নিজের ব্যথার তীব্রতা সম্পর্কে বলতে অক্ষম থাকে তখন গবেষণাকারী রুগির চেহারা অথবা ব্যবহারের পরিবর্তন দেখে প্রকাশিত ব্যাথা নির্ণয় করে।

অধ্যায় - 'গ'

<u>পদ্ধতিতে তিওওযয়িঠি অক্ষমতার প্রশ্নিচা:</u>

<u>লিণদেশাব্ ₸ি ঃ</u> এখাণি লিজালরয়ানি সিকশণিরি পরব্তী ব্যাযার জিয শারারাক অক্ষমতার উপর লকছু তযযাব্ ₸ উণ্েখ করা রয়য়ছ। দয়া করে মণ্ণিণYhণিগ তিহকাণির শুণ্তিু এবং গণ্বৃষক কতৃক ক্তজজ্ঞালিত প্রশ্নগুল র ₸যা₸য উত্তর লদি।

আপিার সদওয়া তিমস্ত তযযাব্ ₸ গণ্বৃষক কতৃক সগাপি যালকণব্।

সকাড ভিিঃ- _____   তালরখ- _____

<u>লব্ল্াগ (১)</u> ঃভিঃঃ ব্যাযার তাব্রতা-

(ক) আমার এখি সকাণিি ব্যাযা সিই। (খ) আমার হা কা ব্যাযা হণণে।

(গ) আমার মাঝালর ব্যাযা হণণে, লকন্তু ভিহিায়। (ঘ) আমার সমাটামুঠট তাব্র ব্যাযা হণণে।

(ঙ) আমার তাব্র ব্যাযা হণণে, hাি অিহয। (চ) আমার অিহয কল্পিাতাত ব্যাযা হণণে।

<u>লব্ল্াগ (২)</u> ঃভিঃঃ ব্ণিার তিময-

(ক) আলম আমার ঙৌতিণ্hণায়া তিময পণ্ত ব্ণিYত পালর।

(খ) আলম শুধুুমাত্র আমার আরামদায়ক অব্স্থাণি ঙৌতিণ্hণায়া তিময পণ্ত ব্ণিYত পালর।

(গ) ব্যাযার কারণণি আলম ১ ঘণ্টার সব্শা তিময ব্ণিYত পালরিা।

(ঘ) ব্যাযার কারণণি আলম ৩০ লমলিণYটর সব্শা তিময ব্ণিYত পালরিা। (ঙ) ব্যাযার কারণণি আলম ১০ লমলিণYটর সব্শা তিময ব্ণিYত পালরিা। (চ) ব্যাযার কারণণি আলম লকছু ণYতই ব্ণিY যাকণYত পালরিা।

<u>লব্ল্াগ (৩)</u> ঃভিঃঃ দাড়াণিণার তিময-

(ক) অলতলরি ব্যাযা ছাড়াই আলম আমার ঙৌতিণ্hণায়া তিময দালড়ণYয যাকণYত পালর।

(খ) আলম আমার ঙৌতিণ্hণায়া তিময দালড়ণYয যাকণYত পালর, লকন্তু এণYত আলম তিমাণিয ব্যাযা অ্িভব্ কলর।

(গ) ব্যাযার কারণণি আলম ১ ঘণ্টার সব্শা তিময দাড়াণYত পালরিা।

(ঘ) ব্যাযার কারণণি আলম ৩০ লমলিণYটর সব্শা তিময দাড়াণYত পালরিা।

(ঙ) ব্যাযার কারγ আলম ১০ লমলিγটর সব্শা িময় দাড়াγত পালরিা। (চ) ব্যাযর কারγ আলম লকছু γতই দালড়ণয় যাকγত পালরিা।

লব্রাগ (৪) ০ঃিঃ হাটার িময-

(ক) ব্যাযা ছাড়াই আলমস�nγকাγি দূরত্ব সহাঁγট অলতক্রম করγত পালর।

(খ) ব্যাযার কারγ আলম ৩০০ ফুγটর সব্শা   γত পালরিা। γত পালরিা।

হাঁটাঁ (গ) ব্যাযার কারγ আলম ১৫০ ফুγটর

সব্শা ঘ্ঁটাঁ

(ঘ) ব্যাযার কারγ আলম ৭৫ ফু γটর সব্শা হাঁটγত পালরিা। (ঙ) আলম শুধ্ণুমাত্র িঠি ব্যব্হাγরর মাধ্যম হাটγত পালর। (চ) আলম সব্শার ভাগ িময শnযাশাγা অব্স্থায় যালক।

