Effectiveness of nurse-led educational intervention package on back pain and activity of daily living among primigravidae with back pain at AIIMS, Jodhpur

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By

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[2021]

DECLARATION BY CANDIDATE

I declare that the thesis entitled "Effectiveness of nurse led educational intervention package on back pain and activity of daily living among primigravidae visiting antenatal OPD of AIIMS, Jodhpur" has been prepared by me under the guidance of Mr. Himanshu Vyas, Associate Professor, College of Nursing, AIIMS, Jodhpur, Dr. Shashank Shekhar, Professor, Department of Obstetrics and Gynaecology, AIIMS, Jodhpur and Dr. Nitesh Gonnade, Associate Professor, Department of Physical Medicine and Rehabilitation, AIIMS, Jodhpur. No part of this thesis has formed the basis for the award of any degree previously.

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LIST OF ABBREVIATION USED

- ANC- Antenatal care
- **OPD-** Out-patient department
- BMI- Body mass index
- VAS- Visual analogue scale
- ADL- Activity daily living
- X²- Chi-square
- Df- Degree of freedom
- AF Aggravating factor

ABSTRACT

INTRODUCTION- The primigravida women often have more complaint of back pain during pregnancy, Younger women are more sensitive to hormonal changes and perception of pain than multigravida or older pregnant mother. Pregnant women reported that back pain might affect the activity of daily routine e.g. walking, climbing stairs, sitting, standing and women may expect for help from family members^{.(1)}

About 85% of the women were suffering from back pain during pregnancy but they didn't receive any remedy or treatment from her care provider. Only 1% women were treated by therapy and they reported that pain was relived after therapy.⁽²⁾

OBJECTIVE- The main objective of the study was to assess the effectiveness of nurse-led educational intervention package on the back pain and activity of daily living in pregnant women with back pain

METHOD- A quasi-experimental study was directed on primigravidae women visiting antenatal OPD of AIIMS Jodhpur. Absolute of 60 primigravidae women (30 in each experimental and control group) were incorporated through the Non-Probability Consecutive sampling method, and information were gathered through a VAS scale and a self-structured ADL scale.

RESULT-The pre-test score uncovered that the vast majority of the women (70%) in experimental group and (60%) in control group revealed moderate pain. The post-test score uncovered that a large portion of the women (56.6%) in experimental group detailed mild pain. About 53.3% women in control group reported extreme or severe pain.

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When compared with pre-test, the pain score of members in the experimental group during post-test was diminished. Whereas when compared with pre-test, the pain score of members in the control group during post-test was discovered to be increased. (p<0.05)

No critical contrast was found in activity of daily living in experimental and control group. No personal variable of the primigravidae was found to be significantly associated with back pain and ADL.

CONCLUSION –Majority of primigravidae women had back pain during pregnancy and participants recognized prolong sitting as the most well-known aggravating factor. It was discovered that there was a significant distinction in pain score between pre-test and post-test in experimental and control group.

KEYWORDS – Level of back pain; Activity of daily living; Aggravating factor, Primigravidae, Nurse-led educational intervention package.

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INTRODUCTION

BACKGROUND

Back pain is normal among pregnant women during pregnancy. During pregnancy mellowing and extending in tendons and muscles happens to help in transformation during pregnancy and to help and facilitate the labor, this causes strain on joints and bone, which prompts back pain in pregnant women.

The uterus grows gradually and becomes an abdominal organ, and there is an increase in the body weight (normal weight gain 11-16 kg), to support the back bents forward naturally to maintain body posture and balance. Quite possibly the most well-known musculoskeletal issues in pregnancy are low back pain and pelvic support pain, most pregnant ladies experience back pain in the third trimester of pregnancy. Low back pain is characterized as pain between thoracic twelfth vertebrae to gluteal muscle folds, and pelvic support pain implies women experience pain in the sacroiliac joint, symphysis pubis, and gluteal fold. ⁽³⁾

Pain is an individual encounter for every person, factors, for example, dread, tension, weariness, assumption, and interruption from pain influence the impression of pain and coping with pain. ⁽⁴⁾

The primigravida women often have more complaint of back pain during pregnancy, Younger women are more sensitive to hormonal changes and perception of pain than multigravida or older pregnant mother. Pregnant women reported that back pain might affect the activity of daily routine e.g. walking, climbing stairs, sitting, standing and women may expected for help from family members⁽¹⁾

Pregnancy results in the increased overall mass of body and center of gravity also shift during pregnancy, as the pregnancy progress, the body adapts the posture according to the weight changes.⁽⁵⁾ The primary or accurate reason for back pain in pregnancy as yet unclear, the extending uterus causes the adjustment in the gravity center anteriorly which applies strain on low back and pelvic girdle.

Hormonal changes (e.g., Relaxin) that happen during pregnancy which causes the mellowing of ligaments and joints, for the most part of the pelvis, prompts encourage the movements and empowers the fetus to go through the birth canal without any problem. This results in the loosening of the joint and a decrease in instability. ⁽⁵⁾

A health care provider can help the pregnant women to manage the back pain in pregnancy, management includes yoga, antenatal classes, taking consultation from a physiotherapist or other health care provider.

Back pain can affect mother during pregnancy, the intensity and duration of pain during pregnancy is perceived by every pregnant mother differently. In most cases, the back-pain resolves in the puerperium period.

About 85% of the women were suffering from back pain during pregnancy but they didn't receive aught remedy or treatment from her care provider. Only 1% women were treated by therapy and they reported that pain was relieved after therapy.⁽²⁾

Pregnant women mainly complaint for low back pain, carpal tunnel syndrome, sacroiliac joint pain, this can occur due to forward shifting of center of gravity,

weight gain during pregnancy and hormones during pregnancy. Practice of exercise during the antenatal period provide strength to the muscles and relieves discomfort. Studies recommended that, women should perform exercise during pregnancy and it is not harmful for pregnant women and foetus.⁽⁶⁾ Regular exercise helps to preserve the cardio and respiratory aptness, facilitate the parturition and post-natal recovery ⁽⁷⁾

As indicated by American College of Obstetricians and Gynaecology (ACOG), gravid women can promulage the activity of moderate force at any rate for 30 moment, and pregnant women ought to be assessed for clinical and obstetrical danger prior to endorsing any exercise.⁽⁸⁾

If women not having any obstetrical or medical complications, she should perform physical activity of moderate intensity daily and exercise three times day for minimum 15 minute^{.(9)} An increment in the Body Mass Index during pregnancy is a risk factor in the event of low back pain.

The intensity of back pain impacts the activity of daily living of a pregnant woman, especially in the third trimester. The impact of back pain on ADL varies from women to women.

NEED FOR STUDY

Pregnant ladies of various age group experience the back pain during pregnancy.

Half of pregnant ladies experience back pain/inconvenience with close to nothing or without treatment from the medical services provider. During pregnancy, primigravida expects the alleviation measures to diminish the back pain and decrease inconvenience, from guardian and medical care provider. ⁽⁴⁾

Around 50-80% of pregnant ladies have complain of back agony during pregnancy because of postural or hormonal changes. The most common musculoskeletal disorder symptom experienced during pregnancy is back pain. Women who perform regular exercise during pregnancy have more energy, low mood swing, and better coping to manage stress, and have more sleep compared to pregnant women having sedentary life^{. (10)}

The rate of the back pain during pregnancy is high and researcher around the world expressed that it could be between 30% - 70 %. Women can likewise encounter upper back pain, sacro-iliac joint pain, muscle cramps, carpal passage condition, foot discomfort. ⁽¹¹⁾

85% of pregnant women suffering from back pain but they did not get any intervention to manage or treat the back pain, only 1% pregnant women receive intervention to treat or manage back pain.⁽¹²⁾

Ramchandra P et.al in their study included 404 pregnant ladies for the investigation, 249 pregnant women gripe about low back pain in the present pregnancy. One out of three ladies (n-123) perceive lower back pain before

the present pregnancy, fifty-nine of these pregnant ladies experienced low back pain throughout menstruation cycle, and 37 women detailed with vague low back pain before pregnancy.⁽¹¹⁾

Non-working rural housewives (83%) reported the low back pain and the pain cause the activity restriction. Study recommended that better health care measures should be provided to women e.g. education about good posture, various health advises, activity pacing.⁽¹³⁾

Exercise and physical activity during pregnancy are having minimal risk for women and foetus. Women with no any medical disorder or obstetrical complication should encourage for aerobic and strengthening exercise during and after pregnancy.⁽¹⁴⁾

As the majority of primigravidae women experience back pain with varying intensity and it impacts ADL. This study aims to assess the effectiveness of nurse-led educational intervention package on back pain and ADL among primigravidae at AIIMS Jodhpur.

AIM

The study aims to assess the effectiveness of nurse-led educational intervention package on the back pain and activity of daily living in pregnant women with back pain at AIIMS, Jodhpur.

STATEMENT OF THE PROBLEM

The effectiveness of nurse-led educational intervention package on back pain and activity of daily living among primigravidae with back pain at AIIMS, Jodhpur.

OBJECTIVES

- 1. To assess and compare the level of back pain among primigravidae in control and experimental group.
- 2. To assess and compare the activity of daily living among primigravidae in control and experimental group.
- 3. To determine the association of level of back pain with selected personal variable

OPERATIONAL DEFINITIONS

• Primigravidae

A "primigravidae" is a woman who is pregnant for the first time, and who is more than 34 weeks of gestation attending antenatal OPD at All India Institute of Medical Sciences, Jodhpur.

Nurse-led education interventional package

A nurse-led educational intervention package is a group of instructions and measures to manage back pain during pregnancy. It will include general instruction to be followed by pregnant women, and exercise -1Saharman exercise (it includes 5 exercises), 2 rolling, 3 bridging, 4 cat camel poses. The total duration is 40 minutes, including 10 min for general instruction and 30 min. for teaching and demonstrating the specific exercise.

Back pain

Back pain is characterized as the pain in the low back which is felt by primigravidae. It will be assessed by a self-reported method on the visual analogue scale and reported as a mild, moderate or severe level of pain.

• The activity of daily living

Activities of daily living performed by primigravidae including personal care, walking, sitting, standing, sleeping, travelling. It will be assessed by a self-structured scale and interpreted as dependent, Partially dependent, and independent.

HYPOTHESIS

All the hypothesis tested at p <0.05 level of significance

- H₀₁- There is no significant difference in level of back pain in experimental and control groups.
- H₀₂- There is no significant difference in activity of daily living in experimental and control groups
- H_{A1}- There is significant difference in level of back pain in experimental and control group.
- H_{A2}- There is significant difference in activity of daily living in experimental and control group.

DELIMITATION

The study is delimited to primigravidae (More than 34 weeks of gestation) women with back pain attending antenatal OPD AIIMS, Jodhpur.

SUMMARY OF THE CHAPTER

The chapter describes the background of the study, need, problem statement, objectives, operational definition, assumption and delimitation of the study.

