A STUDY TO ASSESS THE EFFECTIVENESS OF SU JOK THER APY ON LOW BACK PAIN AMONG WOMEN AT VILANKURICHI, COIMBATORE.

By

PONNI.S

A Dissertation submitted to The Tamil Nadu Dr. M.G.R. Medical University, Chennai, in partial fulfillment of requirement for the Degree of

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INTERNAL EXAMINER EXTERNAL EXAMINER

CERTIFICATE

Certified that this is the bonafide work of PONNI.S of K.G College of Nursing, Coimbatore, submitted in partial fulfillment of requirement for the Degree of Master of Science in Nursing to The Tamil Nadu Dr. M.G.R. Medical University under the Registration No:30096435

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CHAPTER I

INTRODUCTION

'In a preamble to a new paradigm for women's health' it was noted that, collaboration and interdisciplinary approach are essential to the development of health promotion , disease prevention, education for self care and health risk identification of women . Women's health issues are long on numbers , large in disability and suffering , and enormous in cost. To reduce suffering and disability it is essential to prevent these disorders whenever possible , diagnose them early to minimize their impact and provide interventions to maximize functioning **(Laura L.Tosi , 2001) .**

The importance of research helps to study and improve women's musculoskeletal health status and this become increasingly identified. Researchers, Clinicians, and representatives of professional and advocacy organizations concerned with women's musculoskeletal health participated in the development of the initial research agenda on women's health in 1991 and attended in the meeting to update and revise the agenda in 1996 . Many recommendations for the additional research on women's musculoskeletal health have been developed and most of them were being implemented **(Bethesda .M, 2008).**

Women are disproptionately disabled by musculoskeletal conditions. For biologic and life style reasons, musculoskeletal health is one of the areas of medicine in which the differences between women and men are clearly marked. Arthritis and other types of degeneration changes in the small joints of the back usually starts up in

the women during their thirty and forty years of age **(Robert waldrip, 2001).**

Low back pain is an epidemic at present in most of the industrialised countries , both anatomically and functionally low back region is extremely complex. Even with improved imaging techniques the exact origin of pain in most cases is unknown or cannot be documented. Humans have been plagued by back and leg pain since the beginning of recorded history. Description of lumbago and sciatica are found in the Bible and in the most ancient surgical texts **(Edwin smith , 2005).**

Modern medical technology leads to remarkable increase in costs of health through excessive use of digital technology and medicines. The frightening health scenario of the coming millennium put forth the necessity to think and look for an alternative . Many alternative therapies that help to restore health by some effective treatment method without any adverse effects to the human being . Use of non pharmacological and alternative therapies for low back pain are increasing from 22% to 28% **(Dr. Donald Fredrickson , 2004) .**

Su Jok Acupressure is a Metaphysical ,Physical and Natural form therapy of healing without any drugs. It is an absolutely safe instant and effective healing therapy without medication and does not have any side effects .This therapy was introduced by a Korean scientist professor Park Jae Woo, in 1986 , after his thirty years of research study Prof. Park Jae Woo reach to the conclusion that the hands and feet carry information about health. The term “Su” means “hand” and “Jok” means “feet” in Korean. It acts on the

simple principle of Yin-Yang that helps to have an adequate balance of the human body . Acupressure means the art of healing disease by applying pressure on specific pain points it cause release of endomorphins ,which are the neurochemicals that relieves pain **(Pradeep Sharma , 2009) .**

NEED FOR THE STUDY

Seventy percent of women will suffer from low back pain at least some point in their lives. Among these 14 percent will have severe pain this lasts for around two weeks, and up to 7 percent will have chronic back pain that may last for more than six months. Around 400,000 back injuries occur on the job each year, and this results more loss of productivity than any other medical problem . Low back pain is the most frequent reason of activity restriction among people below the age of 45 and the second most common cause (after flu and common cold) to consult doctors, report of the American Academy of Orthopaedic Surgeons. Back pain is the third most common cause for surgery and the fifth leading reason for hospitalization **(Dr. Andersson , 2001) .**

A general population of 928 women aged 30, 40, 50, and 60 years underwent a lower back examination as a part of a general health survey. A 12 month follow-up questionnaire was completed by 99% . The one year incidence of first attacks of LBP was 11% among the 30-year-olds and decreased in the older age-groups. Recurrences of LBP in the follow-up year were more frequent among those who had more recently and frequently experienced LBP before. Among those who had experienced LBP on some

occasion, 23-31% had such symptoms daily or at least once a week **(**Biering Sorenson **, 2007) .**

Current population status in India is 1.18 billion. In this female population in the age 15-64 years are of 35.9 crore (April, 2010). Back pain is frequently seen among women in the age group of 30 to 45years . By 2030, the world population of menopausal and postmenopausal women is projected to increase to 1.2 billion, with 47 million new entrants. Chronic low back pain in post-menopausal women was commonly attributed to osteoporosis , one in three women over 50 will experience osteoporosis. Women are looking for their healthcare professionals to be as educated about natural alternatives for treating health problems as they are about other options **(J.J Killer , 2007) .**

Health Statistics survey reported that prevalent rate of low back pain in Tamilnadu is 63% , actual prevalence of Back pain in India is 23,494,204. Prevalence of Back pain in the world is six million cases annually . Approximately one quarter of U.S adult citizen reported having low back pain lasting at least 1 full day in the past 3 months and 7.6% reported at least 1 episode of severe acute low back pain with in 1 year period **(National Institute of Health Statistics, 2009).**

The research findings show women desire more proactive sharing with health professionals related to non-medicinal methods for addressing their health problem . Many non pharmacologic therapies are available for treatment of low back pain including psychological therapies, back schools ,yoga and interdisciplinary

therapy . Nowadays more and more people are selecting alternative and natural ways to heal their mind and body **(Roger chou , 2007).**

Su Jok therapy is an absolutely modern interpretation of acupressure using independent correspondence systems of the body on the hands and feet's, allowed to bring about new possibilities for more effective treatment of patients with marked pain syndromes and various nervous pathologies . The goal of the present study was investigation of clinical effectiveness of Su Jok therapy in treatment of pain syndromes as compared with physiotherapeutic methods and hospital medication with regard to possible decreasing of treatment periods, shortening doses of analgesic and non-steroid anti-inflammatory drugs or complete abstinence of drug therapy **(T.V.Kaimak, et.al., 2009).**

The researcher from her experience have observed that most of the women are experiencing low back pain especially after thirty five years and wish to take any non pharmacological measures to control their symptoms. But they were ignorant in use of alternative therapies like su jok therapy .These concepts enlighten the researcher to do this study and give information on su jok therapy.

STATEMENT OF THE PROBLEM

A Study To Assess The Effectiveness Of Su jok Therapy On Low Back Pain Among Women At Vilankurichi, Coimbatore.

OBJECTIVES

- To assess the level of low back pain among women in both experimental and control group.
- To administer su jok therapy among women in experimental group.
- To reassess the level of low back pain among women in both experimental and control group.
- To compare the level of low back pain among women in both experimental and control group.
- To assess the effectiveness of su jok therapy on low back pain among women in experimental group.
- To associate the findings with selected demographic variable.

OPERATIONAL DEFINITIONS

Effectiveness

It refers to the ability to produce the expected effect of su jok therapy measured in terms of reduction of low back pain.

Su jok therapy

It refers to the process of applying pressure on the pain points of hands and feet's in order to reduce the low back pain.

Low back pain

It refers to any non traumatic musculoskeletal disorders affecting the low back , includes all back pain, regardless of diagnosis, that was not secondary to another disease or injury.

Women

It refers to the women in the age group of 35 to 55years.

ASSUMPTIONS

- Most of women are experiencing low back pain.
- Most of women are not practicing su jok therapy.
- Practicing su jok therapy will reduce low back pain.

HYPOTHESIS

There is a significant difference between pre-test and post test level of low back pain after su jok therapy.

LIMITATIONS

The study is limited to

- Women between the age group of 35-55 years.
- Women who experience low back pain.
- Prescribed data collection period is only 4 weeks.
- Women who are available at the time of data collection.

PROJECTED OUTCOME

- The findings of the study will identify the need and effectiveness of non- pharmacological measures over control of pain.
- The findings of the study will help to improve the quality of life without side effects.

CONCEPTUAL FRAME WORK

A conceptual framework deals with abstraction, which is assembled by nature of their relevance to a common theme. It is a global idea about the concept in relation to a specific discipline. It describes the mental image of a phenomenon and integrate them into a meaningful configuration. It's a visual diagram by which the researcher explains the specific area of interest **(Christenson J.Paula, 2000) .**

Conceptual framework is to communicate clearly the interrelationship of various concepts. It guides an investigator to know what data needs to be collected and gives directions to the entire research process **(Kerlinger,1999).**

Conceptual framework for this study is based on "General system theory", proposed by J.W.kenny's (1990) .The study was aimed at determining the effects of su jok therapy on low back pain. The investigator adopted J.W.kenny's open system model. According to Kenny's all living systems are open and they are in continuous exchange of matter, energy and information, which result in various degree of interaction with the environment from which the system

receives input and gives feedback output in the form of matter, energy and information. System model consists of three phases, input through put and output **(Kenny's Janet.W, 1990) .**

INPUT

Input can be matter, energy and information from the environment. In this study environment refers to community setting, and its premises and input refers to information needed by the system, and collecting demographic and assessment of low back pain among women.

THROUGHPUT

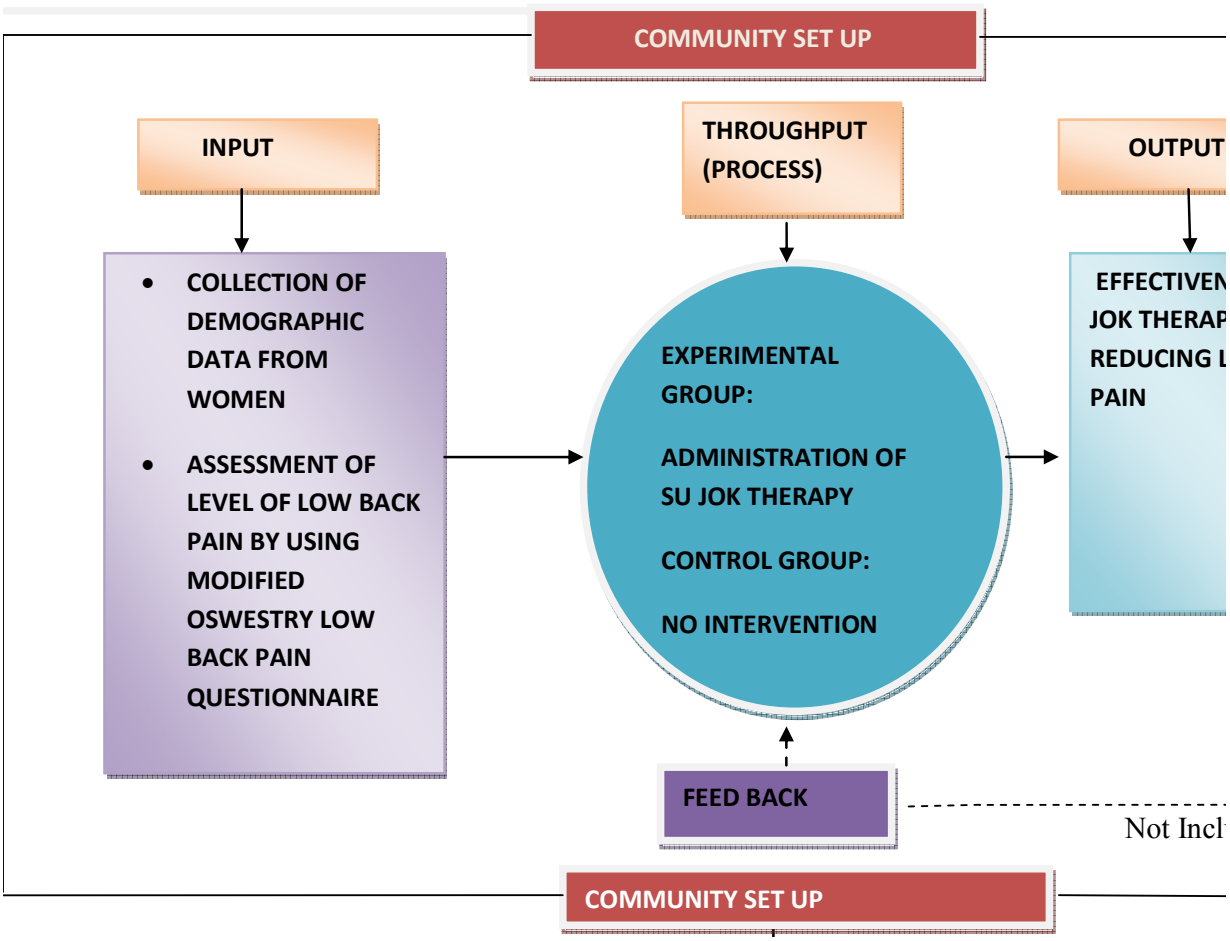
According to the theorist , matter energy and information is continually processed through the system . Process is the use of input that is energy and information for the maintenance of homeostasis of the system. It is the activity phase. It is a process that allows the input to be changed. In the present study, process include administration of su jok therapy.