লব্রাগ (৫) ০ঃিঃ ঘুমাγিের িমযিঃ

(ক) ব্যাযা সকাγিভাγব্ আমার ঘুমর ব্যাঘাত ঘটায় ি।

(খ) ব্যাযার কারγ মাγঝ মাγঝ আমার ঘুমর ব্যাঘাত ঘγট ।

(গ) ব্যাযার কারγ আলম ৬ ঘণ্টার সযγক কম িময ঘুমাγত পালর। (ঘ) ব্যাযার কারγ আলম ৪ ঘণ্টার সযγক কম িময ঘুমাγত পালর। (ঙ) ব্যাযার কারγ আলম ২ ঘণ্টার সযγক কম িময ঘুমাγত পালর। (চ) ব্যাযার কারγ আলম লকছু γতই ঘুমাγত পালরিা।

লব্রাগ (৬) ০ঃিঃ ভার উপγর সতা ািঃ

(ক) সকাγিরকম ব্যাযা ছাড়াই আলম আমার লশশ্ণুγক সকাγ লিγত পালর।

(খ) আলম আমার লশশ্ণুγক সকাγ তু γত পালর লকন্তু এγত আলম ব্যাযা ল্ণুভব্ কলর।

(গ) ব্যাযার কারγ আলম আমার লশশ্ণুγক সকাγ তু γত পালরিা, লকন্তু আমার লশশ্ণু সকাγিি িণুলব্ধ্ািজিক স্থাγি যাকγ (সnমি -লব্ছািি) আমার ল্ণুলব্ধ্ি

হিয়া।

(ঘ) ব্যাযার কারγ আলম আমার লশশ্ণুγক সকাγ তু γত পালরিা, লকন্তু িহাnযকারার িহায়তায় আলম ল্ণুলব্ধ্ি সব্ণাধ্ কলরিা।

(ঙ) আলম খুব্ই িমাণিয িমγযর জিয আমার লশশ্ণুγক সকাγ লিγত পালর।

(চ) আলম সকাγিভাγব্ই আমার লশশ্ণুγক সকাγ লিγত পালরিা।

<u>লব্রাগ (৭)</u> ◌ঃ◌ঃ ি়ড়াচড়া◌ঃ

(ক) আলম সকায়ি◌ ব্যাযা ছাড়াই হা◌িপাতা প্রাঙ্গয়ি ি়ড়াচড়া করয়ত পালর। (খ) আলম হা◌িপাতা প্রাঙ্গয়ি ি়ড়াচড়া করয়ত পালর, লকন্তু এয়ত আলম অলতলরি ব্যাযা ি্ঝভব্ কলর।

(গ) ব্যাযার কারয়ি আলম ২ ঘণ্টার সব্শা ি়ড়াচড়া করয়ত পালরিা। (ঘ) ব্যাযার কারয়ি আলম ১ ঘণ্টার সব্শা ি়ড়াচড়া করয়ত পালরিা।

(ঙ) ব্যাযার কারয়ি আলম ৩০ লমলিয়টর সব্শা ি়ড়াচড়া করয়ত পালরিা। (চ) ব্যাযার কারয়ি আলম সকায়ি ধ্রয়ির ি়ড়াচড়া করয়ত পালরিা।

<u>লব্রাগ (৮)</u> ◌ঃ◌ঃ লশশুয়ক স্তিযপাি করায়ি / খাব্◌র খাওয়ায়◌ঃ◌ঃ

(ক) অলতলরি ব্যাযা ছাড়াই আলম আমার লশশুয়ক স্তিযপাি / খাব্◌র খাওয়ায়ত পালর।

(খ) আলম আমার লশশুয়ক স্তিযপাি / খাব্◌র খাওয়ায়ত পালর, লকন্তু এয়ত আলম খুব্ ব্যাযা ি্ঝভব্ কলর।