Chapter II Review of Literature

REVIEW OF LITERATURE

Review of literature was done to appraise in-depth information regarding the back pain in pregnancy, activity of daily living and effect of exercise on back pan and further exploring the research questions, design the research methodology and explore more about the association of various factors with back pain

Section 1: Review related to back pain in pregnancy

Section 2: Review related to activity of daily living in pregnancy

Section 3: Review related to effect of exercise on back pain in pregnancy

1. REVIEW RELATED TO BACK PAIN IN PREGNANCY

A study aimed to determine prevalence and related factors with low back pain and pelvic griddle pain during pregnancy, a study directed in Spanish national service. Analyst asses the 4-week pervasiveness of LBP (71.3%), LP (46.2%) and PGP (64.7%). The principal factor related with low back pain is a background marked by related and irrelevant pregnancy. Numerous different variables like lower scholastic level, more youthful age, depression, a lower number of long stretches of rest every day, and a higher BMI and for PGP were higher score for depression, a higher BMI, and a further developed phase of pregnancy.⁽¹⁵⁾

A retrospective cohort study was accomplished for the commonness of low back pain and pelvic pain during pregnancy on the Norwegian populace. Around half of women experienced moderate and serious pelvic pain during pregnancy. 10% of pregnant women experienced moderate and serious LBP. Pain interferes with the general function of women during pregnancy. 50% of women having pain in the symphysis publis region.⁽¹⁶⁾

An investigation to assess the commonness of musculoskeletal dysfunction during pregnancy. They enrolled 384 ladies and 123 pregnant ladies were barred from the investigation since they were multiparous and they had musculoskeletal dysfunction before the pregnancy. 261 pregnant ladies who partook in the investigation were primiparous. The mean age of pregnant ladies was 27.1 ± 3.4 years (mean \pm SD). Among the musculoskeletal dysfunctions detailed by the pregnant ladies, 64.6% reported lower leg muscle cramps, 37.1% revealed foot pain, and 33.7% experienced low back pain in their third trimester. In the subsequent trimester, regular musculoskeletal dysfunctions experienced by the ladies were that of calf pain (47.8%), low back pain (42%), and pelvic girdle pain (37%).⁽¹¹⁾

A prospective cohort study about causative developments and low back pain in pregnancy. They incorporate 254,249,258,245 women at 12 weeks, 24 weeks, 30 weeks and 36 weeks of pregnancy. There were 16 sorts of movements, every one of them were day by day exercises, which actuated low back torment. All assessments and movements, chiefly sitting up, standing up from a seat, and tossing and turning were believed to be identified with LBP. Resting and sitting up not essentially identified with late pregnancy.⁽¹⁷⁾

A study was directed to appraise the Women's experience of low back or potentially pelvic pain (LBPP) during pregnancy. 14 ladies had participated in the pilot randomized controlled trial. Low back agony and pelvic torment influence the women emotionally and physically. Mentalities towards and information about back pain and pelvic agony varied. Ladies utilize selfimprovement

techniques for manifestations and show disappointment with treatment and routine advice about back and pelvic agony.⁽¹⁸⁾

An investigation to evaluate the ladies' encounters of low back agony during pregnancy.105 post-partum ladies were incorporated to examine. Every one of the 105-baby blues pregnant lady gave addressed a poll; ladies who experienced LBP during pregnancy, and later they were likewise met. Spellbinding and inferential measurements were utilized to dissect the information in the examination. Results uncovered that LBP was normal and somewhat more successive in primiparous than multiparous ladies. ⁽¹⁹⁾

A longitudinal report to assess factors related with back pain in pregnancy and the steadiness of pain 2 years after pregnancy. They incorporated an aggregate of 326 patients. 250 patient reported one or more episode of back agony during their pregnancy. A few ladies had a past history of back pain during the nonpregnant state, past pregnancy and baby blues period.⁽²⁰⁾

A cross-sectional longitudinal investigation was completed on low back pain history in a past pregnancy since it can result in the development of back agony in the current pregnancy. They select the pregnant women as sample who seeking antenatal center of the University of Gondar Hospital, Northwest Ethiopia. Descriptive statistics were utilized to calculate and summed up the investigation information. Study results showed the association between low back pain with ladies' sleep patterns, mobility, lifting strategies, and sexual activities.

A cross-sectional examination was completed to assess Physical Activity Patterns and Factors Related to Exercise during Pregnancy. They included 1,279 women in the study, they gather the socio-segment information and obstetrical history and directed self-reported questionnaire, gathered information about exercise and day by day proactive tasks during pregnancy. Results uncovered that the predominance of physical activities among members was lower all through pregnancy (20.1%) (p = 0.01). The most minimal prevalence of exercise was seen in the first (13.6%) and third trimesters (13.4%). ⁽²¹⁾

A cross-sectional examination was done on Low back torment during pregnancy: Prevalence, hazard variables and relationship with day-by-day activities among pregnant ladies in urban Blantyre, Malawi. Researcher took 404 pregnant women as sample from low-risk antenatal clinic, and they used interview method for information collection. Result showed the significance between gestational age and presence of low back pain (P=0.03) and low back torment related with the lady's activity e.g., sleep, mobility, lifting, and sexual activity. Researcher conclude that low back torment have critical impact on quality of life and wellbeing worker need to identify and provide the appropriate management.⁽²²⁾

A descriptive and cross-sectional study on characteristics of Low Back Pain in Pregnancy, Risk Factors, and Its Effects on Quality of Life. They included 400 pregnant ladies and information were gathered utilizing introductory information form, a back pain evaluation form, the Visual Analog Scale (VAS), and the Oswestry Disability Index (ODI). The outcomes show mean VAS score for back agony during their present pregnancy was 4.91 ± 1.88 . Women perceived the

low back pain commonly in the late trimester (85.5%) and in lumbar zone (45.5%). The mean % score on the ODI, which assess the impact of low back pain on functional status, was $31.87\% \pm 15.56\%$, and low back pain marginally limit their ADL.⁽²³⁾

A study to assess the prevalence of low back pain in non-working rural housewives of Kanpur, India. They include 301 Non-working rural housewives, aged between 30-70 years. Researcher select total 350 women as sample but 49 women were excluded from study. They used Hindi version of three scale Nordic musculoskeletal questionnaire, Oswestry disability index and Zarit burden interview measuring muscular discomfort. Result revealed that 83% of total rural housewife felt low back pain and more than 50% of total rural housewife have severe disability due to low back pain.⁽¹³⁾

A study was carried out to determine the prevalence of low lumber- pelvic pain related to pregnancy among antenatal women. They recruited 202 pregnant women and all women were screened for low lumber- pelvic pain at the antenatal clinic by questionnaire. They use McKenzie protocol 2003 for assessment of lumber spine and performed physical examination of pelvis for evaluation of the low back pain. Only 31 women had the low back pain out of total 202 participants, and for assessing disability in populace Oswestry disability index scoring questionnaire was used. As a result, prevalence of low back pain was 15.35% which was lower than the average of 45% in European studies. The Oswestry disability index scoring questionnaire in this study propound scores up-to 30, means mild to moderate disabilities.⁽²⁴⁾

2. REVIEW RELATED TO ACTIVITY OF DAILY LIVING IN PREGNANCY

A descriptive and cross-sectional investigation to assess the effect of pregnancy-related back pain on quality of life and physical ability in the third trimester of pregnancy. They included 100 ladies in study between 28-40th weeks of gestation. Participate filled three questionnaire (1) General question (2) Katz's Activity's Daily Living Index (3) Short Form of WHO Quality of Life Questionnaire. VAS scale used to assess the intensity of back pain and Oswestry Low Back Disability Questionnaire (OSW) was utilized to measure the functional limitation. Study results uncovered that pregnancy-related back pain which had low pain severity and caused low functional limit didn't affect the pregnant ladies' quality of life, anyway diminished their physical ability. The pain intensity raise, physical ability diminished.⁽²⁵⁾

A cross sectional investigation was done to assess the active work levels of pregnant ladies and to look at the qualities related with the practice of exercise and the ADL during pregnancy. They incorporate 1,279 ladies somewhere in the range of 12 and 72 hr postpartum. They gathered the information by structured interview method utilizing standardized questionnaire incorporate socio-economic status, physical exercise during pregnancy, physical activities, including daily physical activity specially for pregnant ladies. Information about pregnancy period, co-morbidities, delivery details and newborn result were accumulated from clinical record and pre-birth care card. Ladies revealed that they performed walking effectively during all three trimester, second most normal activity was water aerobics and different exercises extending, Pilates, yoga, dance, weight lifting, biking, swimming, aerobics pre-birth class, and

pelvic floor works out. The outcomes showed that there is critical distinction between the physical work during pregnancy and education level of the ladies either undergraduate or graduate and factors which was expanded the difference of physical exercise during pregnancy are primiparity, pre-pregnancy exercise training and guidance on exercise during antenatal period. Normal weight acquired in participants was 3.08 ± 6.08 kg and there was no distinction in dynamic and inactive women in terms of weight gain. Rate of hospitalization of newborn in the NICU was 3.9% and 95% newborn was shown Apgar score more than 7 in first moment.⁽²¹⁾

3. REVIEW RELATED TO EFFECT OF EXERCISE ON BACK PAIN

A prospective randomized investigation to assess the effectiveness of exercise on the back pain. They incorporate the 107 ladies, partaken in an exercise program (3 times each week) for 12-week gestation and 105 ladies as control group. All participants filled a questionnaire between 17-22-week gestation, and 12 weeks after, after appraisal of back pain intensity. Researcher utilized the adaptable ruler and side bowing test to measure the lordosis and flexibility of spine. Result uncovered that intensity of back pain increases in control group, and intensity of back pain diminish after exercise (p<0.0001), and flexibility of spine diminished in exercise group.⁽²⁶⁾

A study on prevention and the management of low back pain in pregnant ladies using exercise program and schooling booklet. They incorporate 15pregnant women with 20 weeks to 32 weeks gestation with back pain. They utilizing Modified Oswestry Low Back Pain, Disability Questionnaire and Visual Analog Scale for baseline evaluation. Every member instructed around 1. Musculoskeletal changes in pregnancy. 2. Impact of relaxin hormone on

muscles and ligaments. 3. Posture in pregnancy. 4. Fuse of biochemical standards in ADL and work place. 5. Exercise to correct and improve Posture. Researcher educate the participants through a compiled booklet, which is in both Hindi and English language, researcher allow the caregiver during education program, on 21st day each participant again evaluated. After effect of study uncovers that if we give the instruction and exercise program in early pregnancy, may inhibit back pain and reduction the seriousness of back pain, and by permitting guardian in program, they form the knowledge into the consideration of pregnant ladies.⁽²⁷⁾

A randomized control trail to assess the effect of exercise on back pain and lordosis in pregnant women. They included 30 pregnant women with back pain and grouped into control (n-15) and case group (n-15). Case group received exercise program. Participants filled the Roland-Morris questionnaire, once at the beginning and again at 20 and 24 weeks of pregnancy. Lordosis was measured by flexible ruler once at beginning and again at 20 and 24 weeks of pregnancy. Researcher found the significant reduction in severity of back pain after 2 months after intervention in case group participants. Intensity of back pain is reduced more in case group than control group. Lordosis is increased in both case group and control group but more in control group.⁽²⁸⁾

A randomized control study to assess the effectiveness effects of isometric exercise on the reduction of lumbar and pelvic pain in pregnant women resident in Isfahan. They included 58 women in the study age group between 20-35 year. Participant grouped into treatment group (n-29) and control group (n-29). Treatment group received therapeutic exercise and control group received no therapeutic exercise. At the beginning of the study all participant filled the questionnaire about low back pain and efficiency to do activities and they filled

the questionnaire again after one month. Result shows critical contrast among treatment and control groups with respect to all daily activities. Low back pain decreased in treatment group.⁽²⁹⁾

A quasi- experimental study was done to evaluate how a stability ball exercise programme influences low back pain and daily life interference across the second and third pregnancy trimester. The target population for this study was pregnant women between 20-22 weeks gestation. Total 89 sample taken and grouped into control group (n-45) and experimental group (n-44). This exercise program for 12 week and three sessions per week, and time duration was 25-30 minutes. All participants filled the basic information, Brief Pain Inventory-Short Form, and the Family Exercise Support Attitude Questionnaire. Result revealed that experimental group women who attend antenatal stability ball exercise reported less low back pain than control group at 36 weeks of gestation. Stability ball exercise during pregnancy may reduce pregnancy low back pain and boost daily life function.⁽³⁰⁾

A study to assess the efficacy of an exercise program towards decreasing back pain in pregnant ladies. They recruited 145 low hazard pregnant ladies have scored more than 20 for functional limitation assessment. The severity of back pain was assessed using the visual analogue scale (VAS) and the functional limitation was assessed using the Oswestry disability questionnaire (ODQ). All participant were informed about back care measures and provided paracetamol as adjunct analgesics. Intervention group attended session with a trained physiotherapist and all participant fill questionnaire about pain intensity and functional limitation assessment after 6 weeks after intervention. Back pain reducing exercise program was effective in reducing back pain intensity and use of analgesic improve functional ability.⁽³¹⁾

SUMMARY OF THE CHAPTER

The chapter deals with the beforehand establish and proven work on back pain in pregnancy and effect on activity of daily living of primigravidae women, published in national and international journals.

Chapter III Methodology



Fig 1: - Schematic representation of research methodology

RESEARCH METHODOLOGY

This chapter deals with the research methodology embraced to lead the current study. It gives a detailed description of research design, research setting, population, sampling technique, sampling criteria, data collection tool, content validity, ethical consideration, pilot study, reliability, the procedure for data collection and analysis and interpretation.

RESEARCH APPROACH

Quantitative research approach was used for the present study

DESIGN

Quasi-experimental research design

VARIABLES

Independent variable

• Nurse-led educational intervention package

Dependent variable

- Level of back pain
- Activity of daily living

STUDY SETTING

The current study was conducted in antenatal O.P.D of AIIMS, Jodhpur. It is established by the government of India's Ministry of Health and Family Welfare under Pradhan Mantri Swasthya Suraksha Yojana (PSSMY). At present 960 beds are functional.

