



EFFECTIVENESS OF CAT STRETCH EXERCISE IN REDUCING THE LOW BACK PAIN AMONG ANTENATAL MOTHERS: A QUASI-EXPERIMENTAL STUDY

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ABSTRACT

Background: Assess the level of low back pain among antenatal mothers with gestational age 28-36 weeks. **Objectives:** Assess the level of back pain. Find out the association between the pretest level of back pain along with selected demographic variables. Evaluate the effect of cat stretch exercise in reducing level of back pain among antenatal mothers in experimental group. **Materials And Methods:** The study was conducted with antenatal mothers having low back pain with gestational age of 28-36 weeks. purposive sampling technique was used to assess the level of low pain in control and experimental group and to check the effect of cat stretch exercise in reduce the low back pain. An Oswestry low back pain questionnaire was used to assess the level of low back pain. Data was collected from 70 antenatal mothers. **Results:** I give cat stretch exercise in reduce the low back pain in experimental group. The pain is reduced in experimental group very severe & worst pain possible in pre-test (97.0%) after given intervention pain reduce mild (97.14%) and in control group there is less reduce of pain i.e. moderate severe in pre-test (68.57%) and moderate severe in post-test (60%). The mean difference; S.D; t value in experimental group and control group was 20.71; 2.21; 43.55 & 0.71; 5.48; 1.525 which was significant in experimental group and non-significant in control group at the level of $p < 0.05$. this show the effect of cat stretch exercise in reducing the low back pain. **Conclusion:** The study highlights the importance cat stretch exercise in reducing the low back pain among antenatal mothers

KEYWORDS

Antenatal Mothers, Effectiveness, Low Back Pain, cat Stretch Exercise

INTRODUCTION

Pregnancy and back go hand in hand more often than not. Back pain that initiates during the pregnancy lingers on and creates problems for extended periods after delivery. Pregnancy produces plethora of hormones one of which, called relaxin causes softening of ligaments and pelvis to allow baby out through the pelvis, brings about changes in the centre of gravity as well as causes relaxation of the uterine ligament straining surrounding muscles and overstretched abdominal muscles not equipped to handle the weight of the uterus resulting in the back and spine bearing extra burden.

Omoke et al. (2021) conducted an interview in Nigeria. A total of 478 women interviewed out of them 138 (28.9%) of reported low back pain during pregnancy. The onset of pain in 3rd trimester and the mean pain intensity was 4.3.

June, 2022 during clinical posting in Dept of Obstetrics and Gynaecology OPD a total of 300 antenatal women visited OPD out of which 100 antenatal mothers (33.3%) experiencing low back pain in 2nd and 3rd trimester.

MATERIALS AND METHODS

A Quantitative research approach with Quasi experimental research design was used for this study to assess the level of low back pain among antenatal mothers with gestational age of 28 -36 weeks at the time of data collection. Data was collected the month of July –August 2022. Sample size was calculated with the help of formula of sample size calculation in experimental studies. I calculated sample size with the help of previous study prevalence of low back pain among antenatal mothers according to previous research study by Chandrasekharan, Vincent & Arulappan (2020) was 5% error An standardized tools was used i.e. Oswestry low back pain Questionnaire & was developed after reviewing the literature and consulting experts. For content validity, the tool was submitted to a group of experts in the field of nursing. The tool was prepared in Hindi, and English language. Translation and back translation were done by language experts to establish the validity of the translated tool.

The questionnaire consisted of two sections. Section I consisted of sociodemographic details which included age, gender, education, occupation, etc. Section II included 10 section i.e. Pain intensity, Personal care, Lifting, Walking, Sitting, Standing, Sleeping, Sexlife (if applicable), Social life, Travelling questions which were framed to assess the level of low back pain among antenatal mothers. Thus, the score ranged from 0 to 50 with a higher score indicating worst pain possible (41-50). Data was collected using a structured tools with the consent taken from the antenatal mothers. Purposive sampling technique was used to collect data. The hard copy of the questionnaire was circulated among antenatal mothers after taking pre-test and demonstrate cat stretch exercise to experimental group and after 28

days of giving intervention I take post-test of experimental and control group. Data entry and analysis was done using Microsoft Excel and SPSS version 20. Percentage and frequency were used to describe the categorical data. However, mean and standard deviations were calculated to check the effectiveness of cat stretch exercise. Chi-square was used to find out association of pre-test level of back pain among antenatal mothers.

Informed consent was taken from the antenatal mothers. Consent was a required field and antenatal mothers were only able to proceed to the questionnaire part after giving consent.