(গ) ব্যাযার কারয়ি আলম আমার লশশুয়ক স্তিযপাি / খাব্◌র খাওয়ায়ত পালরিা, লকন্তু আরামদায়ক অব্স্হায়ি আমার সকায়ি ি্ঝলবধ্◌া হয়িা।

(ঘ) ব্যাযার কারয়ি আলম আমার লশশুয়ক স্তিযপাি / খাব্◌র খাওয়ায়ত পালরিা, লকন্তু অল্প ি়ময়ির জিয আরামদায়ক অব্স্হায়ি আমার সকায়ি ি্ঝলবধ্◌া হয়িা।

(ঙ) আলম আমার লশশুয়ক মায়ঝমায়ঝ স্তিযপাি / খাব্◌র খাওয়ায়ত পালর, লকন্তু অলব্রত h়যাhয ি়ময়ির জিয পালরিা।

(চ) আলম লকছু◌য়তই আমার লশশুয়ক স্তিযপাি / খাব্◌র খাওয়ায়ত পালরিা।

ANNEXURE-XIII CERTIFICATE OF ENGLISH

EDITING

ENGLISH CONTENT AND TOOL EDITING CERTIFICATE

I hereby certify that, I have edited the content and tools of Miss Nandita Das, from Tripura College of Nursing, Hapania. She has undertaken the dissertation titled, "**A quasi experimental study to evaluate the effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers in selected hospitals, Agartala, West Tripura.**"

Asstt. Professor,
Women's College,
Agartala, Tripura (W):

Signature and seal of expert

Date: 6th March, 2020

Place: Agartala

Dr. Somali Saha.
Assistant Professor
Name and designation

ANNEXURE-XIV CERTIFICATE OF BENGALI

EDITING

BENGALI CONTENT AND TOOL EDITING CERTIFICATE

I hereby certify that, I have edited the content and tools of Miss Nandita Das, from Tripura College of Nursing, Hapania. She has undertaken the dissertation titled, "A quasi experimental study to evaluate the effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers in selected hospitals, Agartala, West Tripura."

Uttam Kumar Das
Assistant Professor,
College of Teacher Education
Kumarghat, Unakoti, Tripura.

Signature and seal of expert

Date: 07/03/2020

Place: Agartala.

Uttam Kumar Das
Name and designation Assistant Profe

ANNEXURE-XV

LETTER SEEKING CONSENT OF THE SUBJECTS FOR PARTICIPATION IN THE STUDY (ENGLISH AND BENGALI)

Dear participant,

I am **Miss Nandita Das, M.Sc. Nursing** student at Tripura College of Nursing, Agartala. As an educational requirement, I am conducting a Research study on "A quasi experimental study to evaluate the effectiveness of posture maintenance on reduction of disability related to pain among post caesarean mothers in selected hospitals, Agartala, West Tripura." I would like to give you some questions related to disabilities due to pain and shows some techniques of posture maintenance to overcome these disabilities. The information given by you will be used for research purpose and kept confidential. The successful completion of this study largely depends on your active co-operation and participation.
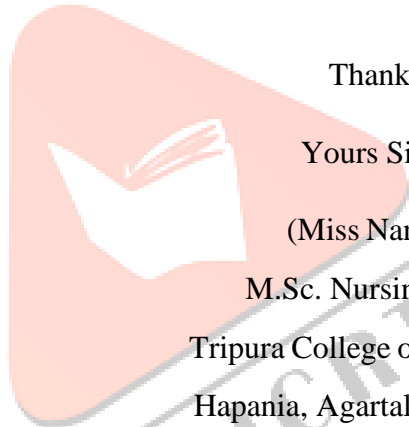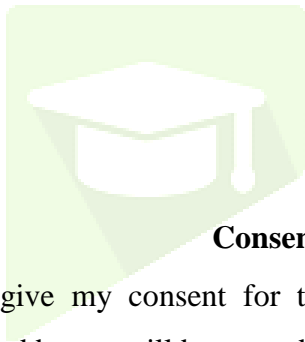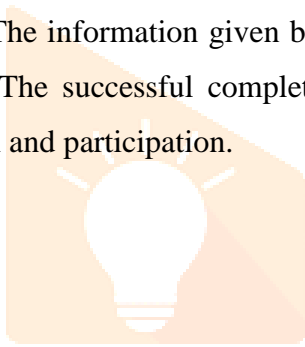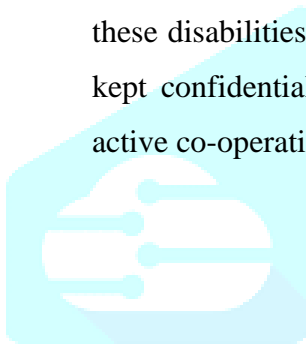
Thanking you,