POPULATION

Primigravidae women with gestation age more than 34 weeks of gestation

SAMPLE

Primigravidae women attending antenatal OPD at AIIMS, Jodhpur

SAMPLING TECHNIQUE

Non-Probability consecutive sampling technique was used. All pregnant women more than 34 weeks of gestation with back pain meeting the inclusive criterion were included in the study.

Inclusion criteria

- Primigravidae (Age 18-35 year)more than 34 weeks of gestation with back pain
- Primigravidae who is willing to participate in the study.

Exclusion criteria

- Primigravidae women with a high-risk pregnancy.
- Primigravidae women with a musculoskeletal disorder resulting in back pain existing before the pregnancy

SAMPLING PROCESS

Sample:

Sample of present study was primigravidae women with back pain attending antenatal OPD at AIIMS Jodhpur.

Sample size:

Total Sample size 60 (30 in experimental and control group each.)

Sample size:

$$N = \{(SD_1)^2 + (SD_2)^2\} \{Z_{1-\alpha/2} + Z_{1-\beta}\}^2 / d^2$$

Where:

- N = required sample size
- Z = table value at 0.05 level of significance is 1.96
- D = Difference in mean of two group
- $SD_1 = SD \text{ of group } 1^{(1)}$
- SD₂= SD of group 2⁽¹⁾
- $Z_{1-\alpha/2}$ = Critical value and a standard value for the corresponding level of confidence. (At 95% CI it is 1.96 and at 99% CI, or 1% type 1 error it is 2.58)
- $Z_{1-\beta} = It$ is the desired power

According to this formula, the sample size was 21. So, total 60 samples (30 sample in each experimental and control groups) were taken for the present study to make up for any possible attrition during the study

DEVELOPMENT AND SELECTION OF TOOLS

S. N	ΤοοΙ	Purpose	Technique
1	Personal variable	To collect personal information about pregnant women	Interview
2	Visual analogue scale	To assess the level of back pain	Self-report
3	Self-Structured checklist of activity of daily living	To assess the activity of daily living	Interview

Table - 1: Description of the tool

Table 1 represents the tool, purpose and technique of data collection
Part-A: Personal variable data sheet to collect the information about the personal variable of the pregnant women, it includes age, religion, educational status, occupation, education of husband, family income per month, height, weight, BMI, aggravating factor.

Part-B: Visual analogue scale

The visual analogue scale is a standardized tool to assess the information about back pain which is subjective. It contains 0 – 10 numbers in a 10 cm scale, 0 means no pain, 10 means unbearable pain. Primigravidae women will self-report their level of back pain on a VAS of 0 to 10

VISUAL ANALOGUE SCALE									
0 1	2	3	4	5	6	7	8	9	10
	1	I	I	I	Ι	1	I	I	I
NOPAIN	Anr (mi	noying Id)	U (n	ncomf nodera	ortable ate)	e (Horrible severe)	e)	W O R S T

Fig 2: Visual analogue scale

Part – C: Structured checklist to assess the activity of daily living

This Structured activity of daily living scale is developed by the researcher to asses activity of daily living of pregnant women. It consisted of 10 activities (Ambulation, bathing, toileting, feeding, sitting, standing, sleeping, grooming, climbing stairs, cooking) and the ADL were categorised under 3 categories (Perform independently, partially dependent and Dependent). Scoring interpreted as following. The maximum (2) possible score is (1) and the minimum (0). According to the score ADL were interpreted as

- 1. Complete independent (20)
- 2. Moderate impairment (>10 and <20)
- 3. Severe impairment (<10)
- 4. Complete dependent (0)

THE VALIDITY OF THE TOOL

VAS is a pre-validate standardized tool, with reliability (r = 0.94, P < 0.001). (24)

A structured scale for the activity of daily living was sent to experts (07) for the content validity of the tool. Based on the suggestions of the expert the tool was found to be valid and appropriate. Content validity index (CVI) for self-structured checklist of activity of daily living was 1.

RELIABILITY OF THE TOOL

VAS is a pre-validate standardized tool with reliability (r = 0.94, P< 0.001).

The reliability of self-structured checklist for Activity of daily living was found to be 1.0 through test re-test method which is highly reliable.

ETHICAL CONSIDERATION

Ethical consideration for the current study was

- Ethical approval was taken from the Institutional Ethical Committee of AIIMS, Jodhpur.
- Certificate reference number- AIIMS/IEC/2020-21/3026 dated: 01/06/2020
- Written informed consent was obtained from each study subject involved in the study.

• Confidentiality of the data was maintained and the study subjects were given full autonomy to withdraw from the study at any time.

PILOT STUDY

Pilot study is a preliminary report completed before research is finalized to assist in defining the research questions or to test the feasibility, reliability, and validity of the proposed study design. After obtaining the formal approval from the concerned administrative authority. For this study pilot study was completed in September (14/09/2020) to October (1/10/2020) at OPD of AIIMS, Jodhpur after taking permission from the institutional ethical committee prior to the data collection with sample size that is 12 (6 in each experimental and control group). The motive behind the study was explained and subjects were assured about confidentiality. Data were collected after taking informed consent through a questionnaire method and this study was found feasible.





after 1 week of administration of nurse-led educational intervention package in the control and experimental group by VAS scale and a Self-structured ADL checklist

Fig 3: Procedure for data collection

PROBLEM FACED DURING THE STUDY

Due to Covid-19, visit of pregnant women at ANC OPD were reduced.

PLAN FOR DATA ANALYSIS

- Data coding was done and entered into Microsoft Excel 2016 and entries were checked for any error.
- The analysis was done by using SPSS version 26. Descriptive statistics like frequency, percentage and inferential statistics like X² was used for the analysis of the data.
- t -Test was used to compare the mean of two groups.
- Data were interpreted and depicted with the help of tables.
- P-value <0.05 was taken as statistically significant.
- Analysis of data was interpreted with the help of tables, charts and bar graph, etc.

SUMMARY OF THE CHAPTER

This chapter describes the research, approach, design, variables, setting, population, sample, sampling techniques, tools used for data collection, pilot study procedure for data collection, and plan for data analysis.

Chapter IV Analysis, Interpretation, and Discussion

CHAPTER IV

This chapter presents the analysis and results of the present study. The data gathered were first coded and entered in the master datasheet.

THE OBJECTIVES OF THE PRESENT STUDY ARE

- 1. To assess and compare the level of back pain among primigravidae in control and experimental group.
- 2. To assess and compare the activity of daily living among primigravidae in control and experimental group.
- 3. To determine the association of level of back pain with selected personal variable

THE DATA AND FINDING HAVE BEEN ORGANIZED AND PRESENTED IN THE FOLLOWING SECTIONS

Section1: Description of sample characteristics. The selected personal variables were described in terms of frequencies and percentage.

Section2: Level of back pain among primigravidae women of experimental and control group

Section3: Comparison of activity of daily living among primigravidae women of experimental and control group.

Section 4: Association of the personal variable with the level of back pain

SECTION1. DESCRIPTION OF SAMPLE CHARACTERSTICS OF SUBJECTS. THE SELECTED SAMPLE CHARACTERSTICS WERE DESCRIBED IN TERMS OF FREQUENCIES AND PERCENTAGE.

Table 2: Frequency and percentage distribution in experimental andcontrol groups in terms of personal variable

					(N-(60)
Variak	ble	Experimental (n-30) f (%)	Control (n-30) f (%)	X²/ Fisher's Exact test	df	p value
	Mean±SD	26.07±2.778	26.97±3.479			
	20-30	6(20)	4(13.3)			
Age	24-27	17(56.7)	15(50.0)	1.417	3	0.701 ^{NS}
	28-31	5(16.7)	8(26.7)			
	32-35	2(6.7)	3(10.0)			
Deligion	Hindu	29(96.7)	29(96.7)	0.000*	4	4 NS
Religion	Muslim	1(3.3)	1(3.3)	0.000	I	Inc
	No formal education Brimary	0	1(3.3)			
	education	1(3.3)	0			
Educational status	High school education	3(10.0)	5(16.7)	7.283	4	0.122 ^{NS}
	Higher secondary education	0	4(3.3)			
	Graduation and above	26(86.7)	20(66.7)			
	Government job	2(6.7)	2(6.7)			
O a sum at i a m	Private job	6(20.0)	6(20.0)	0.050	0	0.040NS
Occupation	Self- employed	1(3.3)	2(6.7)	0.358	3	0.949
	Home maker	21(70.0)	20(66.7)			
	High school education	1(3.3)	4(13.3)			
Education of husband	Higher secondary education	1(3.3)	4(13.3)	4.32	2	0.115 ^{NS}
	Graduation and above	28(93.3)	22(73.3)			
	10,000 or less	3(10.0)	3(10.0)			
Family income per	10,001-50,000	17(56.7)	15(50.0)	0 307	2	852NS
month	More than 50,000	10(33.3)	12(40.0)	0.007	2	.000

(*- Fisher's Exact test was used, NS- Non-significant at Level of significance p≤0.05)

Table 2 depicts frequency and percentage distribution in experimental and control groups in terms of sample characteristics. More than half ,56.7% in experimental group whereas 50.0% in control group belonged to the age group of 24-27 years. Almost all participants (96.7%) were Hindu. Maximum participants (86.7%) in experimental and (66.7%) in control group were graduate and above. 70.0% of total participants in experimental group and 66.7% in control group were home-maker. 93.3% of the husbands of the study participants had educational qualification of graduation and above in the experimental group whereas it was 73.3% in the control group. More than 50% (56.7%) in experimental group and (50.0%) in control group had family income between Rs. 10.001-50.000.

Table also depicts that the corresponding p-value of calculated chi-square statistics for all the personal variable is greater than 0.05. It shows that there is no significant difference among all the sample characteristics between experimental and control group at baseline. So, it concluded that participants in both experimental and control group were homogenous with respect to the sample characteristics and they are significantly similar at baseline.

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Table 3: Frequency and percentage distribution in experimental and control groups in terms of anthropometric measurement

(N-60)

Variable		Experimental f (%) (n-30)	Control f (%) (n-30)	X²	df	p value
	Mean±SD	156.36±6.338	152.793±13.016			
	141-145	1(3.3)	2(6.7)			
	146-150	5(16.7)	6(20.0)			
Height	151-155	8(26.7)	7(23.3)	1.582	5	0.903 ^{NS}
(em)	156-160	8(26.7)	8(26.7)			
	161-165	5(16.7)	6(20.0)			
	166-170	3(3.3)	1(3.3)			
	Mean±SD	69.09±10.001	72.24±19.699	0.364	;	3 0.948 ^{NS}
	Below 60	6(20.0)	6(20.0)			
Weight	61-70	11(36.7)	9(30.0)			
(rg)	71-80	9(30)	10(33.3)			
	above 80	4(13.3)	5(16.7)			
	Mean±SD	28.39±4.674	28.99±3.788	2.932		2 .231 ^{NS}
BMI (kg/m²)	Below 25	8(26.7)	3(10.0)			
(rg/iii)	25-30	11(36.7)	15(50.0)			
	above 30	11(36.7)	12(40.0)			

(NS- Non-significant at Level of significance p≤0.05)

Table 3 depicts frequency and percentage distribution in experimental and control groups in terms of anthropometric measurement About 26.7% of the participants in both experimental and control groups had their height between 156-160 cm. About 36.7% of the experimental group and 30% of control group participants had weight between 61-70 kg. Maximum of the participants in both the groups (36.7% in experimental and 50.0% in control) had BMI between25-30kg/m².

No significance difference was observed in the anthropometric measurement of control and experimental group.

Table 4: Frequency and percentage of aggravating factor for back pain inexperimental and control groups

Aggravating factor for back	Experimental f (%)	Control f (%)
pain *	(n-30)	(n-30)
Prolong sitting	15(36.5)	18(43.9)
Prolong standing	8(19.5)	11(26.8)
Changing position	4(9.7)	5(12.2)
Banding from back	3(7.3)	4(9.7)
Lifting heavy object	3(7.3)	0
Sleeping on soft mattress	4(9.7)	2(4.8)
Touching the area of pain	1(2.4)	0
Others	3(7.3)	1(2.4)

(N-60)

*- Multiple responses were given by primigravidae.

Table 4 depicts Frequency and percentage of aggravating factor for back pain in experimental and control groups. Maximum number of participants in experimental group (36.5%) and (43.9%) in control group identified prolong sitting as the most common aggravating factor.

SECTION2: LEVEL OF BACK PAIN AMONG PARTICIPANTS OF EXPERIMENTAL AND CONTROL GROUP

H₀₁- There is no significant difference in level of back pain in experimental and control groups.