RESULTS

A total of 70 antenatal mothers was participated in the study. Among the 70 antenatal mothers Highest (32.85%) percentage were in primary education. Majority (74.28%) percentage of mothers were house wife, Highest (58.57%) percentage were belonging to nuclear family, Majority (51.42%) percentage of antenatal mothers had normal BMI, Majority (58.57%) percentage of mothers were primipara, Majority (40%) percentage of antenatal mothers had low back pain in 31-33 weeks of gestation.

Assess the level of back pain among antenatal mothers the distribution of pain level of women with low back pain in control and experimental group. (68.57%) majority women experienced moderate-severe pain, (20%) women experienced mild pain and (11.42%) women having no pain similarly in post-test (60%) with moderate-severe pain, (28.57%) with mild pain and 4 (11.42%) with no pain in control group where as in experimental group the pre-test level of low back pain in antenatal mothers (22.8%) women experienced worst pain, (74.28%) women experienced very severe pain and (2.85%) women have moderate severe pain after given intervention in post-test the pain reduced (2.85%) with moderate-severe pain and (97.14%) mild pain.

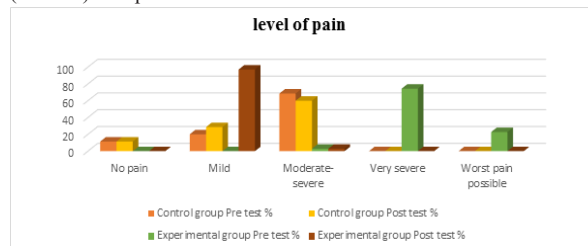


Fig 1: Pre and Post percentage score of level of low back pain in control and experimental group.

Association Between Low Back Pain With Selected Socio Demographic Variables In Pre-test.

Chi square test revealed that there was a significant association between low back pain with selected socio demographic age (16.97), education (21.63), occupation (14.633) and parity (14.02) except type of family (2.016), BMI (10.79), week of gestation (6.837) at the level $p < 0.05$.

Table 1: Showing Assess The Level Of Back Pain With Selected Demographic Variables And Association Between Selected Demographic Variables

S. No.	Variables	N	%	df	Chi square (χ^2)	p
1	Age in years			8	16.97	0.030 (S)
	18-23	26	37.14			
	24-29	28	40			
	30-35	16	22.8			
2.	Education			12	21.63	0.041 (S)
	Informal	16	22.8			
	Primary	23	32.85			
	Secondary	20	28.57			
	Graduate and above	11	15.71			
3.	Occupation			4	14.63	0.005 (S)
	Private employee	18	25.71			
	Home maker	52	74.28			
4.	Type of family			4	3.59	0.46 (NS)
	Nuclear	41	58.57			
	Joint	29	41.42			
5.	BMI			12	10.79	0.546 (NS)
	<18.5	12	17.14			
	18.5-24.9	36	51.42			
	25-29.9	16	22.85			
	>30	6	8.57			
6.	Parity			4	14.02	0.007 (S)
	Primipara	41	58.57			
	Multipara	29	41.42			
7.	Week of gestation			8	8.41	0.39 (NS)
	28-30	21	30			
	31-33	28	40			
	34-36	21	30			

The Effect Of Cat Stretch Exercise In Reducing Level Of Low Back Pain Among Antenatal Mothers In Experimental Group And Control Group In Post-test.

With regard to effect of cat stretch exercise among antenatal mothers with low back pain the mean post-test (17.14 & 21.54) level of low back pain was less than the mean score of pre-test (37.85 & 22.25) in experimental group as compared to control group the mean pre-test and post-test value in control group was the mean post-test level was slightly less than the pre-test level of low back pain and the mean difference was 20.17 in experimental group 0.71 in control group. The obtained 't' value of experimental group was 43.55 significant at the level of $p < 0.05$ and in control group the 't' test value was 1.525 which was non-significant at the level of $p < 0.05$.

Table 2: The Effect Of Cat Stretch Exercise In Reducing The Low Back Pain

Low back pain	Pre-test	Post test	Mean difference	't' Value	p
	Mean $\pm$ S.D	Mean $\pm$ S.D			
Control group (N=35)	22.25 $\pm$ 6.24	21.54 $\pm$ 5.48	0.71	1.525	0.137 (NS)
Experimental group (N=35)	37.85 $\pm$ 3.0	17.14 $\pm$ 2.21	20.71	43.55	<0.001 (S)

DISCUSSION

Low back pain is common during second trimester. Cat Stretch exercises can help you feel your, best especially as your pregnancy progresses.

This chapter brings the findings into limelight with the appropriate research based on the objectives. Furthermore, it helps the scholar to draw a conclusion about the meaning and implications of findings.

The aim of the study was to assess the level of low back pain among antenatal mothers and to evaluate the effectiveness of stretching exercise.