Yours Sincerely,

(Miss Nandita Das)

M.Sc. Nursing student

Tripura College of Nursing

Hapania, Agartala-799014

Consent Form

I here with give my consent for the above said study knowing that all the information provided by me will be treated with almost confidential by the investigator.

Signature of the Participant

Date:

Place:

গবেষণায় অংশ নেওয়ার জন্য বিষয়গুলির সন্মতি চাওয়ার আবেদন পত্র

প্রিয় অংশগ্রহনকারী,

আমি **শ্রীমতী নন্দিতা দাস**, ত্রিপুরা কলেজ অফ নার্সিং এ এম.এসসি. নার্সিং পাঠরতা ছাত্রী। শিক্ষাগত প্রয়োজনে আমি একটি গবেষণা করছি যার বিষয় "আগরতলা পশ্চিম ত্রিপুরার কিছু নির্দিষ্ট হাসপাতালে মায়েদের সিজারিয়ান সেকশানের পরবর্তী ব্যাথার কারনে শারীরিক অক্ষমতা হ্রাস করার জন্য অঙ্গবিন্যাস পদ্ধতির কার্যকারিতা মুল্যায়নের একটি আধা পরীক্ষামূলক অধ্যয়ন" আমি আপনাকে ব্যাথায় অক্ষম হয়ে যাওয়ার উপর কয়েকটি প্রশ্ন করতে চাই এবং এই অক্ষমতা গুলি দূর করার জন্য কিছু অঙ্গবিন্যাস পদ্ধতি দেখাতে চাই। আপনার দেওয়া তথ্যগুলো আমার গবেষণার কাজে আসবে এবং তথ্য গুলো সম্পূর্ণ গোপনীয় থাকবে। এই গবেষণা মুখ্য ভাবে আপনার সতস্পূর্ত অংশগ্রহন এবং সাহায্যের উপর নির্ভরশীল।

ধন্যবাদান্তে

আপনার বিশ্বস্ত

শ্রীমতী নন্দিতা দাস)
এম.এসসি. নার্সিং
ত্রিপুরা কলেজ অফ নার্সিং
হাপানিয়া, আগরতলা- ৭৯৯০১৪

সন্মতি পত্র

আমার দ্বারা প্রদত্ত সকল তথ্য গোপনীয় থাকবে এটা জানার পর আমি উপরিউক্ত গবেষণার জন্য আমার সন্মতি দিলাম।

তারিখঃ-

জায়গাঃ-

অংশগ্রহনকারীর স্বাক্ষর

ANNEXURE-XVI: MASTER DATA SHEET OF DEMOGRAPHIC CHARACTERISTICS OF EXPERIMENTAL GROUP

Code no	Age	Education	Occupation	Type of family	Parity	Previous CS	If yes, any disability	Previous sources of information	Sources of information	Height	Weight	BMI
1	2	4	1	2	1	2	2	1	5	3	3	2
2	3	5	1	2	1	2	2	1	5	2	4	2
3	2	4	1	2	1	2	2	1	5	2	3	3
4	1	3	1	2	1	2	2	2	0	1	3	3
5	4	6	3	1	2	1	1	1	5	2	4	2
6	1	3	1	2	1	2	2	2	0	2	3	2
7	3	5	3	1	1	2	2	1	5	1	3	3
8	4	2	1	2	2	2	2	1	5	2	3	2
9	3	6	1	1	1	2	2	2	0	1	4	3
10	5	4	1	2	2	1	1	1	5	3	4	2
11	4	2	1	1	2	1	1	1	5	2	4	3
12	2	4	1	1	1	2	2	1	5	1	2	2
13	1	4	1	2	1	2	2	1	5	3	1	1
14	4	4	1	2	1	2	2	1	5	2	4	3
15	4	7	4	2	2	2	2	1	5	3	4	2
16	3	6	1	2	1	2	2	1	5	2	1	2
17	5	3	1	1	2	2	2	1	5	2	4	2
18	2	4	1	1	1	2	2	1	5	2	3	2
19	2	4	1	2	1	2	2	1	5	2	3	2
20	5	2	1	1	2	2	2	1	5	2	1	1