Table 5: Level of back pain among participants in pre-test in experimental

S. N	Level of back pain (VAS score)	Experimental f (%) (n-30)	Control F (%) (n-30)	X ²	df	p value
1	Mild (1-3)	5(16.6)	8(26.6)			
2	Moderate (4-6)	21(70)	18(60)	F 746	2	0.765
3	Severe (7-9)	3(10)	3(10)	5.740	3	NS
4	Worst (10)	1(3.3)	1(3.3)			

and control group

(N-60)

(NS- Non-significant at Level of significance p≤0.05)

Table 5 depicts Level of back pain among participants in pre-test. The pre-testscore revealed that most of the women (70%) in experimental group and (60%)in control group reported moderate pain.

So, it was concluded that participants in both experimental and control group were homogenous with respect to the level of back pain and they significantly similar at baseline.

No significance difference was observed in the pre-test level of back pain in the experimental and control group.



Fig 4: Column diagram showing level of pain among participants of experimental and control group in pre-test

Table 6: Mean and standard deviation of pain score among participants in

pre-test in experimental and control group

(N-60)

S. N	Groups	Mean	SD	t-value	P-value
1	Experimental	5.13	1.776	0 429	0.67 ^{NS}
2	Control	4.93	1.837	0.420	0.07

(NS- Non-significant at Level of significance p≤0.05)

Table 6 depicts the pain score of the participants in the pre-test. Mean score of experimental and control group were found to be 5.13 and 4.93 with a SD of 1.776 and 1.837 respectively. Non-significant p- value shows that, the pain in participants of both groups was similar in pre-test.



Fig 5: Box plot showing mean pain score among participants of

experimental and control group in pre-test

Table 7: Level of back pain among participants in post-test in

experimental and control group

S. N	Level of back pain (VAS Score)	Experimental f (%) (n-30)	Control f (%) (n-30)	x²	df	p value
1	No pain	5(16.6)	0			
2	Mild (1-3)	17(56.6)	0			4 0 0 0 5
3	Moderate (4-6)	8(26.6)	8(26.6)	44	4	≤.000 ^s
4	Severe (7-9)	0	16(53.3)			
5	Worst (10)	0	6(20)			

(N-60)

(S-significant at Level of significance p≤0.05)

Table 7 depicts Level of back pain among participants in post-test. The posttest score revealed that most of the women (56.6%) in experimental group reported mild pain. About 53.3% women in control group reported severe pain.



Fig 6: Column diagram showing level of pain among participants of experimental and control group in post-test

Table 8: Mean score and standard deviation of pain score among

participants in post-test in experimental and control group

(N-	-60)
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S. N	Groups	Mean	SD	t-value	P-value
1	Experimental(n-30)	2.4	1.653	40.500	< 000*
2	Control(n-30)	7.8	1.669	-12.592	≤.000*

(S-significant at Level of significance p≤0.05)

Table 8 depicts the pain score of the participants in the post-test. Mean pain score of experimental and control group were found to be 2.4 and 7.8 with a SD of 1.653 and 1.669 respectively. Significance difference was found (at the level P<0.05) in experimental and control group, shows that the nurse-led educational intervention package was effective in reducing the back pain among the primigravidae women in the experimental group.



Fig 7: Box plot showing mean pain score among participants of experimental and control group in post-test

COMPARISON OF THE PAIN OF PARTICIPANTS OF IN PRE AND POST TEST

Level of back Pre-test f Post-test f **X**² S. N df pain p value (%) (%) (VAS Score) 1 0 5(16.6) No pain 2 Mild (1-3) 5(16.6) 17(56.6) 3 ≤0.000^S Moderate (4-6) 21(70) 8(26.6) 16.08 4 4 Severe (7-9) 3(10) 0 5 Worst (10) 1(3.3) 0

Table 9: Level of pain in pre and post-test in experimental group.

(N-30)

(S- significant at Level of significance p≤0.05)

Table 9 depicts the comparison of pain score of participants in pre-test and posttest. Majority of participants (70.0%) reported moderate pain in pre-test. After nurse-led educational intervention, in post-test about 56.6% participants reported mild pain, 26.6% moderate pain and 16.6 % reported no pain at all. Significant difference at the level of p<0.05 was found in the pre-test and post-test pain scores of experimental groups.



Fig 8: Column diagram showing level of back pain in pre and post-test in

experimental group

S. N	Level of back pain (VAS Score)	Pre-test f (%)	Post-test f (%)	X ²	df	p value
1	Mild (1-3)	8(26.6)	0			
2	Moderate (4-6)	18(60)	8(26.6)	24 24 2	2	< 000\$
3	Severe (7-9)	3(10)	16(53.3)	24.312	3	≤ .000°
4	Worst (10)	1(3.3)	6(20)			

Table 10: Level of pain in pre and post-test in control group

(N-30)

(S- significant at Level of significance p≤0.05)

Table 10 depicts comparison of level of pain in pre and post-test in control group. The pain score of participants in pre-test and post-test. majority of participants (60.0%) reported moderate pain in pre-test. In post-test about 53.3% participants reported severe pain and 20% reported worst pain. Results show that level of back pain increased in post-test in the control group in which routine antenatal care was provided.



Fig 9: Column diagram showing level of back pain in pre and post-test in

control group

		Mean	±SD		
S. N	Groups	Pre-test	Post-test	t-value	p-value
1	Experimental group	5.13±1.776	2.4±1.653	-10.42	≤0.000S
2	Control group	4.93±1.837	7.8±1.669	10.145	≤0.000S

Table 11: Mean and standard deviation of pre and post-test inexperimental and control groups

(N-60)

(S- Significant at Level of significance p≤0.05)

Table 11 shows pain score in pre and post-test in experimental and control groups. Mean score of pre-test and post-test were found to be 5.13 and 2.4 with a SD of 1.776 and 1.653 respectively in experimental group and the mean score of pre-test and post-test in the control group were 4.93 and 7.8 with a SD of 1.837 and 1.669 respectively. When compared with pre-test, the pain score of participants in the experimental group was decreased significantly while that of the control group was found to be increased significantly.



Fig 10: Box plot showing mean pain score of pre and post-test in

experimental group



Fig 11: Box plot showing mean pain score of pre and post-test in control

group

						(10-00)
		Pre	e-test	Post-	test	Mean %
Groups	Maximum VAS score	Mean	%	Mean	%	difference
Experimental	10	5.13	51.30%	2.4	24%	54%
Control	10	4.93	49.30%	7.8	78%	0-170

Table12: Mean score and mean percentage difference of pre and post-test in experimental and control groups

(11 00)

Table 12 shows mean score and mean percentage difference of pre and posttest in experimental and control group. This mean difference (54%) shows, there was reduced level of back pain in experimental group.

Majority of participants of both experimental and control group had low back pain with moderate intensity (4-6) in pre-test. In the post-test, experimental group participants were reported that back pain was reduced after the implementation of nurse-led educational intervention package, whereas control group participants reported enhancement in back pain. The nurse-led educational intervention package was found to be effective in reducing back pain in experimental group. Therefore, the null hypothesis (H₀₁) was rejected.

SECTION3: ASSESSMENT AND COMPARISION ACTIVITY OF DAILY LIVING AMONG PARTICIPANTS OF EXPERIMENTAL AND CONTROL GROUP

H₀₂- There is no significant difference in activity of daily living in experimental and control groups

Table-13: Assessment of activity of daily living among participants ofexperimental and control group in pre-test

(N-60)

S. N	Activity of daily living	Experimental f (%) (n-30)	Control f (%) (n-30)	X ²	df	p value
1	Complete independent	25(83.3%)	23(76.6%)	0 417	1	E10NS
2	Moderate impairment	5(16.6%)	7(23.3%)	0.417		.519 ¹¹⁰

* No participants had complete dependent ADL

(NS- Non-significant at Level of significance p≤0.05)

Table 13 depicts assessment of activity of daily living among participants in pre-test. About 83.3% in experimental group and 76.6% in control group participants were complete independent during pre-test.

No significance difference was found in the ADL of experimental and control group at p <0.05



Fig 12: Column diagram showing activity of daily living among participants of experimental and control group in pre-test

Table-14: Mean and standard deviation of activity of daily living among

participants of experimental and control group in pre-test

(N-60)

()

S. N	Groups	Mean	SD	t-value	P-value	
1	Experimental	19.76	0.626	0 730	0 462NS	
2	Control	19.63	0.764	0.755	0.400	

(NS- Non-significant at Level of significance p≤0.05)

Table 14 shows about the comparison of activity of daily living among participants of experimental and control group in pre-test. The mean score for participants in the experimental group was 19.76 with a SD of 0.626 while the participants in the control group had a mean score of 19.63 with a SD of 0.764. The results showed that there is no significant difference in ADL of primigravidae in the experimental and control group.

Table-15: Assessment of activity of daily living among participants of

experimental and control group in post-test

						(N-60)
S. N	Activity of daily	Experimental Control f (%)				
	living	(n-30)	f (%) (n-30)	X ²	df	p value
1	Complete independent	25(83.3%)	23(76.6%)	0.417	1	.519 ^{NS}
2	Moderate impairment	5(16.6%)	7(23.3%)			

(NS- Non-significant at Level of significance p≤0.05)

Table 15 depicts assessment of activity of daily living among participants inpre-test.About 83.3% in experimental group and 76.6% in control groupparticipants were complete independent during post-test.

No significance difference was observed in the ADL in post-test among participants in experimental and control group.





participants of experimental and control group in post-test

Table-16: Mean and standard deviation of activity of daily living among

participants of experimental and control group in post-test

(N-60)

S. N	Groups	Mean	SD	t-value	P-value	
1	Experimental	19.76	0.626	0 739	0 463 ^{NS}	
2	Control	19.63	0.764	0.700	0.400	

(NS- Non-significant at Level of significance p≤0.05)

Table 16 represents the comparison of activity of daily living among participants of experimental and control group in post-test. The mean score for participants in the experimental group was 19.76 with a SD of 0.626 while the participants in the control group had a mean score of 19.63 with a SD of 0.764. The results showed that there is no significant difference in activity of daily living among participants in the experimental and control group.

Since the results suggests that there is no significant difference in activity of daily living among participants in the experimental and control group. Therefore, the null hypothesis(H₀₂) was accepted.

SECTION 4: ASSOCIATION OF THE LEVEL OF BACK PAIN WITH THE

PERSONAL VARIABLE

Table 17: Association of the level of back pain with selected personal

variables in experimental group

(N-30)

				Fisher's Exact test					
Var	Variable		Moderate	Severe	Worst	st Value Df P-valu			
	20-30	0	4	1	1	Value		i value	-
_	24-27	3	14	0	0				
Age	28-31	2	2	1	0	13.799	9	.125 ^{NS}	
	32-35	0	1	1	0				
Religion	Hindu	5	20	3	1	3 154	3		
itengien	Muslim	0	1	0	0	01101	U	1100	
	Primary education	0	1	0	0				
Educational status	High school education	1	2	0	0	5.218	6	.782 ^{NS}	
	Graduation and above	4	18	3	1				
	Government job	1	0	1	0	14.651	9	0.92 ^{NS}	
	Private job	0	6	0	0				
Occupation	Self- employed	1	0	0	0				
	Home maker	3	15	2	1				
	High school education	0	1	0	0				
Education of husband	Higher secondary education	0	1	0	0	6.341	6	1.00 ^{NS}	
	Graduation and above	5	19	3	1				
Family income	10,000 or less	1	1	1	0	5 5 1	e	FOONS	
per month	10,001-50,000	3	12	1	1	0.04	U	.509.10	

	More than 50,000	1	8	1	0			
Height	141-145 146-150 151-155 156-160 161-165 166-170	0 0 2 2 1	1 4 6 2 2	0 1 1 0 1 0	0 0 1 0 0 0	14.931	15	.607 ^{NS}
Weight	Below 60 61-70 71-80 above 80	1 1 2 1	5 9 5 2	0 1 1 1	0 0 1 0	6.701	9	0.815 ^{NS}
BMI	Below 25 25-30 above 30	2 1 2	6 9 6	0 1 2	0 0 1	4.514	6	.744 ^{NS}

(NS- Non-significant at Level of significance p≤0.05)

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Table 17 delineate association of the level of back pain with selected personal variables in experimental group. No personal variable was found to be significantly associated with level of back pain in experimental group at p<0.05 level of significance.