OUTPUT

After processing the input, the system returns to the output to the environment in an altered state. In the present study output is reduction of low back pain.

FEEDBACK

Information of environmental responses to the system, output is utilised by the system in adjustment, correction and accommodation to the interaction with the environment. The effectiveness of su jok therapy on low back pain considers feedback.


COMMUNITY SET UP
INPUT
THROUGHPUT (PROCESS)
OUTPUT
COLLECTION OF DEMOGRAPHIC DATA FROM WOMEN
ASSESSMENT OF LEVEL OF LOW BACK PAIN BY USING MODIFIED OSWESTRY LOW BACK PAIN QUESTIONNAIRE
EXPERIMENTAL GROUP:
ADMINISTRATION OF SU JOK THERAPY
CONTROL GROUP:
NO INTERVENTION
EFFECTIVEN
JOK THERAP
REDUCING L
PAIN
FEED BACK
Not Incl
COMMUNITY SET UP

CHAPTER-II

REVIEW OF LITERATURE

Review of literature is an important step in the development of any research project. It helps the investigator to analyze what is known about the topic and to describe methods of inquiry used in earlier work including the success and short coming. It gives a broad understanding of the problem.

Review of literature is a written summary of the state of an art on a research problem. It helps the researcher to familiarize themselves with the knowledge base. It includes the activities involved in identifying and searching comprehensive picture of a state of knowledge on that topic (**Polit and Hungler, 2009**).

The investigator studies and reviews the related literature to broaden the understanding and gain insight of the problem under study. The review of literature has been presented under following headings.

Section A: Studies related to low back pain among women.

Section B: Studies related to su jok therapy on low back pain.

STUDIES RELATED TO LOW BACK PAIN AMONG WOMEN

A community-based cross-sectional study was done by using face-to-face interviews to identify the point , 12-month periods and lifetime prevalence of low back pain among women (age range 18-70 years) in rural North India , and to determine the low back pain associated factors. A total of 1000 participants were selected and

standardised questionnaire on demographics, emotional and physical stress, LBP and visual analogue scale were administered . Results shows the point , 12-month period and lifetime prevalence's of LBP were 44.1% , 33.0% and 19.7% respectively. Study revealed that, occupation, emotional and physical stress showed significant associations with LBP. This study also shows that disability and quality of life were influenced by LBP **(Sharma. S et al., 2003).**

Study on incidence of low back pain among working women in Turkey. Out of 11234 patients reporting to orthopaedic outpatient department from 2001 June to 2002 June , 2594 patients had low back pain . Among these low back pain group , 57% had blue-collar jobs, 67% had psychosocial problems , 26% have to change or leave their profession , and 38% were not at all enjoy their present job .The comparative figures in control group showed that 33% in blue-collar jobs (heavy manual workers) 19% with psychosocial problems , 7% had to turned over to new job , 6% did not enjoy their present job. Study concluded that along with NSAIDS and exercise , adequate importance should be given to short centre-based intensive program followed by a residence based rehabilitation program for chronic low back pain clients **(Oksuz et al., 2006).**

Comparative study to assess the spinal deformation and quality of life components between patients with chronic low back pain and osteoporosis and to determine the relationship between spinal deformation and quality of life components in Korea. A total of 130 female patients (63 osteoporotic patients, 65 ± 7.9 years, and 77

chronic low back pain patients, 56 ± 6.5 years) had a standardized interview on quality of life components (pain, activities of daily life, mood) and clinical measures of spinal deformation . The investigator concluded that with respect to quality of life components, functional limitation is the most specific to chronic low back pain and is related to clinical measures of spinal deformation **(Leidig et al., 2009).**

Retrospective Cross-Sectional Study on the association between low-back pain and different work factors in a sample of thousand seven hundred and sixty 38-to 64-year-old women in Ireland. The life-time prevalence's of LBP were 35% and the incidence were 66%. In the 38-to 49-years of age group the 2.6% women were found Inability to work due to LBP and 5.9% of women between 50 to 64 years old . Around Forty seven percent of the women in the prevalence group were experienced leg pain mostly sciatica , the intensity being significantly higher among the women of older age $P < 0.01$. Study conclude that when performing certain activities of daily living increase in LBP was common, and significantly more severe in the older age group **(Gunnar B. J, 2004).**

A cross sectional study to identify the 1 month period prevalence of low back pain in adult women in the United Kingdom . The study population was consists of all 7669 adults women (18 to 75 years old) registered under two family practisioners in a socio demographically mixed suburban area. The questionnaire includes a pain drawing to determine the site of any

pain, was send to the total study population. Pain present in the individuals from the study population were assessed over the following 12 months using records of all surgery contacts. Results showed the 1 month period prevalence of low back pain was 39%. The age distribution was similar with peak prevalence among the age group of 45 to 59 years old **(Luice Philip, 2007).**

A cross sectional survey was to assess the geographical changes in low back pain and related disability among women in Britain. Settings was in seven British cities and one rural district, 1495 women aged 20-59 years were taken from the age-sex registers of orthopaedic practitioners in the study centre . Main results shows the overall lifetime and one year period prevalence's of low back pain were 58.3%. Symptoms were more common among women in manual occupations than those with non-manual work , but in women there was no clear trend in relation to social class. Geographical differences in prevalence were less , but the threshold for consulting orthopaedic practitioners regarding symptoms varied markedly from one place to another. The study showed that distribution of important causes of low back pain across the country is probably uniform in nature **(MRC Environmental Epidemiology Unit , 2002)**

Prospective cohort study to identify the relative support of specific episode and premorbid factors to determine the long term persistence of disablity symptoms of low back pain among women. Participants were 180 clients, who were participated previously in a cross sectional survey done at Irina . Existence of symptoms was associated with premorbid factors like high levels of psychological

distress, poor self rated health, reduction of physical activity, smoking, dissatisfaction with employment and factors related to the features of low back pain like pain radiating to the each legs, duration of symptoms, widespread pain , and restriction in spinal mobility. Result showed that the existence of low back pain is not only determined by clinical factors associated with pain but also due to the premorbid features (**Peter R Croft, 1998) .**

Cross sectional study of 2405 employed nurses by a group of teaching hospitals was carried out to quantify the risk factors for low back pain in hospital nurses, with particular importance to the role of specific nursing activities . Self administered questionnaires were used to collect information about non-occupational risk factors, occupational activities for back problems and history of low back pain. Results showed that 69% were the overall response rate . Among 1616 women, one year period prevalence was 45% and the lifetime prevalence of back pain was 60% . 10% had been absent from their work because of back pain for a period exceeding four weeks. This study conclude that highly prevalent rate of low back pain is seen among nurses and is associated with sickness absence **(J Smedley et al .,2008).**

Study on prevalence of low-back pain and its related medical care would assist health care policy makers , planners and investigators. Second National Health and Nutrition Examination Survey data (NHANES II) 2006 were analyzed to provide this information. Among 13.8% the cumulative lifetime prevalence of LBP lasting at least 2 weeks . In univariate analyses, important differences in prevalence were found by age, race, region , and

educational status. Sources of case therapy and care are varied among demographic subgroups .These data reveals substantial nonbiological influences on the prevalence and treatment of low back pain, and given an agenda for health services researchers **(Deyo et al., 2007) .**

Cross-sectional study to assess the association of prevalence of low back pain with body fatness and fat distribution in Netherlands. Random sample of 7018 women aged 20-60 were examined the associations with symptoms of low back pain with height , waist circumference, hip to waist ratio and body mass index and to test the interactions between waist circumference and height, hip to waist ratio and body mass index. Results showed the prevalence of low back pain in women in the past 12 months were 52% of whom 21% had low back pain for a period of 12 or more weeks, and 18% had symptoms that indicates intervertebral disc herniation. There were no significant relationship between waist , body mass index and heights on low back pain symptoms **(Han T S et al., 2009).**

A study was conducted to investigate the relationship between abnormalities in the lumbar spine and low back pain among middle adult women in Iran. It was examined that the prevalence of abnormal changes of magnetic resonance imaging (MRI) scans report on the lumbar spine in people with and without back pain . It was performed by MRI examinations on 50 symptomatic women. To reduce the chance of bias in identifying the studies abnormal MRI scans from 50 women with back pain were randomly mix with the MRI report from the asymptomatic

women . With the results of these two averaged readings , 27 percent had protrusion , 52 percent of the clients had a bulge at least one level and 1 percent had an incidence of extrusion. Among this thirty-eight percent had more than one intervertebral disc abnormality **(Maureen C et al., 2007).**

Study on low back pain among women during pregnancy was conducted in the central district of Ostergotland, Sweden . All pregnant women attended antenatal clinics over a period of eight months were interviewed in relation to low back pain during pregnancy. Among 856 women who were answered to the questionnaires, about half of them developed some degree of low back pain. Seventy eight women who were unable to continue their work because of severe low back pain were referred to an orthopaedic surgeon for further investigations. Result showed Physically strenuous activities and previous history of low back pain were factors contributing to an increased risk of developing low back pain and dysfunction of sacroiliac joints during pregnancy **(Levin et al., 2005).**

A prospective study to determine the long-term risk of low back pain among women who had previous severe low back pain during pregnancy . Sixty two women who had previous severe low back pain during pregnancy and eighty four controls who were not develop severe low back pain during pregnancy were taken for the study. Almost all women, 31 of 33 had previous severe low back pain experienced the same discomfort in the subsequent pregnancy compared with 17 of 39 controls. study conclude that Women who had severe low back pain during pregnancy have more chance for

getting a new episode of severe low back pain during another pregnancy and when not pregnant **(Anna Persson , 2007).**