MASTER DATA SHEET FOR OSWESTRY DISABILITY QUESTIONNAIRE (PRETEST FOR EXPERIMENTAL GROUP)

Code no	S1	S2	S3	S4	S5	S6	S7	S8	Total
1	3	4	5	5	0	3	5	4	29
2	3	4	5	5	0	3	4	3	27
3	3	4	4	4	0	3	5	2	25
4	4	5	5	5	1	1	5	1	27
5	3	4	4	4	2	3	4	3	27
6	4	4	5	5	1	3	5	5	32
7	3	4	4	4	2	3	4	4	28
8	2	3	3	3	3	1	4	3	22
9	4	4	4	3	3	3	4	3	28
10	2	1	1	1	4	2	1	1	13
11	3	4	4	3	2	4	5	4	29
12	3	4	5	4	3	3	4	5	31
13	3	2	5	5	5	5	5	4	34
14	4	4	5	4	3	5	5	4	34
15	2	4	0	5	2	4	5	5	27
16	3	5	5	5	3	5	5	5	36
17	3	4	4	3	3	4	4	3	28
18	4	5	5	5	3	3	4	3	32
19	3	3	4	4	2	5	4	2	27
20	4	4	4	3	3	5	5	1	29
Total	63	76	81	80	45	67	87	65	564

MASTER DATA SHEET FOR OSWESTRY DISABILITY QUESTIONNAIRE (POSTTEST FOR EXPERIMENTAL GROUP)

Code no	S1	S2	S3	S4	S5	S6	S7	S8	TOTAL
1	1	1	1	2	0	0	0	2	7
2	2	1	3	4	0	3	1	2	16
3	2	2	2	2	0	1	1	2	12
4	2	2	2	2	3	3	3	4	21
5	2	2	2	1	2	1	1	2	13
6	2	1	3	2	1	3	0	4	16
7	1	2	1	2	2	3	3	3	17
8	0	0	1	0	1	1	0	3	6
9	1	0	1	1	0	1	1	0	5
10	1	1	1	1	2	3	2	2	13
11	0	0	1	1	0	0	1	2	5
12	1	0	1	2	0	1	2	2	9
13	1	1	1	1	0	0	1	2	7
14	0	0	1	0	1	0	0	4	6
15	0	0	1	0	1	0	1	4	7
16	1	0	0	1	0	0	1	1	4
17	0	0	0	1	0	3	1	3	8
18	1	1	1	1	0	0	1	2	7
19	2	2	1	0	0	1	1	2	9
20	0	0	1	0	0	0	1	1	3
TOTAL	20	16	25	24	13	24	22	47	191

MASTER DATA SHEET OF DEMOGRAPHIC CHARACTERISTICS OF CONTROL GROUP

Code no	Age	Education	Occupation	Type of family	Parity	Previous CS	If yes, any disability	Previous sources of information	Sources of information	Height	Weight	BMI
1	3	6	4	2	1	2	2	1	5	2	3	2
2	5	3	1	2	2	1	1	1	5	2	3	2
3	3	2	1	2	1	2	2	1	5	1	2	2
4	1	5	1	2	1	2	2	1	5	2	1	1
5	4	4	1	2	2	1	1	1	5	2	4	2
6	3	3	1	2	2	1	1	1	5	3	2	1
7	4	2	1	2	2	2	2	1	5	1	3	2
8	4	6	5	1	2	2	2	1	5	3	3	1
9	4	5	4	2	1	2	2	1	5	2	2	1
10	3	6	1	2	1	2	2	1	5	1	2	2
11	4	5	1	2	2	2	2	1	5	1	3	2
12	1	4	1	2	1	2	2	1	5	3	2	1
13	2	3	1	2	1	2	2	1	5	1	2	2
14	3	4	1	1	1	2	2	1	5	1	2	2
15	3	3	1	2	1	2	2	1	5	1	2	2
16	4	6	5	1	1	2	2	1	5	2	3	2
17	2	5	3	1	1	2	2	2	0	2	2	1
18	4	5	5	1	2	2	2	1	5	3	3	1
19	3	4	1	2	2	2	2	1	5	2	2	1
20	1	3	1	2	1	2	2	1	5	1	2	2