Table 18: Association of the level of back pain with selected personal

variables in control group

(N-30)

		Level of back pain				Fisher's Exact test		
Varia	Variable		Moderate	Severe	Worst	Value	Df	P-value
	20-30	1	3	0	0			
٨	24-27	4	10	0	1	11 505	0	1 EONS
Age	28-31	3	2	3	0	11.525	9	.159"
	32-35	0	3	0	0			
Poligion	Hindu	8	17	3	1	3 1/6	3	1 000NS
Religion	Muslim	0	1	0	0	5.140	3	1.000
	No formal education	0	1	0	0			
	High school education	2	3	0	0	6.144	9	1.000 ^{NS}
Educational status	Higher secondary education	1	3	0	0			
	Graduation and above	5	11	3	1			
	Government job	1	1	0	0		9	.350 ^{NS}
	Private job	3	2	0	1	10.281		
Occupation	Self- employed	0	2	0	0			
	Home maker	4	13	3	0			
	High school education	1	3	0	0	3.355	6	
Education of husband	Higher secondary education	1	2	1	0			.949 ^{NS}
	Graduation and above	6	13	2	1			

	10,000 or less	1	2	0	0			
Family income per month	10,001- 50,000	4	9	1	1	3.117	6	.977 ^{NS}
·	More than 50,000	3	7	2	0			
	141-145	1	1	0	0			
	146-150	3	3	0	0	13.408	15	.877 ^{NS}
Hoight	151-155	2	4	1	0			
neight	156-160	2	5	1	0			
	161-165	0	4	1	1			
	166-170	0	1	0	0			
	Below 60	2	4	0	0			
Waight	61-70	3	4	2	0	6 9 1 1	0	70 / NS
weight	71-80	2	7	0	1	0.044	9	.704.10
	above 80	1	3	1	0			
	Below 25	1	2	0	0			
BMI	25-30	3	9	2	1	3.117	6	.977 ^{NS}
	above 30	4	7	1	0			

(NS- Non-significant at Level of significance p≤0.05)

Table 18 delineate association of the level of back pain with selected personal variables in control group.No personal variable was found to be significantly associated with level of back pain at p<0.05 level of significance.

MAJOR FINDING OF THE STUDY

SAMPLE CHARACTERISTICS

Mean age in the experimental group was 26.07 years and in control group mean age was 26.97 years. About 56.7% in experimental group, whereas 50.0% in control group belonged to the age group of 24-27 years.

Almost all participants (96.7 %) were Hindu. Maximum participants (86.7%) in experimental and (66.7%) in control group were graduate and above.

About 70.0% of total participants in experimental group and 66.7 % in control group were home-maker. More than half (56.7%) in experimental group and (50.0%) in control group had family income between Rs. 10,001-50,000.About 26.7% of the participants in both experimental and control groups had their height between 156-160 cm. About 36.7% of the experimental group and 30% of control group participants had weight between 61-70 kg. Maximum of the participants in both the groups (36.7% in experimental and 50.0% in control) had BMI between 25-30 kg/m².

Primigravidae in experimental group (36.5%) and (43.9%) in control group identified prolonged sitting as the most common aggravating factor for back pain.

LEVEL OF BACK PAIN AND ADL

The pre-test score revealed that most of the women (70%) in experimental group and (60%) in control group reported moderate pain. Both the groups were similar in level of back pain.

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The post-test score revealed that more than half of the women (56.6%) in experimental group reported mild pain. About 53.3% women in control group reported severe pain.

Nurse-led educational intervention package was effective in reducing level of back pain in experimental group. (p<0.05)

Majority of participants from experimental group(83.3%) and control group(76.6%) could perform their daily activities independently.

No significant difference was found in the ADL among primigravidae in experimental and control group.

DISCUSSION

Present study was aimed to assess the effectiveness of nurse-led educational intervention package on the back pain and activity of daily living in pregnant women. Discussion is presented based on the objectives and hypothesis of the study comparing and contrasting the findings of the present study with findings of the similar studies.

DISCUSSION OF FINDINGS ABOUT SAMPLE CHARACTERISTICS

Majority of the participants of inclusion criteria belonged to the age group of 24-27 years and mean age (In year) in experimental group was 26.07and26.97in control group. In similarity, to a randomized controlled trial completed by **Haugland K.S, etal.** found28.9 years mean age.⁽³²⁾. **Morino. S, etal.** mentioned the mean age 31 years of the inclusive participants in their cohort study.(33)In similar to this cohort study, mean age of the pregnant women about 31.0 was found in a study according to **Robinson HS, et al.**⁽³⁵⁾

In this study, primigravidae women who took part in this study had educational qualification of graduation and above (86.7% in experimental and 66.7% in control group). In parallelism, a research finding according to **Robinson HS, et al.** described that, plurality of pregnant women of inclusion criteria had university level qualification and some have above.⁽³⁴⁾

Mean height (in cm.) of primigravidae women in this study was 156.36 in experimental and 152.79 in control group. Similar to this findings, author Lene **A.H, et al.** carried out a randomized control trial and they found mean height of the participants was 169 cm.⁽⁹⁾ In clinical control trial carried out by **Beyaz E, et al.** the mean height of 161.93 cm was found for the participants.⁽³⁵⁾

In present study mean weight (in Kg) of the participants in experimental group was 69.09 and in control group was 72.24.Similar finding was reported by **Beyaz E et al.** and they found mean weight (in Kg)of experimental group was 61.02 and 59.42 in control group.⁽³⁵⁾

The results of this study show, the mean and SD of body mass index (In kg/m²) in experimental group was 28.39±4.674 and in control group was 28.99±3.788.Similar to present study results, **Kluge J et al**. found the mean BMI in experimental group was 26.3 and 30.4 in control group in their study.⁽³⁶⁾

The majority of participants in experimental (37.5%) and control group (43.9%) stated that they perceived more pain in their back during prolonged sitting. Result of this study identical with another study which was conducted by the **Morino S etal.** They found that sitting, walking, standing from chair caused the back pain in pregnant women.⁽³³⁾

Gutke A et al. in their study identified that some activities which was unsuitable for pregnant women were lifting heavy object, running and heavy work.⁽³⁷⁾

DISCUSSION OF FINDINGS ABOUT LEVEL OF BACK PAIN

In current study, plurality of primigravidae of experimental (70%) and control group (60%) had reported moderate pain in pre-test and in post-test 56.6% primigravidae women in experimental group reported mild pain whereas 53.3% primigravidae in control group reported severe pain.

Significant difference (p<0.05) was found between experimental and control group which shows that the Nurse-Led Educational intervention package was effective in reducing pain level among primigravidae women in experimental group. With similar to this study, author found the significance difference between groups after the implementation of intervention (P<0.01). In the study of **Kluge J et al.** participants of the experimental group pain were decreased after intervention. They mentioned that pain did not worsen in control group participants.⁽³⁶⁾ In contrary to this finding, in present study,the pain was enhanced and reported as severe by the participants of control group.

Unlike to present study results, **Haakstad LAH et al.** didn't not find any significant difference in pain level amid exercise and control group (p-0.51). Study also described that there was no negative outcome was observed on participants of the study.⁽⁹⁾

Similar to this study results, **Garshasbi A et al.** found significant association (p<0.0001) in level of pain amid exercise and control group after the exercise schedule.⁽²⁶⁾

DISCUSSION OF FINDINGS ABOUT ACTIVITIES OF DAILY LIVING

Present study outcome described that about 83.3 % in experimental and 76.6 % in control group participants were complete independent and 16.6% in experimental and 23.3% in control group participants were moderate

impairment. No significance difference (p=0.519) was observed in ADL in pre and post-test among primigravidae women in experimental and control group. Unlike to this study, **Kluge J et al.** in their study described that there was improvement (p-0.06) in functional ability of pregnant women in study group. They found that there was no significant difference in control group participants in terms of pain intensity and functional ability(0.70).⁽³⁶⁾

SUMMARY OF CHAPTER

Analysis and explanation of the collected data from 60 primigravidae women about their back pain and ADL and impact of the nurse-led educational intervention on back pain in pregnant women were dealt in this chapter.

Chapter V Summary, Conclusion And Recommendations

SUMMARY CONCLUSION AND RECOMMENDATIONS

This chapter provides a concise account of the current study comprise the conclusion from finding, limitation, implication of the study and recommendation for future study.

SUMMARY

A quasi-experimental study was completed in ANC OPD of AIIMS, Jodhpur Rajasthan. The total of 60 primigravidae women of 18-35 years were taken as study samples were selected through a non-probability consecutive sampling technique and data was collected through questionnaire, VAS scale and self-structured checklist for ADL.

The objectives of the study were

- 1. To assess and compare the level of back pain among primigravidae in control and experimental group.
- 2. To assess and compare the activity of daily living among primigravidae in control and experimental group.
- 3. To determine the association of level of back pain with selected personal variable

Data was collected form primigravidae women through self-report and interview technique. Data was analysed for frequency, mean and standard deviation, t-test for comparing the mean and chi-square and fisher-exact test was used to find out homogeneity and association.

SUMMARY OF MAJOR FINDINGS

 Maximum number of participants in experimental group (36.5%) and (43.9%) in control group identified prolong sitting as the most common aggravating factor for back pain.

- Significant difference (p<0.05) was found in the level of back pain in experimental and control group which shows that the Nurse-Led Educational intervention package was effective in reducing pain level among primigravidae women in experimental group.
- Results suggests that there is no significant difference in activity of daily living among participants in the experimental and control group
- No personal variable was found to be significantly associated with level of back pain in experimental group and control group.

STRENGTH OF STUDY

- This study aims to explore a very important antenatal health concern during pregnancy
- Inspite of the pandemic COVID-19 a control group was kept to compare the findings of the study

LIMITATIONS OF THE STUDY

- Post-test was taken through telephone
- Self-report regarding compliance to exercise was used as the compliance to exercise schedule could not be checked in person

IMPLICATION

Nursing is a skill and science. It is rooted on the present knowledge i.e., repeatedly changing with new findings, new ideas, technique, update of knowledge and motivation.

THE IMPLICATION IN NURSING-

Nurses are one of the main resource folks in the health care system, the manifold of women can approach the nurses for their clear cuts of health care needs. Nurses are also available at a different level of health care delivery system. This study mainly focuses on level of back pain and activity of daily living, as we found that majority of the primigravidae women were having low back pain and for it they didn't received any treatment and therapy. So, nurses should educate the pregnant women regarding pharmacological and non-pharmacological treatment and regular antenatal follow-up.

THE IMPLICATION IN PRACTICE-

The Nurse-led educational intervention package was found effective in reducing the back pain among primigravidae women in experimental group. Nurse should educate the pregnant women about antenatal exercise which will lead to decreasing in the pain and avoid deteriorating health status.

NURSING RESEARCH-

Further studies can be carried out on a larger population of primigravidae women and can be done as community-based study. Similar studies can also be performed in different settings.

Findings of this study can form a base to develop structured midwife-led educational counselling to reduce back pain among primigravidae women.

RECOMMENDATION-

- A similar study can be performed on a large scale
- Separate studies can be performed to differentiate between low back pain, pelvic girdle pain and lumbo-pelvic pain.
- Exercise schedule should be included in routine antenatal care

CONCLUSION

This study concludes that majority of primigravidae women had back pain during pregnancy and participants identified prolonged sitting as the most common aggravating factor. Nurse-Led Educational intervention package was effective in reducing level of back pain among primigravidae women in experimental group.

There was no significant difference in activity of daily living among participants in the experimental and control group. No personal variable was found to be significantly associated with level of back pain in experimental and control group.

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Appendices

Appendix- I

ALL INDIA INSTITUTE OF MEDICAL SCIENCES JODHPUR, RAJASTHAN

INFORMED CONSENT FORM

Title of the project: - Effectiveness of nurse-led educational intervention package on back pain and activity of daily living among primigravidae with back pain at AIIMS, Jodhpur

Name of principle investigator: - Mr. Ghanshyam (MSc. Nursing) Mob. 9549154793

Participant Identification No.: -

I, _____D/O or W/O______R/O_____

give full, voluntary consent to be a part of the study "Effectiveness of nurse-led educational intervention package on back pain and activity of daily living among primigravidae with back pain at AIIMS jodhpur, Rajasthan" the procedure and nature of which has been explained to me in my own language to my full satisfaction. I confirm that I have had the opportunity to ask question.

I understand that my participation is voluntary and I am aware of my right to opt out of the study at any time without giving any reason.

I understand that the information collected about me, may be looked at by responsible individual from All India Institute of Medical Sciences, Jodhpur, Rajasthan. I give permission to these individuals to have access to my records.

Date: - _____

Place: - _____

Signature/ Left thumb impression

This is to clarify that the above consent has been obtained in my presence.

Date: - _____

Place: -_____

Signature of principle investigator

Appendix – II

अखिल भारतीय आर्युविज्ञान संस्थान, जोधपुर (राज.)