Internal evaluation of National hospital discharge survey reported that the number of women hospitalized due to back problems are highly increasing. The average length of hospitalization of women with musculo skeletal problems exceeds to 4-9 days .Although adequate health care for women is key to realizing this goal, a significant number of women with low back pain and their families face tremendous barriers in gaining access to health care . Most of the women are disabled due to conditions like arthritis and rheumatism associated with tremendous decrease in the activity level .Results showed women had average 16 days of disability per year due to low back problems **(U S Census bureau , 2003).**

A community-based cross-sectional study to identify the self reported 1-year prevalence of low back pain , and to estimate the relation between physical exposures (physical stress and occupation) and LBP in a rural population of Chinese. A questionnaire includes demographic variables, musculoskeletal pain and physical exposures was administered to 1300 women (age, 25-64 years). Generalized equations were used to quantify LBP prevalence and to examine relation between LBP and physical exposures. Study conclude that a high prevalence of LBP and LBP with other musculoskeletal pain present in this rural Chinese population and also found evidence of a connection between physical exposures and LBP, and LBP with other musculoskeletal pain **(Barrero et al., 2006).**

STUDIES RELATED TO SU JOK THERAPY ON LOW BACK PAIN

Study to assess the effectiveness of su jok acupressure in reduction in pain syndromes of various etiology. The article analyses the effectiveness of treating 360 patients referred to su jok academy Moscow clinics with pain syndrome of various aetiology and localization. The research work demonstrated that during one sessions of therapy the pain was completely removed or decreased by over 80% independently of aetiology and duration of disease in 92.8% of cases. This drives to the conclusion that su jok acupressure is a highly effective and fast acting method of dealing with pain related problems **(V.M.Bushkina, 2008) .**

Randomized controlled trial to evaluate the effectiveness of su jok acupressure therapy in the form of pain score , disability, and functional status. Study samples are 108 elderly women with low back pain and intervention done to this group for 2 weeks. Main outcome measures by self administered Roland and Morris low back pain questionnaire. The mean total of Roland and Morris low back pain questionnaire score after treatment showed significant reduction in low back pain. The su jok acupressure conferred 95% confidence interval 61% to 97%. Result showed su jok therapy was effective in reduction of low back pain in the form of disability, pain score and functional status **(O S Merimskaya , 2007) .**

Randomized trial comparing su jok acupressure therapy, Therapeutic Massage and Self-care Education on Chronic Lower Back Pain among adult women . Investigator randomized 262 women

aged 20 to 70 years who had severe back pain to receive su jok therapy (n = 94), therapeutic massage (n = 78), or self-care educational (n = 90). Massage was superior to self-care on the symptom scale (3.41 vs 4.71, respectively; *P* = .01) and the disability scale (5.88 vs 8.92 respectively; *P*<.001). su jok therapy shows superior to massage the disability scale (5.89 vs 8.25 *P* = .01). Result showed su jok therapy was effective for severe low back pain, usually providing long-lasting as compared with other two methods. Su jok therapy might be an effective alternative to medical care for persistent back pain **(Daniel C.Cherkin et al., 2001).**

A study on evaluation of clinical effectiveness of treating menopausal women with low back pain by su jok therapy .Sixty eight patients have under gone su jok therapy in accordance with international gynaecology consensus . Experimental group of 44 patients underwent su jok therapy .The response was assessed by quantitative indices of numerical pain intensity scale. The efficiency coefficient made up 2.64 in patients versus 1.48 in experimental groups .The result showed the degree of improvement of level of wellness was two times higher than in the study group, it reveals that the su jok therapy is effective in reducing low back pain among menopausal women **(T.V.Kaimak et al., 2005).**

A study was done to find out the effect su jok acupressure on back pain and quality of life out comes in women .Thirty four women were randomly assigned .The results shows that there is a significant betterment in the quality of life of women who underwent the su jok therapy . However women in this study

achieved a mean reduction (62.7%) in the intensity of pain **(N I Popova , 2007).**

A recent review of six randomized studies involving 100 women, has confirmed that su jok acupressure is an effective way of treating back pain, particularly low back pain. The study with the smallest effectiveness still found that women who underwent su jok therapy were 2.5 times resolve their disabilities, and greatest difference in one study found that women were 17 times more likely to resolve their disability due to back pain effect **(Bespalova , 2009).**

CHAPTER III

METHODOLOGY

INTRODUCTION

Research methodology is a way to solve the problem systematically. It indicates the general pattern of organizing the procedures for gathering reliable data for the purpose of investigation **(Denise F. polit, 2004).**

This chapter deals with the methods adopted for the study and includes the description of the research design , setting of the study , variables , population , sample size , sampling technique , criteria for sample selection , description of the tool, method of data collection and plan for data analysis.

RESEARCH DESIGN

The term research design is the structural frame work for study implementation and it is the blue print for the study **(Talbolt, 1995).**

Quasi experimental research design was adopted in this study with an experimental and control group.

EXPERIMENTAL GROUP : O_1 X O_2

CONTROL GROUP : O_3 - O_4

O_1 - Assessment of low back pain in experimental group.

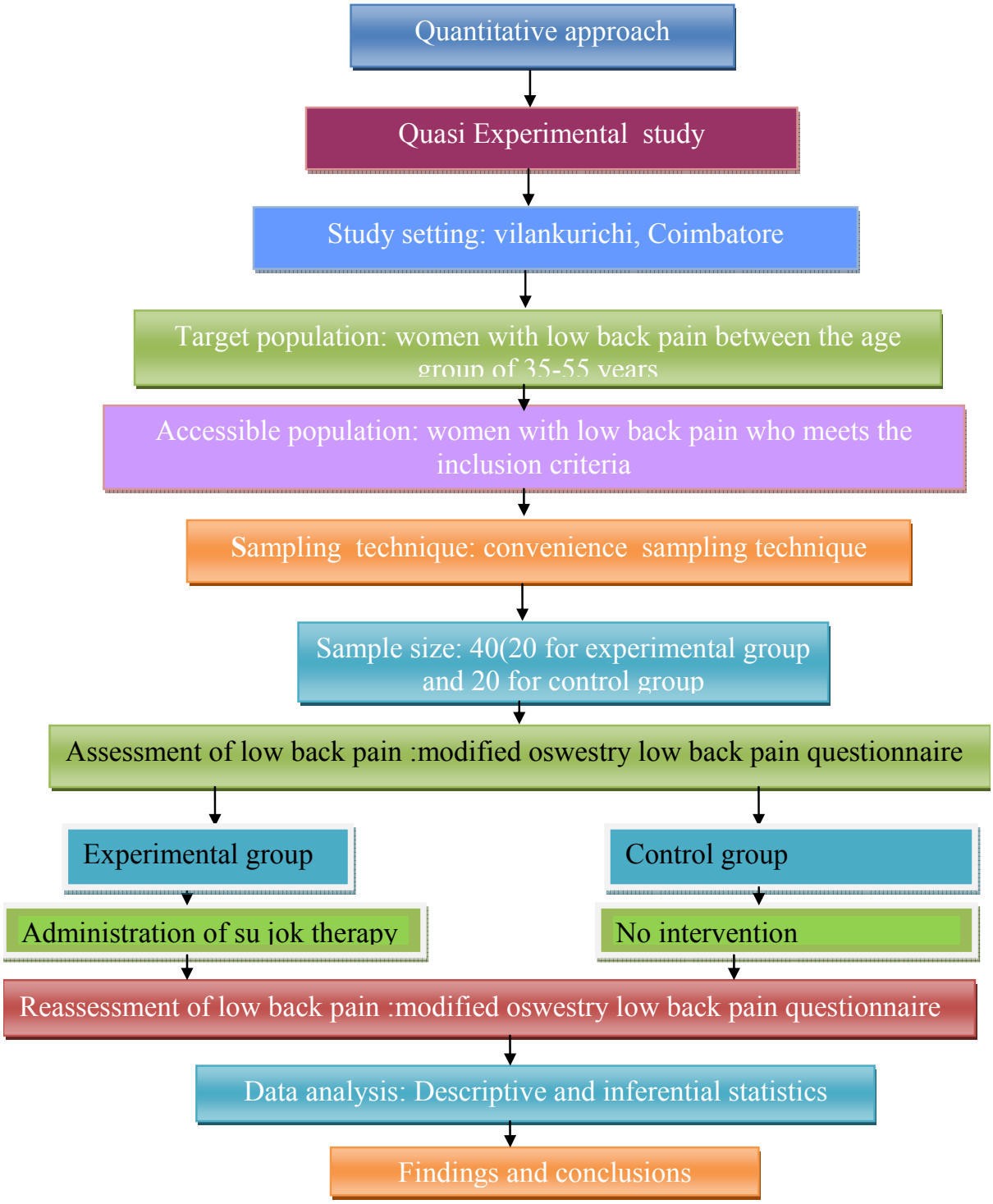
X - Administration of su jok therapy.

O_2 - Reassessment of low back pain in experimental group.

O_3 - Assessment of low back pain in control group.

O_4 - Reassessment of low back pain in control group.

SCHEMATIC REPRESENTATION OF RESEARCH DESIGN



SETTINGS OF THE STUDY

Setting is a physical location and in which the data collection takes place **(Polit and Hungler, 2004).**

The study was conducted in Vilankurichi. It is about 7 kms from K.G College of Nursing at Saravanampatti. Vilankurichy belongs to village panchayat and is located at the south part of the Coimbatore. The study area comes under the Kovilpalayam primary health centre at Coimbatore in Tamilnadu. This area is adopted by the K.G College of Nursing to provide primary health care services.

VARIABLES

Variables are concepts at different levels of abstractions that are concisely defined to promote their measurement or manipulation within a study.

Dependent variable

Low back pain.