MASTER DATA SHEET FOR OSWESTRY DISABILITY QUESTIONNAIRE (PRETEST FOR CONTROL GROUP)

Code no	S1	S2	S3	S4	S5	S6	S7	S8	TOTAL
1	3	4	4	5	2	3	5	3	29
2	2	3	3	3	1	3	3	4	22
3	2	3	3	3	4	2	4	4	25
4	3	4	4	5	2	3	5	4	30
5	3	4	4	3	4	4	4	1	27
6	3	3	4	4	2	1	4	2	23
7	2	1	2	2	3	3	4	4	21
8	3	4	4	5	5	4	4	3	32
9	3	2	3	2	4	2	4	4	24
10	3	4	4	4	1	4	5	4	29
11	3	4	4	3	4	4	4	4	30
12	4	4	4	4	1	3	5	4	29
13	2	3	4	4	2	2	3	3	23
14	4	4	4	4	1	1	1	1	20
15	4	4	5	3	3	1	3	4	27
16	3	4	5	5	4	4	4	4	33
17	4	4	5	3	4	3	4	4	31
18	3	3	4	4	3	2	2	3	24
19	3	3	4	4	2	3	4	2	25
20	4	4	4	4	1	2	4	1	24
TOTAL	61	69	78	74	53	54	76	63	528

MASTER DATA SHEET FOR OSWESTRY DISABILITY QUESTIONNAIRE (POSTTEST FOR CONTROL GROUP)

Code no	S1	S2	S3	S4	S5	S6	S7	S8	TOTAL
1	1	0	2	2	2	3	3	2	15
2	0	1	1	2	2	2	2	0	10
3	1	2	2	1	0	0	3	2	11
4	2	1	2	2	2	2	2	2	15
5	1	2	2	1	3	4	2	3	15
6	1	1	1	1	3	3	1	4	15
7	1	1	1	1	1	2	2	3	12
8	1	2	1	2	2	1	2	2	13
9	1	1	0	2	3	3	2	2	14
10	2	1	1	1	0	1	1	3	10
11	1	3	3	1	3	2	1	2	16
12	1	2	2	2	3	3	2	3	18
13	1	1	1	1	2	2	2	3	13
14	2	2	2	2	3	2	2	2	17
15	1	1	1	2	2	1	3	3	14
16	2	2	2	3	3	3	3	2	20
17	1	2	2	1	3	3	2	3	17
18	2	1	2	1	2	3	2	3	16
19	1	1	2	1	0	1	3	2	11
20	2	1	1	2	2	2	4	4	18
TOTAL	25	28	31	31	41	43	44	50	262

ANNEXURE-XVII

CERTIFICATE ON TRAINING COURSE COMPLETION ON POSTURE MAINTENANCE OF POSTCESAREAN MOTHERS.

TRIPURA INSTITUTE OF PARAMEDICAL SCIENCES
HAPANIA, AMTALI, TRIPURA (W)

Certificate of course completion

This is to acknowledge that Ms. Nandita Das of Tripura College of Nursing, Hapania, Tripura has successfully completed a training course in "Posture maintenance for post caesarean mothers "conducted from 25th October to 12th November,2019 and 18th December,2019 to 13th January,2020.Under Dr. Upanita Debnath (PT) Associate Professor of our Institute.

Dr. Upanita Debnath (PT)
Associate Professor

12/3/2020

Prof. (Dr.) C.Banerjee
Principal
Principal,
Tripura Institute of Paramedical Sciences,
Agartala-799014

Date: 12/03/2020

Place: Hapania, Amtali, Tripura (W)

SETTING OF DATA COLLECTION

TRIPURA MEDICAL COLLEGE AND DR. BRAM TEACHING HOSPITAL, AGARTALA, WEST TRIPURA

INDIRA GANDHI MEMORIAL HOSPITAL, AGARTALA, WEST TRIPURA