सूचित सहमति प्रपत्र

परियोजना का शीर्षक : "एम्स जोधपुर में पीठ दर्द के साथ प्राथमिक प्रसव महिलाओं में पीठ दर्द का और दैनिक गतिविधी पर नर्स के नेतृत्व में शैक्षिक पैकेज की प्रभावषिलता का अध्ययन" अन्वेषक का नाम : घनष्याम (एम. एस. सी. नर्सिंग)

पहचान संख्याः

मैं पत्नी ⁄ पुत्री

..... निवासी

..... : "एम्स जोधपुर में पीठ दर्द के साथ प्राथमिक प्रसव महिलाओं में पीठ दर्द और दैनिक गतिविधी पर नर्स के नेतृत्व में शैक्षिक पैकेज की प्रभावषिलता का अध्ययन" में जिसकी प्रक्रिया और प्रकृति मुझे मेरी अपनी भाषा में पूर्ण संतुष्टि के साथ समझा दी गयी है, मैं भाग लेने के लिए अपनी पूर्ण स्वतंत्र एवं स्वैच्छिक सहमति देती हूँ। मैं पूष्टि करती हूँ कि मुझे सवाल पूछने का अवसर दिया गया है।

मैं समझती हूँ कि मेरी भागीदारी स्वैच्छिक है और मैं अपने इस अधिकार से अवगत हूँ कि मैं किसी भी समय बिना कोई कारण दिए इस अध्ययन में अपना नाम वापस ले सकती हूँ। मैं समझती हूँ कि मेरे बारे में एकत्र जानकारी एम्स जोधपुर के किसी भी जिम्मेदार व्यक्ति द्वारा या नियामक अधिकारीयों द्वारा देखी जा सकती है। मैं उपरोक्त व्यक्तियों को मेरे द्वारा दी गई जानकारी देखने की अनुमति देती हूँ।

दिनांक : स्थान :

हस्ताक्षर :

यह प्रमाणित है कि उपरोक्त सहमति मेरी उपस्थिति में प्राप्त की गयी है।

दिनांक	:
स्थान :	

हस्ताक्षर अन्वेषक

साक्षी हस्ताक्षर नाम दिनांक साक्षी हस्ताक्षर नाम दिनांक

Appendix – III

PARTICIPANT INFORMATION SHEET

<u> Part-1</u>

- 1. **Purpose of the study**: Effectiveness of nurse-led educational intervention package on back pain and activity of daily living among primigravidae with back pain at AIIMS, Jodhpur.
- 2. **Study procedures to be followed:** Effectiveness of Nurse-Led educational intervention package on back pain and activity of daily living among primigravidae will be assessed.
- 3. **Benefits from the study:** The study findings would help in devising strategy, Nurseled educational intervention package helps to manage back pain and improve in activity daily living among primigravidae who suffer with back pain during pregnancy.
- 4. Risks of the study: None
- 5. Complications of the study: None
- 6. **Confidentiality:** Data collected from the participants shall not be shared with anyone except the study investigators.
- 7. **Rights of participants:** Participants would have the freedom to share their data and to continue or leave the study if they desire so.

Participant Signature:

Participant Name:

Date:

Part-2

Investigator's word

I have explained the purpose, procedures, benefits and harms of the study in detail to the participant. All information regarding the study has been disclosed and enough opportunity for asking questions regarding the study was given to the study participant.

Principal investigator signature:

Name:

Witness signature:

Name:

Date:

Date:

Appendix - IV

प्रतिभागी सूचना पत्र

भाग – 1

अध्ययन के उद्देषय :

एम्स जोधपुर में पीठ दर्द के साथ प्राथमिक प्रसव महिलाओं के पीठ दर्द और दैनिक जीवन की गतिविधी पर नर्स के नेतृत्व में शैक्षिक पैकेज की प्रभावशीलता का अध्ययन।

अध्ययन प्रक्रिया का पालन किया जाएगा :

पीठ दर्द और दैनिक जीवन की गतिविधीयों पर नर्स के नेतृत्व में शैक्षिक पैकेज की प्रभावशीलता का आंकलन किया जाएगा।

अध्ययन के लाभ :

नर्स के नेतृत्व में शैक्षिक पैकेज से पीठ दर्द और दैनिक गतिविधीयों में सुधार होगा।

अध्ययन का जोखिम : नहीं।

अध्ययन की जटिलता : नहीं।

गोपनियताः

प्रतिभागी से एकत्र किए गए आंकड़े का अध्ययन जाँचकर्ता के अतिरिक्त किसी अन्य के साथ साझा नहीं किया जाएगा।

<u>प्रतिभागी को अधिकार :</u>

प्रतिभागी को अपने आंकड़े को साझा करने और अपनी इच्छा के अनुसार अध्ययन जारी रखने या छोडने की स्वतंत्रता होगी।

प्रतिभागी के हस्ताक्षर :

प्रतिभागी का नाम :

दिनांक :

भाग – 2

अन्वेषक के शब्द

मैंने प्रतिभागी को विवरण में उद्देशय, प्रक्रिया लाभ और अध्ययन के नुकसान की व्याख्या की है। अध्ययन के बारे में सभी जानकारी का खुलासा किया है और अध्ययन के बारे में प्रश्न पुछने के लिए पर्याप्त अवसर प्रतिभागी को दिए है।

प्रमुख जाँचकर्ता हस्ताक्षर	गवाह के हस्ताक्षर
नाम :	नामः
दिनांक :	दिनांक :

Appendix - V

PERMISSION LETTER FROM INSTITUTIONAL ETHICAL COMMITTEE



अखिल भारतीय आयुर्विज्ञान संस्थान, जोधपुर All India Institute of Medical Sciences, Jodhpur संस्थागत नैतिकता समिति Institutional Ethics Committee

No. AIIMS/IEC/2020/3108

Date: 01/06/2020

ETHICAL CLEARANCE CERTIFICATE

Certificate Reference Number: AIIMS/IEC/2020-21/3026

Project title: "Effectiveness of nurse led educational intervention package on back pain and activity of daily living among primigravidae with back pain at AIIMS Jodhpur"

Nature of Project:	Research Project Submitted for Expedited Review
Submitted as:	Student Research Project, as a part of Academic Programme
Investigator:	Ghanshyam
Supervisor:	Mr. Himanshu Vyas
Co-Supervisor:	Dr. Shashank Shekhar & Dr. Nitesh Gonnade

Institutional Ethics Committee after thorough consideration accorded its approval on above project.

The investigator may therefore commence the research from the date of this certificate, using the reference number indicated above.

Please note that the AIIMS IEC must be informed immediately of:

- Any material change in the conditions or undertakings mentioned in the document.
- Any material breaches of ethical undertakings or events that impact upon the ethical conduct of the research.

The Principal Investigator must report to the AIIMS IEC in the prescribed format, where applicable, bi-annually, and at the end of the project, in respect of ethical compliance.

AIIMS IEC retains the right to withdraw or amend this if:

- Any unethical principle or practices are revealed or suspected
- Relevant information has been withheld or misrepresented

AIIMS IEC shall have an access to any information or data at any time during the course or after completion of the project.

Please Note that this approval will be rectified whenever it is possible to hold a meeting in person of the Institutional Ethics Committee. It is possible that the PI may be asked to give more clarifications or the Institutional Ethics Committee may withhold the project. The Institutional Ethics Committee is adopting this procedure due to COVID-19 (Corona Virus) situation.

If the Institutional Ethics Committee does not get back to you, this means your project has been cleared by the IEC.

On behalf of Ethics Committee, I wish you success in your research.

Sharma **Member Secretary**

Member secretary Institutional Ethics Committee AIMS, Jodhpur

Basni Phase-2, Jodhpur, Rajasthan-342005, Website: www.aiimsjodhpur.edu.in, Phone: 0291-2740741 Extn. 3109 Email: ethicscommittee@aiimsjodhpur.edu.in

Appendix - VI

TOOL (ENGLISH)

PART A: PERSONAL VARIABLE

Code no: -____

Instructions: Please read the questions carefully and give the appropriate answer

1. Age:

.....

- 2. Religion
- a. Hindu
- b. Sikh
- c. Muslim
- d. Christian
- e. Any other specify (.....)
- 3. Educational status
- a. No formal education
- b. Primary education
- c. High school education
- d. Higher secondary education
- e. Graduate and above

4. Occupation

- a. Government job
- b. Private job
- c. Self-employed
- d. Home-maker
- 5. Education of husband
- a. No formal education
- b. Primary education
- c. High school education
- d. Higher secondary education
- e. Graduate and above
- 6. Family income per month
- a. 10,000 or less
- b. 10,001 50,000
- c. More than 50,000

- 7. Height (In Cm.)
- 8. Weight (Kg.)
- 9. Body Mass Index (BMI) (Kg/M²)
- 10. Aggravating Factor for back pain:
 - a. Prolong sitting
 - b. Prolong standing
 - c. Changing position
 - d. Bending from back
 - e. Lifting heavy object
 - f. Sleeping on soft mattress
 - g. Touching the area of pain
 - h. Others

0	1	2	3	4	5	6	7	8	9	10
Ι	I	I	I	I	I	I	I	1	I	I
NOP	AIN	Anr (mi	noying Id)	Uı (n	ncomf nodera	ortable ite)	(:	lorrible severe)	2	V O R S T

PART B: VISUAL ANALOG SCALE

PART C: SELF- STRUCTURED CHECKLIST FOR ACTIVITY OF DAILY LIVING

INSTRUCTION

This checklist is designed to provide information about how your back pain affects the daily activities of your life. Please mark ($\sqrt{}$) in the appropriate column as per your ability to do following.

S. N	ltems	Perform independently (No assistance required)	Partially dependent (Some assistance required)	Dependent (Complete assistance required)
		(2)	(1)	(0)
1	Ambulation			
2	Bathing			
3	Toileting			
4	Eating			
5	Sitting			
6	Standing			
7	Sleeping			
8	Grooming			
9	Climbing stairs			
10	Cooking			

SCORING

Criteria	Score
Perform independently	2
Partially dependent	1
Dependent	0
	Criteria Perform independently Partially dependent Dependent

INTERPRETATION

S.N	Criteria	Interpretation score
1	Complete independent	20
2	Moderate impairment	>10<20
3	Severe impairment	<10
4	Complete dependent	0

Appendix - VII

TOOL (HINDI)

<u>भाग – 1 : व्यक्तिगत आंकड़े</u>

कोड संख्याः

निर्देष : कृपया प्रष्नों को ध्यानपूर्वक पढकर सही उत्तर दे। 1. उम्र :

2. धर्म :

- (अ) हिन्दू
- (ब) सिक्ख
- (स) मुस्लिम
- (द) ईसाई
- (य) अन्य कोई (.....)
- 3. शैक्षणिक स्थिति :
 - (अ) अशिक्षित
 - (ब) प्राथमिक शिक्षा
 - (स) माध्यमिक शिक्षा
 - (द) उच्च माध्यमिक शिक्षा
 - (य) स्नातक

4. व्यवसाय ः

- (अ) सरकारी सेवा
- (ब) निजी सेवा
- (स) स्वनियोजित
- (द) गृहणी
- 5. पति की षिक्षा :
 - (अ) अशिक्षित
 - (ब) प्राथमिक शिक्षा
 - (स) माध्यमिक शिक्षा
 - (द) उच्च माध्यमिक शिक्षा
 - (य) स्नातक
- 6. परिवार की प्रतिमाह आय :
 - (अ) 10,000 या कम

- (ब) 10,001 से 50,000
- (स) 50,000 से अधिक
- 7. ऊँचाई : (सै.मी.)
- ८. वजन : (कि.ग्रा.)
- 9. शरीर वजन सूचकांक(BMI): (कि.ग्रा.) / मीटर²

10. पीठ दर्द की तिव्रता के कारण :

- (अ) लम्बी अवधी तक बैठना
- (ब) लम्बी अवधी तक खड़े रहना
- (स) स्थिति बदलना
- (द) पीठ से झुकना
- (य) भारी वजन उठाना
- (र) नर्म गद्दे पर सोना
- (ल) पीठ में दर्द के क्षेत्र को छुना
- (व) अन्य

भाग - 2 VISUAL ANALOG SCALE

VISUAL ANALOGUE SCALE													
0	1	2	з	4	5	6	7	8	9	10			
1	1	1	1	I	1	1	I	1	I	I			
ΝΟΡΑ	IN	Anr (mi	noying Id)	Ui (n	ncomf nodera	ortable ite)	≥ F (:	lorrible severe)	2	W O R S T			

भाग – 3 : (दैनिक जीवन की गतिविधि के लिए जांच पैमाना)

<u>निर्देश</u>

इस जांच सूची को यह जानकारी देने के लिए बनाया गया है, कि आपका पीठ दर्द आपके जीवन की दैनिक गतिविधि को कैसे प्रभावित करता है, कृपया निम्नलिखित कार्य करने की क्षमता के अनुसार उपयुक्त कॉलम में (√) चिन्हित करें।

कमांक	वस्तु	स्वतंत्र रूप से कार्य करना (कोई सहायता की आवश्यकता नहीं) (2)	आंशिक रूप से निर्भर (कुछ सहायता की आवश्यकता) (1)	आश्रित / निर्भर (पूर्ण सहायता की आवश्यकता) (0)
1	चलना फिरना			
2	रनान			
3	शौच			
4	भोजन			
5	बैठना			
6	खडा होना			
7	नींद			
8	तैयार होना			
9	सीढी चढ़ना			
10	खाना बनाना			

अंक

कमांक	मानदंड	अंक
1	स्वतंत्र रूप से कार्य करना	2
2	आंशिक रूप से निर्भर	1
3	आश्रित / निर्भर	0

व्याख्या

कमांक	मानदंड	व्याख्या
1	पूर्ण स्वतंत्र	20
2	मध्यम न्यूनता	>10<20
3	गंभीर न्यूनता	<10
4	पूर्ण आश्रित	0

Appendix – VIII

EXERCISE COMPLIANCE SHEET

INSTRUCTIONS

Please read the following carefully and tick mark how many days have you performed the exercise in last days and how many times a day have you exercised.