Socio demographic characteristics among women with low back pains **Oswestry low** back pain questionnaire was used to assess the level of back pain among antenatal mothers. The questionnaires consist of 10

domains with 5 scoring alternatives.

The findings of the study were analysed by using descriptive statistics [mean, standard deviation, frequency and percentage] and inferential statistics ['t' test and chi-square]. The data findings were organized and arranged based on the objective of the study.

Socio Demographics Characteristics Among Antenatal Mothers With Low Back Pain.

The study reveals that the percentage of low back pain with selected socio demographic variables among antenatal mothers according to age majority (40%) subjects belongs to 24-29 years considering the level of majority (32.85%) was in primary education. In occupation majority (74.28%) of mothers were house wife. Similarly, most mothers were living in nuclear family (58.57%). Majority (51.42%) women had normal BMI whereas majority (58.57%) of mothers were multi para with regard to low back pain majority (40%) of mothers were 31-33 week of gestation.

The findings supported by this study, **Chandrasekharan et al., 2020** determined the effectiveness of back-stretch exercises on BP among pregnant women, the majority (53%) of women in the experimental group and 70% in the control group belonged to the age group of 21-25 years. Most of the women in both the groups were housewives i.e., 80% experimental and 77% control group respectively. In both groups, experimental (53%) and control (57%) of pregnant women were primipara women.

The First Objective Of The Study Was To Assess The Level Of Back Pain Among Antenatal Mothers.

The study revealed that in pretest according to item wise analysis the level of low back pain is very severe and severe in a in all the domain i.e., pain intensity, personal care, lifting, walking sitting standing sleeping, sex life, social life and travelling the percentage of level of low back pain in range between (25%-40%) in majority of cases The finding supported by following study **Acharya et al. (2013)** the level of low back pain is severe in pain intensity and other related domains in pre test

Second Objectives Was To Find Out The Association Between The Pretest Level Of Back Pain Along With Selected Socio Demographic Variables.

The study revealed that the association between level of low back pain with selected socio demographic variables with age, education, occupation and parity and there is no association with Type of family, BMI, week of gestation.

The findings congruent with the following studies **Chandrasekharan et al.2020** in this study there were significant association between age and parity with sociodemographic variables. There is no association between gestational week.

Sugasini (2016) There was significant association between educational status and occupation. There is no association between BMI and type of family.

H₂ Was Partially Accepted. It Infers That There Is An Association Between The Level Of Back Pain Among Antenatal Mothers With Their Selected Demographic

Thakur & Rajamani (2021) the post-test pain and its standard deviation score among subjects in experimental group was 4.67 ± 1.626 and in control group the post-test pain score and its standard deviation score was 8.60 ± 2.415 . The mean difference was -3.93. The independent t test value was -7.399 for the degree of freedom 58. This was statistically significant at the 'p' value < 0.05 . from this finding it showed that the stretching exercise was effective in reducing the back pain.

The Third Objective Of The Study Was To Evaluate The Effect Of Cat Stretching Exercises In Reducing Level Of Low Back Pain Among Antenatal Mothers.

The findings of this study showed that the mean pre-test levels of low back pain was 37.8 and mean post-test level of low back pain was 17.14 there was a mean difference 20.17 between pre-test and post-test in experimental group whereas in control group the mean pre-test level of back pain was 22.25 and post-test was 21.54 there was mean difference 0.71. The obtained 't' value in experimental and control group was 43.556 & 1.525 at the level of $p < 0.05$ it showed that stretching exercise

is highly effective in reducing back pain among antenatal women

This study was congruent with this study **Poongodi et al. (2020)** conducted a study via the pre and post-test means value of experimental group was 4.73 and 3.5, where as in control group was 4.838 & 4.613 It was statistically significant at P value was < 0. 001 in experimental group but in control group it is statistically not significant. There is significant difference between the pre and post-test assessment score of reduction of backache in experimental group.

Hence the hypotheses H₁ is accepted. It infers that there is a significant difference between the mean pre-test and post-test level of back pain among antenatal mothers in experimental group.

Limitations

The study also had certain limitations, that is, use of purposive sampling limits the generalizability of the study findings. Since the study was limited the antenatal mothers who was attending the OPD .

CONCLUSION

The main conclusions drawn from this present study that stretching exercise was effective in reducing low back pain among antenatal mothers in experimental group and there was no effect in control group that denoted by significant level of low back pain in experimental & control group. After the intervention there had been a significant reduction in low back Pain in experimental group. Samples become familiar and found themselves comfortable and also expressed satisfaction in both the groups. This study helps antenatal mothers to treat low back pain a minor ailment during pregnancy through cat stretch exercise and promotes relief from suffering in experimental group and there is no reduction of low back pain in control group.

Declaration Of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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