Independent variable

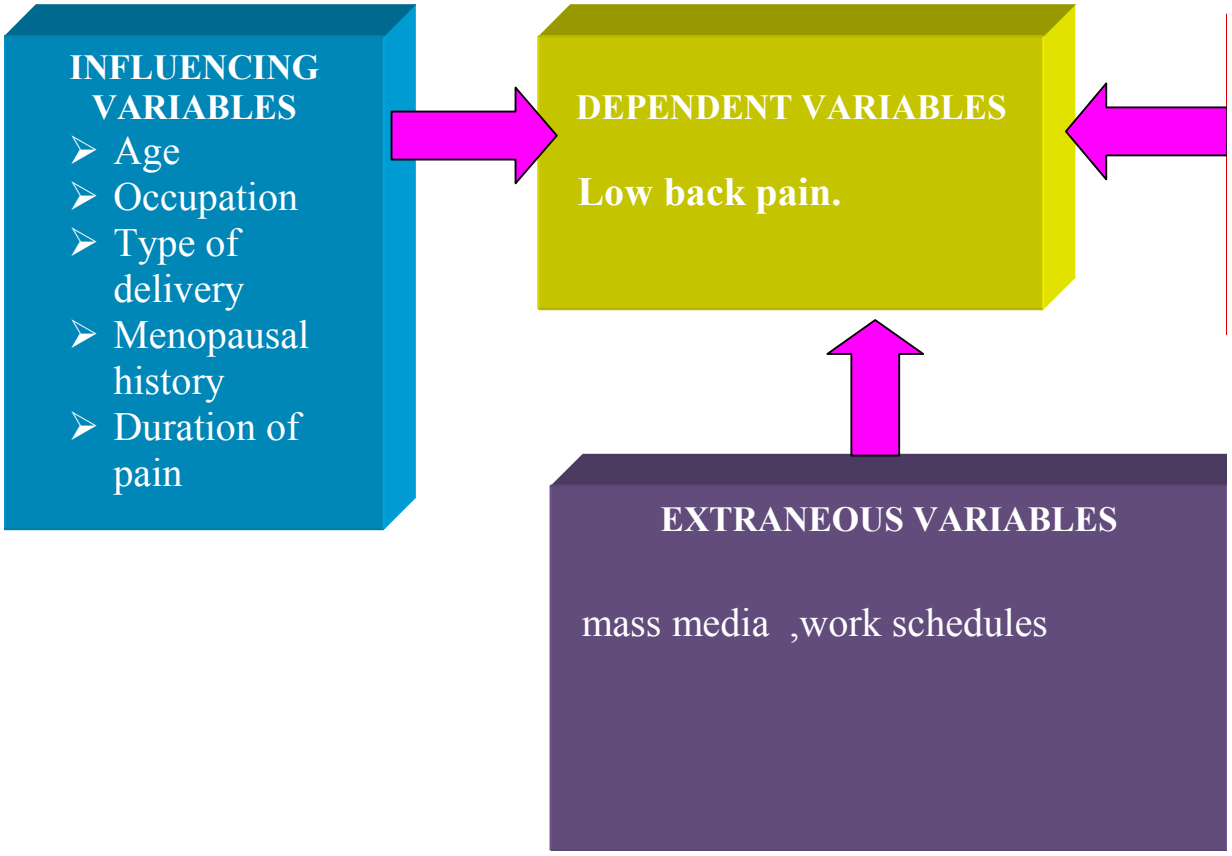
Application of su jok therapy.

Influencing variables

Age, occupation, duration of low back pain, type of delivery and menopausal history.

Extraneous variables

Work schedule and mass media.


INFLUENCING VARIABLES
Age
Occupation
Type of delivery
Menopausal history
Duration of pain
DEPENDENT VARIABLES
Low back pain.
EXTRANEOUS VARIABLES
mass media ,work schedules

POPULATION

The population refers to the aggregate or totality of all subjects or members that confirm to a set of specification.

In the present study total population was 625, target population was 205. Target population refers to the women with low back pain in the age group of 35-55years.

SAMPLE SIZE

The sample is the subset of the population selected to participate in a research study .Sample size was determined by using Mahajan's formula .

Sample size (n) $= 4pq/L^2$

4 =constant number

p =percentage of population

q =100-P

L =Allowable error (15)

p =target population/total population x 100

205/625 x 100 =36

q =100-36=64

L =15 ²

n =4 x 36 x64 / 15 x 15=40.96

n =40

The total sample size selected is 40.

SAMPLING TECHNIQUE

Sampling is a process of selecting a portion of the population to obtain data regarding a problem. Convenience sampling technique was adopted for the study.

SAMPLE SELECTION CRITERIA

Inclusion criteria

1. Women who have low back pain.
2. Women in the age group of 35-55 years.
3. Women who can communicate in English or Tamil.

Exclusion criteria

1. Women who are not willing to participate.
2. Women who are receiving any other treatment for low back pain.
3. Women who underwent major surgery within six months.
4. Women who are not available during the time of data collection.

DESCRIPTION OF THE TOOL

The tool to collect data from the selected samples consists of two sections.

Section A

It consists of the demographic variables such as age , education , occupation , family income , religion ,marital status ,type of family ,number of children ,type of delivery ,age at menopause , duration of pain , history of any fall / injury and previous history of any treatment.

Section B

It includes oswestry low back pain questionnaire and that was modified by researcher for assessment of low back pain .It includes 10 sections of questions relating to pain. Each section contains six statements that describes an increasing degree of severity pain .

SCORING

0 to 20% -minimal pain

21 to 40%-moderate pain

41 to 60% -severe pain

61 to 80% -crippled

81 to 100% -bed bound or symptom magnifier

CONTENT VALIDITY

Validity refers to the degree to which an instrument measures what it is suppose to measure .Content validity is the degree to which the items in instrument adequately represent the universe of the content.

The tool was submitted to six experts of the department of community health nursing and one obstetrician and gynaecologist , the modifications were made as per the expert's opinion. These modifications were incorporated in the final preparation of the tool.

RELIABILITY

Reliability was tested by split- half method. The sample was first divided in to equivalent halves and reliability was found for modified oswestry low back pain questionnaire. The reliability of the tool found to be 0.8. This indicated that the tool was reliable.

PIOLOT STUDY

Pilot study was carried out in a week with 10 samples, 5 in experimental group and 5 in control group who fulfilled the inclusion criteria. Analysis of the pilot study revealed the feasibility of the tool and study. The samples of the pilot study were excluded from the main study.

METHOD OF DATA COLLECTION

The study was conducted at Vilankurichi . The data collection was done from 28.06.2010 to 28.07.2010. Before the pre-test, the investigator introduced self, the purpose of the study was explained to the women, and consent was obtained from them.

Investigator selected the Samples according to the inclusion and exclusion criteria .Demographic variables was collected by direct interview method. Low back pain was assessed in both experimental and control group with the help of modified oswestry low back pain questionnaire . Each group had 20 samples . Su jok therapy was given to experimental group for 20 minutes in a day for continues 5 days.

At first the investigator found out the pain points in the hands and feet's by palpating the metacarpal and metatarsal region i.e., just below the third and fourth finger with the help of a metal probe. Then

given gentle pressure to the pain point with same metal probe this has to be continued for 20minutes.

The effectiveness of su jok therapy was assessed on the 6th day by using modified oswestry low back pain questionnaire.

PLAN FOR DATA ANALYSIS

Data were planned to be analysed on the basis of objectives and testing of hypothesis by using descriptive and inferential statistics.

In order to achieve the objective of the study, the data obtained from the participants were coded numerically and tabulated . The responses on tool were analysed with the help of statistical measures like descriptive and inferential statistics.

Descriptive statistics

To describe the demographic variables and levels of low back pain in number, frequency, percentage, mean and standard deviation were used in the descriptive analysis of study.

- Demographic data would be analysed in terms of frequency and percentage.
- The level of low back pain before and after administration of su jok therapy may be analysed in terms of frequency, percentage, mean and standard deviation may be presented in the form of various diagrams.

Inferential statistics

It was used to determine the effectiveness, association and comparison to identify the differences.

- ‘Z’ test was used to find out the comparison between experimental and control group.
- Paired ‘t’ test was used to find out the comparison between the pre test and post test scores of experimental group.
- Chi-square was used to find out the association between selected demographic variables in experimental and control group.

CHAPTER IV

ANALYSIS AND INTERPRETATION

Analysis is a process which enters in to research in one form or another form the very beginning to reach hypothesis and questions. Analysis is categorizing, ordering, manipulating and summarizing of data to obtain answers. This chapter deals with the analysis and interpretation of data , collected from 40 low back pain women between the age group of 35- 55 years, at Vilankurichi, Coimbatore, to evaluate the effectiveness of su jok therapy on low back pain among women.

The findings based on descriptive and inferential statistical analysis are Tabulated under the following headings.

Table - 1 Distribution of demographic variables of women with low back pain among experimental and control group .

Table- 2 Distribution of level of low back pain among women in both experimental and control group .

Table- 3 Comparison of low back pain scores of women between experimental and control group .

Table -4 Comparison of pre-test and post test low back pain scores of women in experimental group.

TABLE- 1

DISTRIBUTION OF DEMOGRAPHIC VARIABLES OF WOMEN WITH LOW BACK PAIN AMONG EXPERIMENTAL AND CONTROL GROUP.

$n_1 + n_2 = 40$

S: No	Demographic variables	Experimental group(n_1=20)		Control group (n_2=20)	
		No	%	No	%
1	**Age in years**				
	a. 35-40	5	25	5	25
	b.41-45	4	20	4	20
	c.46-50	4	20	5	25
	d.51-55	7	35	6	30
2	**Education**				
	a. Illiterate	7	35%	10	50%
	b. Primary school	7	25%	4	20%
	c. Secondary school	5	25%	5	25%
	d. Higher secondary school	1	5%	1	5%
3	**Occupation**				
	a. Employed	1	5%	-	-

	b. Unemployed	19	95%	20	100%
4	**Income** a. Rs. 1001- 2000 b. Rs. 2001- 3000 c. Rs. 3001-4000 d.>Rs4000	 - 3 9 8	 - 15% 45% 40%	 1 4 8 7	 5% 20% 40% 35%
5	**Religion** a. Hindu b. Christian	 19 1	 95% 5%	 20 -	 100% -
6	**Marital status** a. Married b. Divorced c. Widow d. Separated	 17 - 2 1	 85% - 10% 5%	 17 3 - -	 85% 15% - -
7	**Type of family** a. Nuclear b. Joint	 13 7	 65% 35%	 11 9	 55% 45%
8	**Number of children** a. One b. Two c. >2	 8 10 2	 40% 50% 10%	 10 7 3	 50% 35% 15%

9	**Type of delivery** a. Normal delivery b.LSCS c.Instrumental delivery	 17 2 1	 85% 10% 5%	 17 3 -	 85% 15% -
10	**Age at menopause** a.40-45years b.46-50 years c.51-55 years d. Not attained	 1 7 - 12	 5% 35% - 60%	 3 7 1 9	 15% 35% 5% 45%
11	**History of any fall/injury** a. Yes a. No	 3 17	 15% 85%	 2 18	 10% 90%
12	**Duration of pain** a.<1 month b.1 month-3 months c.3 months- 6 months d.>6 months	 - 3 6 11	 - 15% 30% 55%	 5 2 7 6	 25% 10% 35% 30%
13	**Previous history of any treatment** a. Yes b. No	 4 16	 20% 80%	 4 16	 20% 80%

The above table shows distribution of demographic variable of women among experimental and control group.

Regarding the age of women in experimental group 5(25%) women were aged between 35-40 years and 4 (20%) women were 41-45 years and 4 (20%) women were 46-50 years and 7 (35%) women were 51-55 years . Where as in control group 5(25%) women were aged between 35-40 years, 4(20%) women were aged between 41 - 45 years , 5(25%) women were aged between 46- 50 years and 6 (30%) women were aged between 51-55 years.

Considering education of low back pain women in experimental group 7(35%) women were illiterate , 7(35%) women had primary education , 5(25%) women had secondary school education and 1(5%) women had higher secondary school level education ,where as in control group 10(50%) women were illiterate 4(20%) women had primary education, 5(25%) women had secondary school education and 1(5%) women had higher secondary school education.

Above table denotes the occupation of low back pain women in experimental group, 19(95%) belongs to un employed group and 1(5%) woman belongs to employed group where as in control group all 20(100%) women belong to un employed group.

Regarding income of women with low back pain in experimental group 3(15%) women had income between Rs.2001-3000/ and 9(45%) women income were between Rs.3001-4000/ and 8(40%) women were more than Rs 4000/ month .Where as in control group 1(5%) women income were between Rs. 1001-2000/- and 4(20%) women

were between Rs. 2001-3000/- and 8(40%) women were between Rs.3001-4000/- and 7(35%) women were more than Rs.4000/- .