Exoreise	Day 1				Day 2			Day 3			Day 4			Day 5			Day 6			Day 7			Day 8			Day 9			Day 10		
Exercise	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	
Sahrmann Exercise Basic breath 1																															
Exercise 2																															
Exercise 3																															
Exercise 4																															
Exercise 5																															
Exercise 6																															

2. ROLLING															
3. Bridging															
4. Cat camel pose															

(This sheet is to be maintained by primigravidae women or family member at home)

- 1- One time a day
- 2- Two time a day
- 3- Three time a day

Appendix – IX

NURSE- LED EDUCATIONAL INTERVENTION PACKAGE

S. N.	EXERCISE	DESCRIPTION	IMAGE	Frequency of performing the exercise (To be maintained in compliance sheet)
1	Sahrmann Exercise Basic Breath शरमन एक्सरसाईज (अ) साधारण श्वास	Lie on your back with your knees bent, feet flat on the floor. Take a deep breath, exhale पीठ के बल लेट कर अपने घुटने मोड़े, गहरी श्वास लें व छोडे।		
	Exercise 1	Lying on your back, with your knees bent and feet flat on the floor, perform the basic breath. Keep one knee bent, and slowly slide the other leg out until it is parallel with the floor. Then slide the leg back into position. Alternate legs. पीठ के बल लेट कर अपने घुटने मोड़े, गहरी श्वास लें व छोडे। धीरे–धीरे एक पांव को आगे की ओर जमीन के समानांतर लम्बा कर के दुसरे पैर के घुटने मोड़े रखे। फिर पहले पैर के घुटने को मोड़े व दुसरे पैर को जमीन के समानांतर रखे।		Repeat ten times thrice a day दस बार दोहराए, दिन में तीन बार।
	Exercise 2	Perform the basic breath. Raise one knee toward your chest, and slowly straighten it out so that it is parallel to, but not touching, the floor. Return that leg to the starting position. Alternate legs. पीठ के बल लेट कर अपने घुटने मोड़े, गहरी श्वास लें व छोडे। अपने एक पांव के घुटने को छाती की तरफ उठाए, फिर पांव को जमीन की तरफ ले जाए लेकिन पांव जमीन को स्पर्श न करे। पुन पांव घुटने से मोड़े।		Repeat ten times thrice a day दस बार दोहराए, दिन में तीन बार।

	दुसरे पांव में प्रक्रिया दोहराए।	
Exercise 3	Lying on your back with knees bent and lifted up at a 90-degree angle. Perform the basic breath. Keep one leg up, while the other leg, remaining bent, drops to touch your foot to the floor, and then is raised back up. Alternate legs. पीठ के बल लेट कर अपने घुटने मोड़े, गहरी श्वास लें व छोडे। एक पांव को घुटने से मोड़ कर 90 के कोण पर उपर उढाए। फिर पुन निचे ले कर आए। एक पैर को उठाते समय दूसरे पैर के घुटने मोड़े रखे। यही प्रक्रिया दूसरे पांव में दोहराए।	Repeat ten times thrice a day दस बार दोहराए, दिन में तीन बार।
Exercise 4	Perform the basic breath, and slowly extend one leg out so that it is parallel to, but not touching the floor. Bring the leg back to a 90-degree angle, and repeat on the other leg. पीठ के बल लेट कर अपने घुटने मोड़े, गहरी श्वास लें व छोडे। कुल्हे के जोड़ को मोडते हुए दोनो पांवों के घुटने 90 के कोण पर उपर उठाए। फिर एक पांव को जमीन के समानांतर ले जाए। परन्तु पांव जमीन को स्पर्श न करे। फिर पांव को पहली स्थिति में ले आए। यही प्रक्रिया दूसरे पांव में दोहराए।	Repeat ten times thrice a day दस बार दोहराए, दिन में तीन बार।

	Exercise 5	Lying on your back with legs straight up towards the ceiling, perform the basic breath. Slowly lower both legs together toward the floor. Go only as far as you feel is comfortable, or to the point where the back strats to arch. Return to the start and repeat. पीठ के बल लेट कर अपने घुटने मोड़े, अपने हाथ जमीन से सटा कर रखे। गहरी श्वास लेते हुए दोनो पांव उपर उठाए, और श्वास छोडते हुए दोनों पांव धीरे–धीरे निचे ले के आए। नोट :– यह प्रक्रिया तभी करे जब आप ऐसा करते हुए आराम महसुस कर रहे हो।	Repeat ten times thrice a day दस बार दोहराए, दिन में तीन बार।
2	ROLLING	Lie on your back with your knees bent, feet flat on the floor. Place a pillow between your knees. Turn the lower portion of your body towards left or right without turning the upper portion of the	Repeat ten times thrice a day दस बार दोहराए, दिन में तीन बार।

		body. पीठ के बल लेट कर अपने घुटने मोड़े, अपने हाथ जमीन से सटा कर रखे। दोनो घुटनों के बीच एक तकिया रखे। कुल्हे के जोड़ से अपने नीचले शरीर को दाए या बाए मोड़े शरीर का उपरी भाग स्थिर रखे।	
3	Bridging	Lie face up on the floor, with your knees bent and feet flat on the ground. Keep your arms at your side with your palms down. Lift your hips off the ground until your knees, hips and shoulders form a straight line Hold your bridged position for a couple of seconds before easing back down पीठ के बल लेट कर अपने घुटने मोड़े, अपने हाथ जमीन से सटा कर रखे। अपने शरीर को कुल्हों से उपर उठाए, जब तक कि आपके कंधे, कुल्हे व घुटने एक सीधी रेखा में न आ जाए। फिर दस तक गिने और शरीर को सामान्य अवस्था में ले आए।	Repeat ten times thrice a day दस बार दोहराए, दिन में तीन बार।
4	Cat camel pose	Lift your start on your hands and knees making sure your hands are directly under your shoulders and your knees are directly under your hips. As you inhale look up between your eyebrows raising your head gently. As you exhale round your back bringing the chin towards your chest. Press your hands into the floor and push the center of your back up to the ceiling exaggerating the roundness of your back. चित्र के अनुसार स्थिति बनाए । श्वास लेते हुए सिर को धीरे–धीरे उपर की ओर ले जाए और कमर को जमीन की ओर ले जाए । श्वास बाहर छोड़ते हुए सिर को धीरे–धीरे छाती की ओर व कमर को उपर की ओर ले जाए तथा एक कूब की तरह आकृति बनाए ।	Repeat ten times thrice aday दस बार दोहराए, दिन में तीन बार।

GENERAL INSTRUCTIONS / सामान्य निर्देष

LYINGDOWN/ सोते समय

• Avoid lying on your back for long periods of time, particularly after the 19th week of your pregnancy.

19 सप्ताह के बाद से लम्बे समय तक कमर के बल सोने से परहेज रखे।

- - करवट लेकर (सामान्यतः बाए तरफ)सोते समय एक तकिया घुटनों के बीच रखे।
- During lying on your back, place a pillow under your knees but intermittently. कमर के बल सोते समय तकिए को अपने घुटने के निचे रखे (लम्बे समय तक न रखे)।

TURNING OVER IN BED/ करवट लेते समय

- Lying on your back.
 पीठ के बल लेटे।
- To turn your right side, bent your knees, pressing your bed with left hand turn your whole body towards your right.
 दाए तरफ करवट लेने के लिए, पहले अपने दोनो पांवों को घुटने से मोड़े, फिर बांए हाथ से अपने बिस्तर पर जोर लगाते हुए अपने पुरे शरीर को एक साथ दांयी तरफ मोड़े।
- To turn your left side, bent your knees, pressing your bed with right hand turn your whole body towards your left.
 बांए तरफ करवट लेने के लिए, पहले अपने दोनो पांवों को घुटने से मोड़े, फिर दाए हाथ से अपने बिस्तर पर जोर लगाते हुए अपने पुरे शरीर को एक साथ बांए तरफ मोडे।

GETTING OUT OF BED/ बिस्तर से उतरते हुए

 Roll onto your side with your knees bent up, move your feet over the edge of the bed and push yourself up sideways with your arms.
 प्रारम्भ में किनारे की तरफ आए, और घुटने मोड़ते हुए करवट ले। फिर अपने पांव को किनारे से निचे लटकाए। फिर हाथों से बिस्तर पर जोर देते हुए अपने शरीर को उपर उठाए, और बैठ जाए।

STANDING FROM A SITTING POSITION/ खड़े होते हुए

- Sit on the edge of the chair/ bed. बिस्तर या कुर्सी के किनारे पर बैठ जाए।
- Keeping your knees apart slightly and lean forwards till your head is directly over your knees, keeping your back straight.
 अपने दोनों घटनों को थोडा दूर रखते हुए थोडा आगे की ओर झुके, अपनी कमर सीधी रखे।
- Stand up by pushing up with your arms, shift your body weight on upper limbs, before getting off chair.
 अपने दोनों हाथों से बिस्तर के किनारे या कुर्सी के हत्थों को दबाते हुए, अपने शरीर का भार अपने हाथों पर डाल कर खडे हो जाए।

Appendix – X

LIST OF EXPERTS FOR TOOL VALIDATION

- Dr. Shashank Shekhar Professor Department of Obstetrics and Gynaecology AIIMS Jodhpur
- Dr. Garima Yadav
 Associate professor
 Department of Obstetrics and Gynaecology
 AIIMS Jodhpur
- Dr. Manisha Jhirwal Assistant professor Department of obstetrics and Gynaecology AIIMS Jodhpur
- Dr. Priyanka Kathuriya Assistant professor Department of Obstetrics and Gynaecology AIIMS Jodhpur
- Mrs. Prabha Kashyap Lecturer College of Nursing Dr. RML Hospital New Delhi
- Mrs, Parsuna Jelly Associate professor College of Nursing AIIMS Rishikesh
- Mrs. D. Kanitha Lecturer College of nursing NIMHANS

Appendix – XI

DATA CODES

GROUP

- Experimental group 1
- Control group 2

PERSONAL CHARACTERISTICS

- 1. Age
 - 20-30 1
 - 24-27 2
 - 28-31 3
 - 32-35 4
- 2. Religion
 - Hindu 1
 - Muslim 2

3. Educational status

- No Formal education 1
- Primary education 2
- High school education 3
- High secondary education 4
- Graduation and above 5

4. Occupation

- Government job 1
- Private job 2
- Self-employed 3
- Home-maker 4

5. Education of husband

- No formal education 1
- Primary education 2
- High school education 3
- Higher secondary education 4
- Graduate and above 5

6. Family income per month

- 10,000 or less 1
- 10,001 50,000 2
- More than 50,000 3

7. Height (In Cm.)

- 141-145 1
- 146-150 2
- 151-155 3
- 156-160 4
- 161-165 5

- 166-170 6
- 8. Weight (Kg.)
 - Below 60 1
 - 61-70 2
 - 71-80 3
 - Above 80 4

9. Body Mass Index (BMI) (Kg/M²)

- Below 25 1
- 25-30 2
- Above 30 3

10. Aggravating Factor for back pain:

- Prolong sitting 1
- Prolong standing 2
- Changing position 3
- Banding from back 4
- Lifting heavy object 5
- Sleeping on soft mattress -6
- Touching the area of pain 7
- Others 8

Level of back pain

- Mild (1-3) 1
- Moderate (4-6) 2
- Severe (7-9) 3
- Worst (10) 4

Activity of daily living

- Complete independent 1
- Moderate impairment 2
- Severe impairment 3
- Complete dependent 4

Appendix – XII

MASTER DATA SHEET (PERSONAL CHARACTERSTICS)

S. N	Group	Age	Age bined	Religion	Educational status	Occupation	Education Of husband	Family Income Per month	Height	Hight Binned	Height meter	Weight	Weight Binned	BMI	BMI Binned
1	1	25	2	1	5	2	5	3	152.0	3	1.520	85.7	4	37.09	3
2	1	23	1	1	5	2	5	4	153.0	3	1.530	76.7	3	32.77	3
3	1	27	2	1	5	3	5	4	160.0	4	1.600	85.7	4	33.48	3
4	1	25	2	1	5	4	5	3	161.0	5	1.610	64.0	2	24.69	1
5	1	25	2	1	5	4	5	4	156.0	4	1.560	82.7	4	33.98	3
6	1	29	3	1	5	4	5	3	169.0	6	1.690	74.2	3	25.98	2
7	1	27	2	1	5	4	5	3	159.0	4	1.590	77.6	3	30.69	3
8	1	28	3	1	5	2	5	4	147.0	2	1.470	80.0	3	37.02	3
9	1	21	1	1	3	4	4	4	150.0	2	1.500	54.2	1	24.09	1
10	1	32	4	1	5	1	5	3	164.0	5	1.640	85.6	4	31.83	3
11	1	25	2	1	5	4	5	3	153.0	3	1.530	65.0	2	27.77	2
12	1	24	2	1	5	2	5	3	156.0	4	1.560	53.6	1	22.02	1
13	1	24	2	1	5	4	5	2	162.0	5	1.620	53.8	1	20.50	1
14	1	26	2	1	5	4	5	3	143.0	1	1.430	57.5	1	28.12	2
15	1	22	1	1	5	4	5	3	154.0	3	1.540	79.6	3	33.56	3
16	1	27	2	1	5	4	5	4	149.0	2	1.490	70.2	3	31.62	3
17	1	27	2	1	5	2	5	4	152.0	3	1.520	76.7	3	33.20	3
18	1	29	3	1	5	4	5	4	150.0	2	1.500	74.9	3	33.29	3
19	1	23	1	1	5	4	5	4	167.0	6	1.670	60.4	2	21.66	1
20	1	26	2	1	5	2	5	3	154.0	3	1.540	67.6	2	28.50	2
21	1	27	2	1	5	4	5	2	167.0	6	1.670	58.1	1	20.83	1
22	1	32	4	1	5	4	5	4	157.0	4	1.570	62.4	2	25.32	2
23	1	25	2	1	5	4	5	3	161.0	5	1.610	64.9	2	25.04	2
24	1	30	3	1	5	4	5	3	154.0	3	1.540	69.4	2	29.26	2
25	1	29	3	1	3	1	5	3	163.0	5	1.630	65.2	2	24.54	1
26	1	23	1	3	2	4	3	3	160.0	4	1.600	62.5	2	24.41	1
27	1	25	2	1	3	4	5	3	160.0	4	1.600	76.0	3	29.69	2
28	1	27	2	1	5	4	5	3	156.0	4	1.560	68.1	2	27.98	2
29	1	27	2	1	5	4	5	3	148.0	2	1.480	57.6	1	26.30	2
30	1	22	1	1	5	4	5	2	154.0	3	1.540	62.8	2	26.48	2
S. N	Group	Age	Age bined	Religion	Educational status	Occupation	Education Of husband	Family Income Per month	Height	Hight Binned	Height meter	Weight	Weight Binned	BMI	BMI Binned
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1	2	35	4	1	4	4	4	3	153.0	3	1.530	63.8	2	27.25	2
2	2	27	2	1	3	4	5	3	156.0	4	1.560	54.2	1	22.27	1
3	2	28	3	1	5	4	4	4	153.0	3	1.530	61.1	2	26.10	2
4	2	25	2	3	3	4	3	2	149.0	2	1.490	66.5	2	29.95	2
5	2	30	3	1	5	1	5	4	160.0	4	1.600	80.1	4	31.29	3
6	2	27	2	1	5	2	5	4	150.0	2	1.500	72.3	3	32.13	3
7	2	27	2	1	5	4	5	3	156.0	4	1.560	71.4	3	29.34	2
8	2	28	3	1	5	4	5	4	154.0	3	1.540	66.3	2	27.96	2
9	2	28	3	1	5	4	5	4	158.0	4	1.580	81.1	4	32.49	3
10	2	27	2	1	5	4	5	3	147.0	2	1.470	64.4	2	29.80	2
11	2	22	1	1	4	4	3	2	154.0	3	1.540	68.6	2	28.93	2
12	2	28	3	1	5	4	5	3	162.0	5	1.620	68.0	2	25.91	2
13	2	24	2	1	4	4	5	3	158.0	4	1.580	75.5	3	30.24	3
14	2	24	2	1	5	4	5	3	162.0	5	1.620	85.6	4	32.62	3
15	2	25	2	1	5	4	5	3	161.0	5	1.610	80.0	3	30.86	3
16	2	26	2	1	5	1	5	3	163.0	5	1.630	91.8	4	34.55	3
17	2	20	1	1	3	4	4	3	144.0	1	1.440	55.6	1	26.81	2
18	2	26	2	1	5	2	5	4	149.0	2	1.490	78.1	3	35.18	3
19	2	27	2	1	5	3	5	4	153.0	3	1.530	58.1	1	24.82	1
20	2	25	2	1	5	2	5	3	161.0	5	1.610	73.1	3	28.20	2
21	2	23	1	1	1	4	3	4	158.0	4	1.580	68.3	2	27.36	2
22	2	34	4	1	5	4	5	4	159.0	4	1.590	83.3	4	32.95	3
23	2	25	2	1	3	4	4	3	148.0	2	1.480	75.2	3	34.33	3
24	2	26	2	1	5	2	5	3	147.0	2	1.470	57.6	1	26.66	2
25	2	23	1	1	3	4	3	3	170.0	6	1.700	78.8	3	27.27	2
26	2	28	3	1	5	4	5	4	154.0	3	1.540	77.8	3	32.80	3
27	2	27	2	1	4	4	5	4	158.0	4	1.580	44.9	1	17.99	1
28	2	35	4	1	5	2	5	4	154.0	3	1.540	59.6	1	25.13	2
29	2	28	3	1	5	3	5	2	161.0	5	1.610	72.3	3	27.89	2
30	2	31	3	1	5	2	5	3	143.0	1	1.430	62.7	2	30.66	3

MASTER DATA SHEET (AF, VAS, ADL)

S. N	Group	Af1	Af2	Af3	Af4	Af5	Af6	Af7	Af8	VAS pre	ADL Pre	VAS post	ADL Post	VAS Pre Bin	VAS Post Bin	ADL Pre Bin	ADL Post Bin
1	1	1	0	0	0	0	0	0	1	6	20	3	20	3	2	1	1
2	1	0	1	0	0	0	0	0	0	5	19	2	19	3	2	2	2
3	1	1	1	0	0	0	0	0	0	2	20	1	20	2	2	1	1
4	1	1	1	1	1	0	0	0	0	5	17	3	17	3	2	2	2
5	1	1	0	0	1	0	0	0	0	5	19	3	19	3	2	2	2
6	1	1	0	0	0	0	0	0	0	2	20	0	20	2	1	1	1
7	1	0	1	0	0	0	0	0	0	2	20	1	20	2	2	1	1
8	1	1	1	0	0	0	0	0	0	6	20	1	20	3	2	1	1
9	1	0	1	0	0	0	0	0	0	6	20	4	20	3	3	1	1
10	1	1	1	1	1	1	0	0	0	8	20	5	20	4	3	1	1
11	1	1	0	0	0	0	0	0	0	5	20	2	20	3	2	1	1
12	1	0	0	0	0	0	1	0	1	5	20	4	20	3	3	1	1
13	1	0	0	0	0	1	0	0	0	3	20	1	20	2	2	1	1
14	1	0	0	0	0	1	0	0	0	6	20	0	20	3	1	1	1
15	1	0	0	0	0	0	0	0	1	10	20	5	20	5	3	1	1
16	1	1	0	1	0	0	0	0	0	6	20	3	20	3	2	1	1
17	1	1	0	0	0	0	0	0	0	4	20	0	20	3	1	1	1
18	1	0	0	0	0	0	0	1	0	7	20	3	20	4	2	1	1
19	1	1	0	0	0	0	0	0	0	5	20	0	20	3	1	1	1
20	1	1	0	0	0	0	0	0	0	6	20	2	20	3	2	1	1
21	1	0	1	0	0	0	1	0	0	5	20	0	20	3	1	1	1
22	1	0	0	0	0	0	1	0	0	5	19	4	19	3	3	2	2
23	1	0	0	0	0	0	1	0	0	5	19	3	19	3	2	2	2
24	1	1	0	0	0	0	0	0	0	5	20	2	20	3	2	1	1
25	1	1	0	1	0	0	0	0	0	2	20	1	20	2	2	1	1
26	1	0	1	0	0	0	0	0	0	6	20	4	20	3	3	1	1
27	1	1	0	0	0	0	0	0	0	5	20	3	20	3	2	1	1
28	1	0	0	1	0	0	0	0	0	6	20	5	20	3	3	1	1
29	1	1	0	0	0	0	0	0	0	4	20	2	20	3	2	1	1
30	1	1	0	0	0	0	0	0	0	7	20	5	20	4	3	1	1

S. N	Group	Af1	Af2	Af3	Af4	Af5	Af6	Af7	Af8	VAS pre	ADL Pre	VAS post	ADL Post	VAS Pre Bin	VAS Post Bin	ADL Pre Bin	ADL Post Bin
1	2	0	1	0	0	0	0	0	0	5	20	8	20	3	4	1	1
2	2	1	0	0	0	0	0	0	0	3	20	7	20	2	4	1	1
3	2	0	1	0	0	0	0	0	0	7	19	8	19	4	4	2	2
4	2	0	0	1	0	0	0	0	0	5	20	9	20	3	4	1	1
5	2	0	1	0	0	0	0	0	0	2	18	9	18	2	4	2	2
6	2	1	0	0	0	0	0	0	0	4	20	7	20	3	4	1	1
7	2	0	0	0	0	0	0	0	1	5	20	8	20	3	4	1	1
8	2	1	1	1	0	0	0	0	0	3	20	4	20	2	3	1	1
9	2	0	0	0	0	0	1	0	0	8	20	10	20	4	5	1	1
10	2	1	0	0	0	0	0	0	0	6	20	9	20	3	4	1	1
11	2	1	0	0	0	0	0	0	0	3	20	6	20	2	3	1	1
12	2	1	1	1	1	0	0	0	0	8	20	10	20	4	5	1	1
13	2	1	0	0	1	0	0	0	0	5	19	9	19	3	4	2	2
14	2	0	1	0	0	0	0	0	0	5	20	8	20	3	4	1	1
15	2	0	1	0	0	0	0	0	0	6	20	8	20	3	4	1	1
16	2	1	0	0	0	0	0	0	0	6	17	7	17	3	4	2	2
17	2	1	0	0	0	0	0	0	0	5	20	6	20	3	3	1	1
18	2	0	1	0	0	0	0	0	0	2	20	5	20	2	3	1	1
19	2	0	1	0	0	0	0	0	0	6	19	10	19	3	5	2	2
20	2	1	1	1	1	0	1	0	0	10	20	10	20	5	5	1	1
21	2	1	0	0	0	0	0	0	0	5	20	8	20	3	4	1	1
22	2	1	0	0	0	0	0	0	0	6	20	9	20	3	4	1	1
23	2	0	1	0	0	0	0	0	0	3	20	6	20	2	3	1	1
24	2	1	0	0	0	0	0	0	0	3	20	8	20	2	4	1	1
25	2	0	0	0	1	0	0	0	0	4	20	6	20	3	3	1	1
26	2	1	0	1	0	0	0	0	0	5	20	10	20	3	5	1	1
27	2	1	0	0	0	0	0	0	0	6	20	6	20	3	3	1	1
28	2	1	0	0	0	0	0	0	0	4	20	7	20	3	4	1	1
29	2	1	0	0	0	0	0	0	0	5	18	10	18	3	5	2	2
30	2	1	0	0	0	0	0	0	0	3	19	6	19	2	3	2	2