Considering religion of women in experimental group 19(95%) belongs to Hindu, and 1(5%) belongs to Christian ,where as in control group all 20(100%) belong to Hindu.

Considering marital status of women in experimental group 17(85%) women were married , 2(10%) women were widows and 1(5%) women were separated ,where as in control group 17(85%) women were married and 3(15%) women were separated .

With regards to type of family in experimental group 13(65%) women belong to nuclear family and 7(35%) women belong to joint family, where as in control group 11(55%) women belong to nuclear family and 9(45%) women belong to joint family .

Considering the number of children in experimental group 8(40%) had one child , 10(50%) had two children and 2(10%) had more than 2 children, where as in control group 10(50%) had one child , 7(35%) had two children and 3(15%) had more than 2 children .

Regarding the type of delivery in experimental group 17(85%) had normal delivery, 2(10%) had LSCS and 1(5%) had instrumental delivery, where as in control group 17(85%) had normal delivery and 3(15%) had LSCS.

Considering the age at menopause in experimental group 1(5%) woman attained menopause at the age of 40-45 years and 7(35%) women at the age of 46-50 years and 12(60%) women had not attained the menopause.

Regarding the history of any injury/fall among the women in the experimental group 3(15%) women responded to 'yes' and 17(85%) women responded to ' No' , where as in control group 2(10%) women responded to 'yes' and 18(90%) women responded to 'No'.

With regard to duration of pain among women in the experimental group 3(15%) women had pain duration of 1-3 months , 6(30%) women had duration of 3-6 months and 11(55%) women had duration of >6 months of pain .where as in control group 2(10%) women had 1-3 months of pain duration , 7(35%) women had 3-6 months of pain duration and 6(30%) had >6 months of pain duration .

Considering previous history of treatment among women in the experimental group 4(20%) had previous history of treatment and 16(80%) had no previous history of treatment but in control group 4(20%) had previous history of treatment and 16(80%) had no previous history of treatment.

FIGURE-4

DISTRIBUTION OF DEMOGRAPHIC VARIABLES WITH REGARD TO THE AGE OF WOMEN

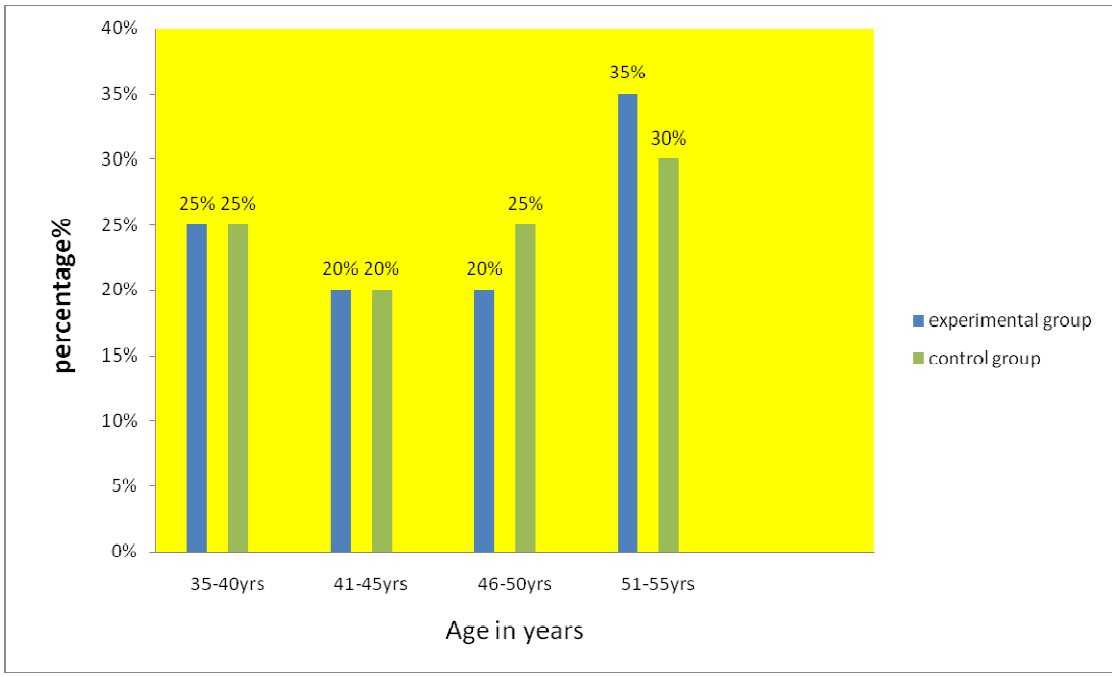


FIGURE-5

DISTRIBUTION OF DEMOGRAPHIC VARIABLES WITH REGARD TO THE NUMBER OF CHILDREN

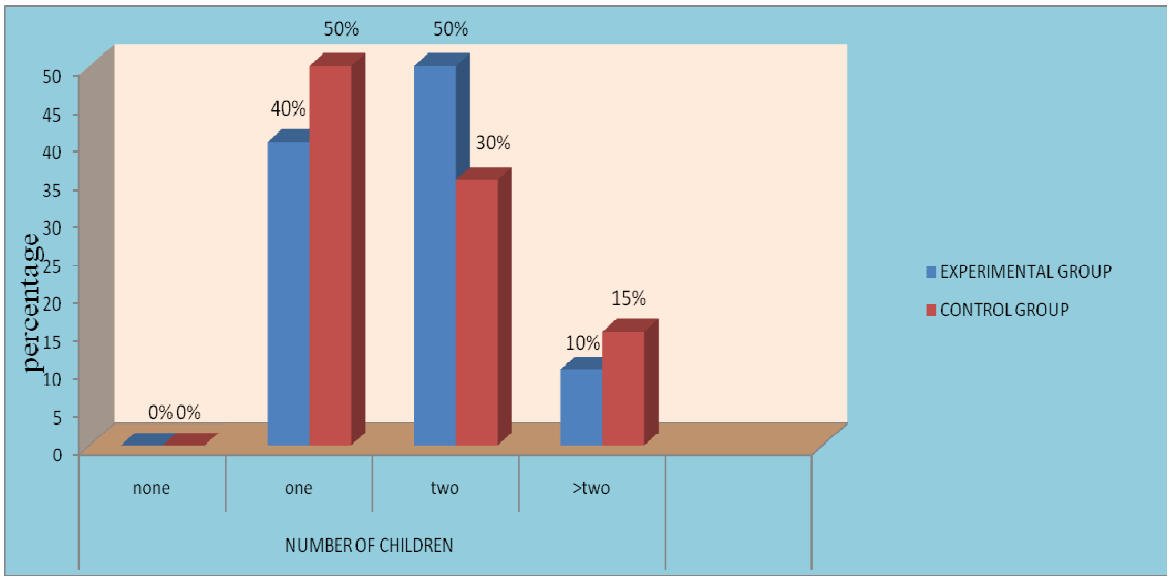


FIGURE-6

DISTRIBUTION OF DEMOGRAPHIC VARIABLES WITH REGARD TO DURATION OF PAIN

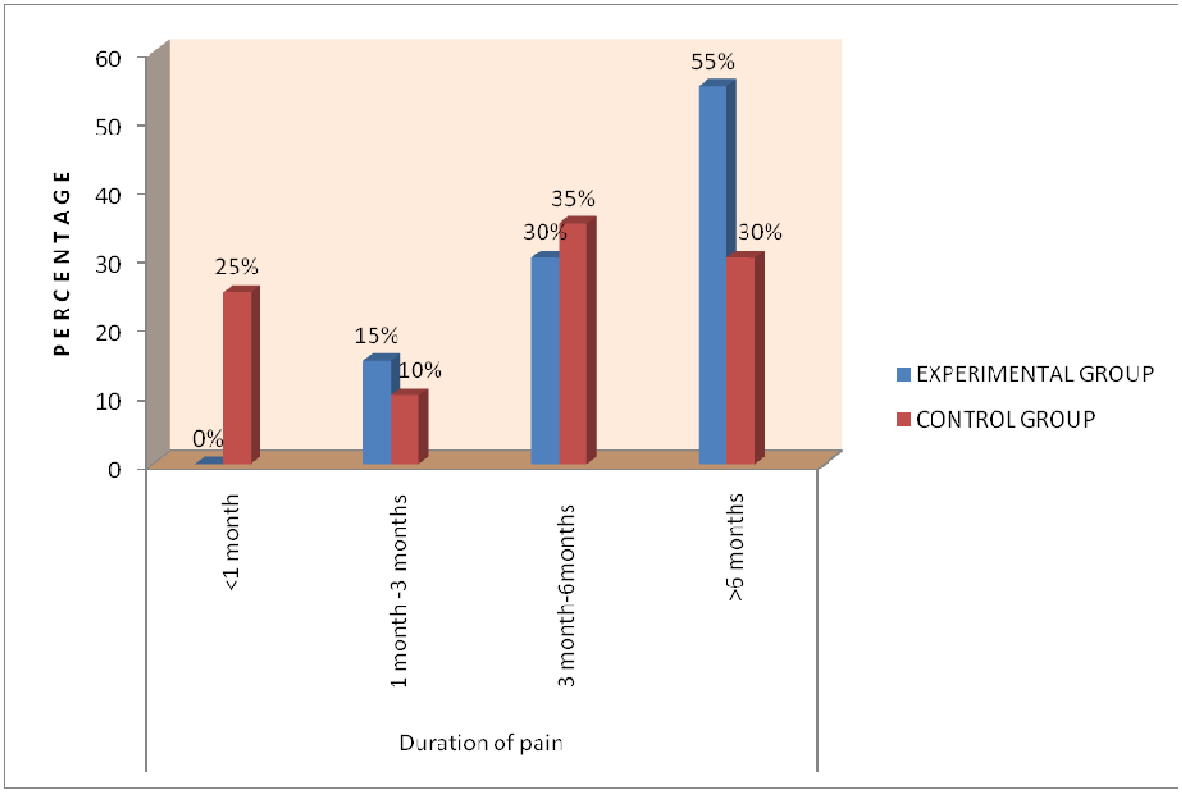


TABLE- 2

DISTRIBUTION OF LEVEL OF LOW BACK IN EXPERIMENTAL AND CONTROL GROUP.

n=40

S. No	Level of low back pain	Experimental group				Control group			
		Pretest		Post test		Pre test		Post test	
		No	%	No	%	NO	%	NO	%
1.	Minimal pain 0 to 20%	1	5	1	5%	1	5	1	5
2.	Moderate pain (21 to 40%)	8	40	13	65%	8	40	9	45
3.	Severe pain (41 to 60%)	11	55	6	30%	11	55	10	50

Above table shows the level of low back pain in experimental group 1(5%) had minimal pain, 8(40%) had moderate pain and 11(55%) had severe pain . where as in control group 1(5%) had minimal pain , 9(45%) had moderate pain and 10(50%) had severe pain .

FIGURE-7

DISTRIBUTION OF THE PRE TEST AND POST TEST SCORES OF LOW BACK PAIN AMONG WOMEN OF EXPERIMENTAL AND CONTROL GROUP

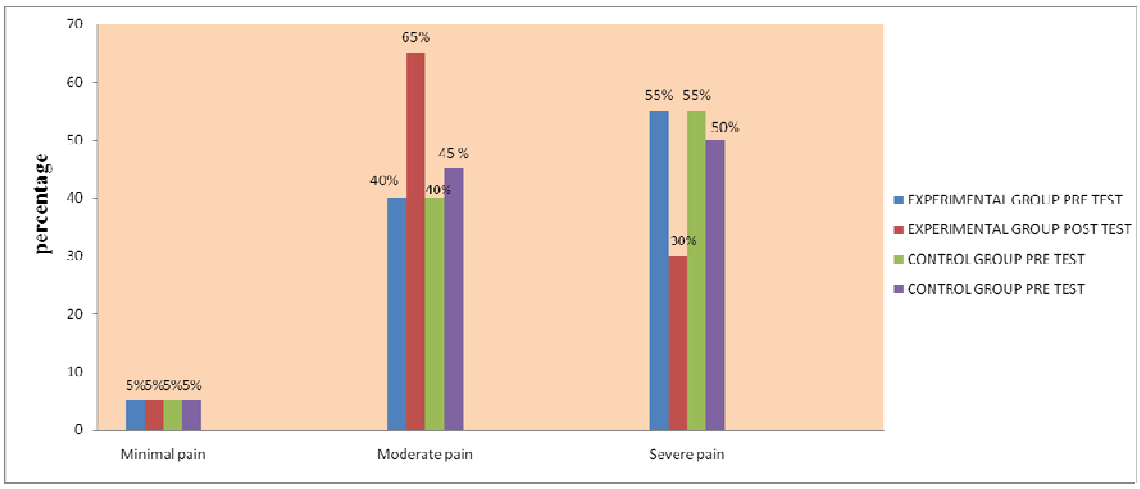


TABLE- 3

COMPARISON OF LOW BACK PAIN SCORES OF WOMEN BETWEEN EXPERIMENTAL AND CONTROL GROUP.

n= 40

Group	Mean	Standard deviation	Calculated value of 'Z'	Expected value of 'Z' at 5% level of significance
Experimental group	16.4	9.85	2.04	1.96
Control group	20	5.64		

The calculated value of 'Z' is greater than the tabulated value of 'Z' at 5% level of significance. The null hypothesis is rejected. It is concluded that there is a significant difference in the level of low back pain between experimental and control group.

TABLE- 4

COMPARISON OF LEVEL OF LOW BACK PAIN WITH IN THE EXPERIMENTAL GROUP.

n= 20

Group	Mean	Standard deviation	Calculated value of 't'	Expected value of 't' at 5% level of significance
Pre-test	20.9	5	6.67	2.09
Post-test	16.4	9.2		

The calculated value of 't' is greater than the tabulated value of 't' at 5% level of significance. The null hypothesis is rejected. There is a significant difference between pretest and post test level of low back pain in experimental group. It is concluded that su jok therapy is effective in reducing low back pain .

TABLE- 5

ASSOCIATION OF LOW BACK PAIN SCORE IN THE EXPERIMENTAL GROUP WITH THE SELECTED DEMOGRAPHIC VARIABLES.

n = 20

S. No	Demographic variables	Level of low back pain		Calculated value of χ^2	Tabulated value of χ^2 at 5% level of significance
		Below median	Above median		
1.	**Age in years**				
	a. 35 -45 years	6	3	0.24	3.84
	b. 46-55 years	5	6	NS	
2.	**Occupation**				
	a. Employed	1	0	0.68	3.84
	b. Unemployed	10	9	NS	
3.	**Type of delivery**				
	a. Normal	9	8	0.035	3.84
	b. LSCS	2	1	NS	
4.	**Menopausal history**				
	a. Not attained	9	4	1.618	3.84
	b. Attained	2	5	NS	

5	**Duration of pain** a. < 6 months b. > 6months	 7 4	 2 7	 1.96 NS	 3.84
6	**Previous history of any treatment** a. Yes b. No	 4 6	 5 5	 0.072 NS	 3.84

The calculated value of χ^2 lesser than the tabulated value of χ^2 at 5% level of significance. So the null hypothesis is accepted. It shows that,

- There is no association between age and level of low back pain.
- There is no association between occupation and level of low back pain.
- There is no association between type of delivery and level of low back pain.
- There is no association between menopausal history and level of low back pain.
- There is no association between duration of pain and level of back pain.
- There is no association between previous history of any treatment and level of low back pain.

TABLE- 6

ASSOCIATION OF LOW BACK PAIN SCORE IN THE CONTROL GROUP WITH THE SELECTED DEMOGRAPHIC VARIABLES.

n = 20

S. No	Demographic variables	Level of low back pain		Calculated value of χ^2	Tabulated value of χ^2 at 5% level of significance
		Below median	Above median		
1.	**Age in years**				
	c. 35 -45 years	6	3	0.32	3.84
	d. 46-55 years	5	6	NS	
2.	**Occupation**				
	c. Employed	1	0	0.68	3.84
	d. Unemployed	10	9	NS	
3.	**Type of delivery**				
		9	8	0.035	3.84
	c. Normal	2	1	NS	
	d. LSCS				
4.	**Menopausal history**				
		9	4	1.75	3.84
	c. Not attained	2	5	NS	
	d. Attained				

5.	**Duration of pain** c. < 6 months d. > 6months	7 4	2 7	1.96 NS	3.84
6	**Previous history of any treatment** c. Yes d. No	4 6	5 5	0.072 NS	3.84

The calculated value of is χ^2 lesser than the tabulated value of χ^2 at 5% level of significance. So the null hypothesis is accepted. It shows that,

- There is no association between age and level of low back pain.
- There is no association between occupation and level of low back pain.
- There is no association between type of delivery and level of low back pain.
- There is no association between menopausal history and level of low back pain .
- There is no association between duration of pain and level of back pain.
- There is no association between previous history of any treatment and level of low back pain.

CHAPTER V

RESULTS AND DISCUSSION

The study intends to assess the effectiveness of su jok therapy on low back pain among women . The findings of the study have been discussed with reference to the objectives stated in chapter I.

1.To assess the level of low back pain among women in both experimental and control group

The level of low back pain among women both in experimental and control group were assessed by using modified oswestry low back pain questionnaire.

Table-2 denotes the distribution of low back pain among women in both experimental and control group . The table shows the level of low back pain in experimental group 1(5%) had minimal pain, 8(40%) had moderate pain and 11(55%) had severe pain, where as in control group 1(5%) had minimal pain , 9(45%) had moderate pain and 10(50%) had severe pain .

The present study is supported by a cross sectional study to assess the geographical variation in low back pain and associated disability among women . Settings was in seven British towns and one rural district, 1495 women aged 20-59 years were selected. Main results shows the overall lifetime and one year period prevalence of low back pain were 58.3% **(MRC Environmental Epidemiology Unit , 2002).**

2. To reassess the level of low back pain in both experimental and control group.

Table-2 denotes that distribution of low back pain among experimental and control group . The post test score shows that in experimental group 1(5%) women had minimal pain ,13(65%) women had moderate pain and 6(30%) had severe pain. In control group 1(5%) women had minimal pain 9,(45%) women had moderate pain and 10(50%) had severe pain.

3. To compare the level of low back pain among women in both experimental and control group.

Table - 3 shows the comparison of low back pain among women in experimental and control groups. The value reveals that calculated value of 'z' is greater than the tabulated value of 'z' at 5% level of significance. So the null hypothesis is rejected. It is concluded that there is a significant difference in the level of low back pain between experimental and control group.

4.To assess the effectiveness of su jok therapy on low back pain among women in experimental group.

Table - 4 reveals the comparison of pre test and post test score of low back pain in experimental group .The calculated value of 't' is greater than the tabulated value of 't' at 5% level of significance. So the null hypothesis is rejected. There is a significant difference between pretest and post test level of low back pain in experimental group.

Present study was supported by a study was done to find out the effect su jok acupressure on back pain and quality of life out comes in women .Thirty four women were randomly assigned .The results shows that there is a significant betterment in the quality of life of women who underwent the su jok therapy .However ,women in this study achieved a mean reduction (62.7%) in the intensity of pain (**N I Popova 2007).**

5. To associate the findings with the selected demographic variables

Chi- square test was used to identify the influence of selected demographic variables on women with low back pain.

Table-5 shows the association of level of low back pain in experimental group with selected demographic variables. The calculated value of χ^2 is lesser than the tabulated value of χ^2 at 5% level of significance. It is concluded that, there is no association between age , occupation, number of children ,type of delivery, menopausal history, duration of pain and previous history of treatment and level of low back pain.

Table- 6 shows the association of level of low back pain in control group with selected demographic variables. The calculated value of χ^2 is lesser than the tabulated value of χ^2 at 5% level of significance. It is concluded that, there is no association between age , occupation, number of children, type of delivery, menopausal history, duration of pain and previous history of treatment and level of low back pain.

CHAPTER VI

SUMMARY, RECOMMENDATION AND NURSING IMPLICATION OF THE STUDY

SUMMARY

The focus of the study was to evaluate the effectiveness of su jok therapy on low back pain among women . The conceptual frame work developed for the study was based on the J.W Kenny's open system model . An extensive review of literature , professional experience and expert's guidance helped the investigator to design the methodology. This study was conducted in Vilankurichi , Coimbatore . The populations of the study were considered the women age group between 35-55 years . Pre test and post test control group design was used . Convenience sampling technique was adopted.

The sample size was 40, each experimental and control group has 20 sample. The tools used for the study are demographic data ,to get general information , modified oswestry low back pain on effectiveness of su jok therapy. The content validity of tool was obtained from various experts from community health department. The ethical aspects of the research was maintained throughout the period , formal permission was obtained from the authority .The collected information was kept confidential

Pilot study was conducted with 10 samples at Vilankurichy village, Coimbatore. Descriptive was used to analyze the frequency , percentage , mean and standard deviation . Inferential statistics was used to determine the relationship , association and differences . In

inferential statistics ‘z’ test, paired ‘t’ test and chi square test were used.

Su jok therapy was given to the experimental group for 5 days . Where as in control group there was no intervention given . The findings revealed that there was a reduction in the level of low back pain among women . In association of demographic variables with women of experimental group , the findings shows that age , occupation , number of children , type of delivery , age at menopause , history of fall ,duration of pain had no significant relationship with low back pain

In association of demographic variables with women of control group, the finding shows that the age , occupation , number of children , type of delivery, age at menopause, history of fall, duration of pain had no significant relationship with level low back pain . The ‘z’ test used to compare the effectiveness of su jok therapy on low back pain between the experimental and control group . It was found that calculated value of ‘z’ is greater than the tabulated value of ‘z’ at 5% level of significance The finding revealed that there was significant difference in reduction of low back pain in experimental group .

The paired ‘t’ test was used to determine the effectiveness of su jok therapy on low back pain among experimental group . It was found that the calculated value of ‘t’ is greater than tabulated value of ‘t’. The finding revealed that su jok therapy was effective in reducing low back pain among women of experimental group .The overall experience of conducting this study was satisfying as there was good co-operation from the participants . The participants were

satisfied with the intervention they received. The study was a new experience for the investigator. The present study shows that su jok therapy was effective in reducing low back pain among women.

RECOMMENDATIONS

The study recommends the following for future research

- A similar study can be undertaken on a large sample in different setting.
- A comparative study can be conducted to assess the effectiveness of other complimentary therapies on reduction of low back pain.
- A longitudinal study can be undertaken to see the long term effect of su jok therapy on low back pain .
- A similar study can be conducted among different population .

NURSING IMPLICATIONS

Some of the implications from the present study in various areas as follows.

COMMUNITY NURSING PRACTICE

- Survey can be conducted to identify the risk groups.
- Community health nurse must have knowledge and skill in complimentary therapy .

- Community health nurse should have skill in early diagnosis of musculoskeletal problems .
- Community people should get adequate information on complimentary therapies.
- Su jok therapy is easy to administer , there is no need of any specific preparation .

NURSING EDUCATION

- Conferences, workshops and seminars can be held for nurses to impart knowledge, favorable attitude and good practice.
- In-service education to update their knowledge and skill in various health care settings should be given.
- Nursing curriculum has to focus on enabling the nursing students to develop skill in identifying the low back pain among women and its management .
- Make available literature related to su jok therapy on reducing low back pain in the library for students .

NURSING ADMINISTRATION

- The present study is proposed to help the community health administrators to strategically plan and meet the health needs of the risk groups.
- As health professionals the nurses who are in the hospital and community setting should take initiative actions to reduce the low back pain among women.

- The administrator can encourage the nurses for conducting research aspects on complimentary therapy in reduction of low back pain among women .
- The administrator can organize conferences, workshops , and seminars for nurses working in the community.

NURSING RESEARCH

- The study will be a valuable reference material for further researchers.
- The result of the study encourages the women to adopt su jok therapy for reducing low back pain .
- Adequate allocation of funds , manpower , time and adequate training should be provided to the nurse for conducting research .
- The results of the study encourage the women to adopt a healthy life style.

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APPENDIX – D

LIST OF EXPERTS FOR CONTENT VALIDITY

1. **Prof. (Mrs.).Saramma Samuel, M. Sc (N)**
   Principal,
   RVS College of Nursing
   Sulur , Coimbatore

2. **Prof. (Mrs.). J. Kamini. J, M. Sc (N), Ph.D**
   Principal,
   Vignesh College of Nursing,
   Tiruvannamalai ,Tamilnadu.

3. **Prof. (Mrs.). S.Girija Kumari, M.Sc(N)**
   Professor,
   SRIPMS College of Nursing,
   Coimbatore.

4. **Prof. (Sr.) Carmel, M. Sc (N),Ph.D**
   Vice Principal,
   ST.Joseph School of Nursing
   JMMC ,Thrissur District.

5. **Prof. (Mrs.).Christy Megala,M.Sc(N)**
   Professor,
   PSG College of Nursing,
   Coimbatore.

APPENDIX – E

FORMAT FOR CONTENT VALIDITY

Name of the expert :

Address :

Total content for the tool : Adequate / Not Adequate

Kindly validate each tool and (√) if it is applicable.

S. No	No. of Tool / Section	Strongly Agree	Agree	Need Modification	Remarks

Signature of the expert with date

APPENDIX - G

CERTIFICATE FOR ENGLISH EDITING

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the tool developed by **Mrs.Ponni.S** II year M.Sc Nursing Student of K.G. College of Nursing for dissertation **"A STUDY TO ASSESS THE EFFECTIVENESS OF SU JOK THERAPY ON LOW BACK PAIN AMONG WOMEN AT VILANKURICHI , COIMBATORE "** edited for English language appropriateness by **Mrs. JOSEPHINE PRINCY M.A, M. Phil.**

Signature

APPENDIX - H

CERTIFICATE FOR TAMIL EDITING

TO WHOMSOEVER IT MAY CONCERN

This is to certify that the tool developed by **Mrs.Ponni.S** II year M.Sc Nursing Student of K.G. College of Nursing for dissertation **"A STUDY TO ASSESS THE EFFECTIVENESS OF SU JOK THERAPY ON LOW BACK PAIN AMONG WOMEN AT VILANKURICHI , COIMBATORE"** is edited for Tamil language appropriateness by **Mr. V. MOHAN GANDHI.**

Signature

APPENDIX-I
TOOL
SECTION-A

STRUCTURED INTERVIEW SCHEDULE TO COLLECT THE DEMOGRAPHIC VARIABLES

SAMPLE NO:

1) **Age in years**

a) 35-40years

b) 41-45years

c) 46-50years

d) 51-55years

2) **Education**

a) Illiterate
b) Primary level
c) Secondary level
d) Higher secondary level
e) Degree level

3) **Occupation**

a) Employed
b) Unemployed

4) **Family income**

a) <Rs 1000/-
b) Rs 1001-2000/-
c) Rs 2001-3000/-
d) Rs 3001-4000/-
e) >Rs 4000/-

5) **Religion**

a) Hindu
b) Christian
c) Muslim

6) **Marital status**

a) Single
b) Married
c) Divorced
d) Widow
e) Separated

7) **Type of family**
   a) Nuclear
   b) Joint
   c) Extended
8) **Number of children**
   a) None
   b) One
   c) Two
   d) >2
9) **Type of delivery**
   a) Normal delivery
   b) LSCS
   c) Instrumental delivery
10) **Age at menopause**
   a) 40-45years
   b) 46-50years
   c) 51-55years
   d) Not attained
11) **History of any fall/injury**
   a) Yes
   b) No
12) **Duration of low back pain**
   a) <1 month
   b) 1 month to 3 months
   c) 3 month to 6 months
   d) >6 months
13) **Previous history of any treatment for low back pain**
   a) Yes
   b) No

SECTION-B

MODIFIED OSWESTRY LOW BACK PAIN QUESTIONNAIRE

Instructions: Please circle the one number in each section which most closely describes your problem.

SL NO	STATEMENT	SCORE
	SECTION- 1 PAIN INTENSITY	
1	The Pain comes and goes and is very mild	0
2	The pain is mild and does not vary much	1
3	The pain comes and goes and is moderate	2
4	The pain is moderate and does not vary much.	3
5	The pain comes and goes and is severe.	4
6	The pain is severe and does not vary much	5
	SECTION 2 – PERSONAL CARE (WASHING, DRESSING, ETC.)	
1	I would not have to change my way of washing or dressing in order to avoid pain	0
2	I do not normally change my way of washing or dressing even though it causes some pain.	1
3	Washing and dressing increase the pain but I manage not to change my way of doing it	2
4	Washing and dressing increase the pain and I find it necessary to change my way of doing it.	3
5	Because of the pain I am unable to do some washing and dressing without help.	4

6	Because of the pain I am unable to do any washing and dressing without help.	5
	SECTION 3 – LIFTING	
1	I can lift heavy weights without extra pain	0
2	I can lift heavy weights but it gives extra pain	1
3	Pain prevents me lifting heavy weights off the floor.	2
4	Pain prevents me lifting heavy weights off the floor, but I can manage if they are conveniently positioned, e.g., on a table	3
5	Pain prevents me lifting heavy weights but I can manage light to medium weights if they are conveniently positioned	4
6	I can only lift very light weights at most.	5
	SECTION 4 – WALKING	
1	I have no pain on walking	0
2	I have some pain on walking but it does not increase with distance	1
3	I cannot walk more than 1 mile without increasing pain.	2
4	I cannot walk more than ½ mile without increasing pain	3
5	I cannot walk more than ¼ mile without increasing pain	4
6	I cannot walk at all without increasing pain	5
	SECTION 5 – SITTING	
1	I can sit in any chair as long as I like	0
2	I can sit only in my favourite chair as long as I like.	1
3	Pain prevents me from sitting more than 1 hour.	2

4	Pain prevents me from sitting more than half an hour.	3
5	Pain prevents me from sitting more than 10 minutes	4
6	I avoid sitting because it increases pain immediately	5
	SECTION 6 – STANDING	
1	I can stand as long as I want without pain	0
2	I have some pain on standing but it does not increase with time	1
3	I cannot stand for longer than 1 hour without increasing pain	2
4	I cannot stand for longer than half an hour without increasing pain.	3
5	I cannot stand for longer than 10 minutes without increasing pain	4
6	I avoid standing because it increases the pain immediately	5
	SECTION 7 – SLEEPING	
1	I get no pain in bed.	0
2	I get pain in bed but it does not prevent me from sleeping well	1
3	Because of pain my normal night sleep is reduced by less than one-quarter	2
4	Because of pain my normal night sleep is reduced by less than one-half	3
5	Because of pain my normal night sleep is reduced by less than three-quarters.	4
6	Pain prevents me from sleeping at all	5
	SECTION 8 – SOCIAL LIFE	
1	My social life is normal and gives me no pain	0
2	My social life is normal but it increases the degree of pain.	1
3	Pain has no significant effect on my social life apart from limiting my more energetic interests, e.g., dancing, etc	2

4	Pain has restricted my social life and I do not go out very often	3
5	Pain has restricted my social life to my home	4
6	I have hardly any social life because of the pain	5
	SECTION 9 – TRAVELING	
1	I get no pain when travelling	0
2	I get some pain when travelling but none of my usual forms of travel make it any worse	1
3	I get extra pain while travelling but it does not compel me to seek alternative forms of travel.	2
4	I get extra pain while travelling which compels to seek alternative forms of travel	3
5	Pain restricts me to short necessary journeys under half an hour	4
6	Pain restricts all forms of travel	5
	SECTION 10 – CHANGING DEGREE OF PAIN	
1	My pain is rapidly getting better	0
2	My pain fluctuates but is definitely getting better.	1
3	My pain seems to be getting better but improvement is slow	2
4	My pain is neither getting better or worse	3
5	My pain is gradually worsening	4
6	My pain is rapidly worsening	5
	TOTAL	

KEY

These sections are scored from 0 to 5 points .The total raw score is added and multiplied by two to provide percentage of pain. The higher the percentage, the greater the perceived level of pain by the patient.

SCORING

0 TO 20%- Minimal pain
21 to 40%-Moderate pain
41 to 60%-Severe pain
61 to 80%-crippled
81 to 100%-Bed bound or symptom magnifier

gFjp - m

Ra tpguk; :-

khjphp vz; -

1. **taJ (tUlj;jpy;)**

   m. 35-40 taJ tiu

   M.41-45 taJ tiu

   ,. 46-50 taJ tiu

   <. 51-55 taJ tiu

2. **fy;tp tpguk;**

   m. fy;tpawptpy;yhjth;

   M. bjhlf;ff; fy;tp

   ,. cah;epiyf; fy;tp

   <. nky;epiyf; fy;tp

   c. gl;lag;gog;g[

3. **bjhHpy; tpguk;**

   m. ntiyf;Fr; bry;gth;

   M. ntiy ,y;yhjth;

4. **tUkhd tpguk;**

m. +gha; 1000f;Fk; Fiwthf

M. +gha; 1001 y; ,Ue;J +gha; 2000 tiu

,. +gha; 2001 y; ,Ue;J +gha; 3000 tiu

<. +gha; 3001 y; ,Ue;J +gha; 4000 tiu

c. +gha; 4001 kw;Wk; mjw;F nky;

5. **kjk**;

m. ,e;J

M. fpwp!;jth;

,. ,!;yhkpah;

<. gpw

6. **jpUkz tpguk;**

m. jpUkzkhfhjth;;

M. jpUkzkhdth;

,. tpthfhuj;jhdth;

<. tpjit

c. gphpe;J thH;gth;

7. **FLk;gj;jpd; tiffs;**

m. jdpf; FLk;gk;

M. Tl;Lf; FLk;gk;

,. gy;Tl;Lf;; FLk;gk;

8. **FHe;ijfspd; vz;zpf;if**

m. ,y;iy

M. Xd;W

,. ,uz;L

<. ,uz;Lf;F nky;

9**. gpurtj;jpd; tiffs;**

m. Rfg;gpurtk;

M. mWitr; rpfpr;ir \yk; gpurtk;

,. Ma[jg;gpurtk;

10. **khjtplha; RHw;rp epw;Fk; taJ tuk;g[**

m. 40-45 taJ

M. 46-50 taJ

,. 51-55 taJ

<. khjtplha; RHw;rp epw;ftpy;iy

11. **fhak; kw;Wk; tpH;jy; gw;wpa tuyhW**

m. Mk;

M. ,y;iy

12**. fPH; KJFtypapd; fhy tiuaiw**

m. XU khjj;jpw;F Fiwthf

M. Xd;W Kjy; \d;W khjk; tiu

,. \d;W khjk; Kjy; MW khjk; tiu

<. MW khjj;jpw;F nky;

13. **fPH; KJFtypapd; Ke;ija rpfpr;irf;fhd tpguk;**

m. Mk;

M. ,y;iy

gFjp- “M”

jpUj;jp mikf;fg;gl;l !;bt!;oiuapd; fPH; KJF typ nfs;tpfs; ::

Fwpg;g[: xt;bthU gFjpapYk; VnjDk; xU rhpahd tpilia njh;e;bjLf;f ntz;Lk;.

thpir vz;	bghUslf;fk;	kjpg;gPl;L
	gFjp 1 typapd; mst[	
1.	Fiwthd mstpy; typ te;J nghFk;	0
2.	Fiwthd typ kw;Wk; mjpf khw;wk; ,y;iy	1
3.	Rkhuhd mstpy; typ te;J nghFk	2

4.	Rkhuhd typ kw;Wk; mjpf khw;wk; ,y;iy	3
5.	fLikahd mstpy; typ te;J nghFk;	4
6.	fLikahd typ kw;Wk; mjpf khw;wk; ,y;iy	5
	gFjp 2 Ra guhkhpg;g[(Jzp Jitj;jy; kw;Wk; Mil mzpjy; kw;Wk; rpy)	
1.	vdJ typia jtpg;gjw;fhf Jzp Jitj;jy; my;yJ Mil mzpjy nghd;w ntiyfspy; ve;j khw;wKk; fhl;Ltjpy;iy	0
2.	Jzp Jitj;jy; kw;Wk; Mil mzpjy; nghd;wit vdf;F typia cz;lhf;fpdhYk; vd:Dila ntiyfspy; ve;j khw;wKk; fhl;Ltjpy;iy	1
3.	Jzp Jitj;jy; kw;Wk; Mil mzpjy; nghd;w ntiyfs; vdJ typia mjpfhpj;jhYk;; vd:Dila ntiyfspy; ve;j khw;wKk; ,y;yhky; bra;a Koa[k;	2
4.	Jzp Jitj;jy; kw;Wk; Mil mzpjy; nghd;w ntiyfs; vdJ typia mjpfhpf;fpd;wjhy; vd:Dila ntiyfspy; ve;j khw;wk; njit vd;W mwpe;njd;	3
5.	typapd; fhuzkhf vd;dhy; Jzp Jitj;jy;; nghd;w rpy ntiyfis cjtp ,y;yhky; bra;a Koa[k;	4
6.	typapd; fhuzkhf vd;dhy; Jzp Jitj;jy;; nghd;w rpy ntiyfis cjtp ,y;yhky; bra;a Koatpy;iy	5
	gFjp 3 gS J}f;Fjy;	

1.	vd;dhy; mjpfkhd vilia typ ,y;yhky; J}f;f Koa[k;	0
2.	vd;dhy; mjpfkhd vilia J}f;f Koa[k; Mdhy; mJ typia cz;lhf;FfpwJ.	1
3.	typahy; vd;dhy; jiuapyp[Ue;J vilia J}f;f Koatpy;iy	2
4.	typ vd;id jiuapyp[Ue;J gSthd vilia J}f;f Koahky; bra;fpwJ. Mdhy; vil brsfhpakhd epiyapy; ,Ue;jhy; vd;dhy; J}f;f Koa[k; (v/fh) nki$apd; nky;	3
5.	typ vd;id J}f;f Koahky; bra;fpwJ. Mdhy; ehd; brsfhpakhd epiyapy; ,Ue;jhy; vd;dhy; Fiwthd kw;Wk; Rkhuhd vilia J}f;f Koa[k;	4
6.	vd;dhy; kpff; Fiwthd vilia kl;Lnk J}f;f Koa[k	5
	gFjp 4 elj;jy;	
1.	vdf;F elf;Fk; nghJ typ ,y;iy	0
2.	vdf;F elf;Fk; nghJ Fiwthd typ cz;L Mdhy; mJ J}uj;ijg; bghUj;J mjpfhpg;gjpy;iy	1
3.	vd;dhy; xU ikYf;F nky; typ ,y;yhky; elf;f KoahJ	2
4.	vd;dhy; xU 1/2 ikYf;F nky; typ ,y;yhky; elf;f KoahJ	3
5.	vd;dhy; xU 1/4 ikYf;F nky; typ ,y;yhky; elf;f KoahJ	4

6.	vd;dhy;; typ ,y;yhky; elf;f KoahJ	5
	gFjp 5 cl;fhUjy;	
1.	vd;dhy; ve;j ,Uf;ifapYk; typ ,y;yhky; vt;tst[neuk; ntz;LkhdhYk; cl;fhu Koa[k;	0
2.	vd;dhy; vdf;F gpoj;j ,Uf;ifapy; klLnk cl;fhu Koa[k;	1
3.	typahy; vd;dhy; xU kzp neuj;jpw;f;F nky; typ ,y;yhky; cl;fhu KoahJ	2
4.	typ ; vd;id 1/2 kzp neuj;jpw;f;F nky; cl;fhu Koahky; jLf;fpwJ	3
5.	typ ; vd;id 10 epkplj;jpw;F nky; cl;fhu Koahky; jLf;fpwJ	4
6	cl;fhh;e;jt[ld; typ mjpfhpg;gjhy; ehd; cl;fhUtijna jtph;f;fpnwd;	5
	gFjp 6 epd;wy;	
1.	vd;dhy ; typ ,y;yhky; vt;tst[neuk; ntz;LkhdhYk; epw;f Koa[k;	0
2.	ehd; epw;f;Fk; nghJ Fiwthd mstpy; typ cz;lhFk; Mdhy; mJ neuj;ij bghUj;J mjpfhpg;gjpy;iy	1
3.	vd;dhy ; typ ,y;yhky; 1 kzp neuj;jpw;f;F nky; epw;;f KoahJ	2

4.	vd;dhy ; typ ,y;yhky; 1/2 kzp neuj;jpw;f;F nky; epw;;f KoahJ	3
5.	vd;dhy ; typ ,y;yhky; 10 epkplj;jpw;F nky; epw;;f KoahJ	4
6.	typ mjpfhpg;gjhy; ehd; epw;gij jtph;f;fpnwd;	5
	gFjp 7 cw';Fjy;	
1.	ehd; gLf;ifapy; cs;snghJ typ cz;lhtjpy;iy	0
2.	vdf;F typ cz;lhFk; Mdhy; mJ cwf;fj;ij jLg;gjpy;iy	1
3.	typapd; fhuzkhf vd;Dila cwf;fj;jpd; mst[fhy; gFjpia Fiwe;Js;sJ	2
4.	typapd; fhuzkhf vd;Dila cwf;fj;jpd; mst[miu gFjpia Fiwe;Js;sJ	3
5.	typapd; fhuzkhf vd;Dila cwf;fj;jpd; mst[Kf;fhy; gFjpia Fiwe;Js;sJ	4
6.	typahy; vd;dhy; cw';fnt Koatpy;iy	5
	gFjp 8 r\f thH;f;if	
1.	vd;Dila r\f thH;f;if R\fkhf cs;sJ kw;Wk; Ve;j typiaa[k; jUtjpy;iy	0
2.	vd;Dila r\f thH;f;if R\fkhf cs;sJ mdhy; mJ typia mjpfhpf;fpwJ	1

3.	typ vd;Dila brhe;j tpUg;gj;jpw;F njitahd rf;jpia Fiwg;gij tpl ve;j tpj tpist[fisa[k; vd;Dila r\f thH;f;ifapy; cz;lhf;Ftjpy;iy	2
4.	typ vd;Dila r\f thH;f;ifapy; jilia cz;lhf;FfpwJ kw;Wk; ehd; mof;fo btspapy; bry;tjpy;iy	3
5.	typahy; vd;Dila r\f thH;f;ifapypUe;J vd;Dila tPL tiu gpur;rpidfs; cz;lhf;Ffpd;wd	4
6.	typapd; fhuzkhf vdf;F ve;j r\f thH;f;ifa[k; fpilahJ	5
	gFjp 9 gazk;	
1.	ehd; gazpf;Fk; nghJ typ ,y;iy	0
2.	ehd; gazpf;Fk; nghJ Fiwthd mstpy; typ Vw;gLk; Mdhy; mJ vd;Dila gazj;ij ghjpg;gjpy;iy	1
3.	ehd; gazpf;Fk; nghJ bfh";rk; mjpfkhd typ cz;lhFk; Mdhy; mjw;fhf vdJ gaz Kiwia khw;Wtjpy;iy	2
4.	ehd; gazpf;Fk; nghJ bfh";rk; mjpfkhd typ cz;lhfpd;wJ mjdhy; vdJ gaz Kiwapy; khw;wk; Vw;gLfpwJ	3
5.	typ njitahd nghJ vd; gaz neuj;ij ½ kzp neukhf Fiwf;fpwJ	4
6.	typ vdJ midj;J gaz';fisa[k; jLf;fpd;wJ	5
	gFjp 10 typapd; mstpy; khw;wk;	

1.	vd;Dila typahdJ rPf;fpukhf rhpahfpwJ	0
2.	vd;Dila typ mst[khWfpwJ Mdhy; mJ fz;og;ghf rhpahfpwJ	1
3.	vd;Dila typ epthuzk; cs;sJ Mdhy; mJ bkJthf cs;sJ	2
4.	vd;Dila typ ed;whft[k; ,y;iy nkhrkhft[k; ,y;iy	3
5.	vd;Dila typ bfh";rk; bfh";rkhf nkhrkhfpwJ	4
6.	vd;Dila typ btF rPf;fpukhf nkhrkhd epiyia milfpwJ	5
	bkhj;jk;	

Fwpg;g[: ,e;j gFjpfspd; kjpg;gPl;L 0ypUe;J 5 tiu cs;sJ. bkhj;j cz;zpf;ifa[k; Tl;lg;gl;L kw;Wk; ,uz;lhy; bgUf;fg;g;LfpwJmJ typapd; rjtpfpjj;ij bfhLf;Fk;. mjpf rjtPjkhdJ nehahspahy; czutUk; mjpf mst[typahFk;.

kjpg;gPl;L

0-20% - Fiwthd typ

21-40% - Rkhuhd typ

41-60% - mjpfkhd typ

61-80% - elf;f ,ayhik

81-100% - gLj;j epiy

COLLECTING DEMOGRAPHIC VARIABLES

ASSESSMENT OF LOW BACK PAIN