J Nur Today

RESEARCH ARTICLE

www.jolnt.com

e-ISSN 2456-1630

Benefits of Pelvic Tilt Exercise during Pregnancy

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Received: 05.03.2016

Edited : 09.05.2016

Accepted: 12.05.2016

Published: 16.05.2016

Abstract

A quasi experimental time series study to assess the effectiveness of pelvic-tilt exercises on reduction of low back pain among the antenatal mothers attending out-patient department at Paddhari C.H.C in Rajkot.

Research conducted at Paddhari C.H.C at Rajkot

Keywords Pelvic-tilt, Pregnancy

Introduction

Pregnancy and becoming a mother are such wonderful, life-changing experiences that the majority of women wouldn't swap them for even the most glamorous of lifestyles. Woman's body undergoes extensive changes which frequently necessitate many adaptations. Physical and hormonal changes occur gradually throughout the pregnancy. Physical changes during pregnancy create extra demands on our body.

During pregnancy our body experiences dramatic physiological changes that require a carefully designed exercise program.

A strong back is essential for good posture and for proper balance during pregnancy. Some mothers feel back discomfort begin in the second trimester and for others, back pain occurs more suddenly in the later months of pregnancy. The reasons for women to experience back pain during pregnancy are, (i) Weight gain is one possible culprit of back pain, that the mother's centre of gravity shifts during her pregnancy, (ii) In addition, the sacroiliac joints, also stretch as the mother's pelvis expands for the growing baby. (iii) Mal-position. Any or all of these situations can result in back pain during pregnancy and chances are very high that atleast one of them it happens to every mother at some point in nine months.

Pelvic tilt exercise are great for toning muscles and ligaments that support internal organs. Plus, they are great for easing tension, correcting our posture, and improving circulation.

Need of the study

Globally there are approximately 240 million pregnancies annually by (BMJ 2014).

India accounts 20% of births worldwide and approximately 30 million women in India experience pregnancy annually,27 million have live births according (Pub Med central 2014).

Coldorn .Y. (2013) published in an article about 50% of women experience low back pain during pregnancy, typical factors aggravating the back pain in pregnancy include standing, forward bending, lifting and walking.

Beth lewis (2013) presented in practical implications for midwifery practice, that with regard to relieving or preventing back pain in the pregnant mothers, it is essential to attain and maintain proper posture, secondary to increased muscle tone. Preventive measures are best because treatment for back pain late into pregnancy tends to be less successful.

Brown JMM Physical therapy (2012) reported that during the second and third trimester of pregnancy,82% of women experienced backache. They found that pain was reduced by encouraging good posture and pelvic tilting exercise. The incidence of some degree of back pain during pregnancy is relatively high. Researchers worldwide have suggested it may be between 30-70%.

Suputtitada in J Med Assoc Thai,(2010) reported that during pregnancy, a multitude of new stressors are introduced to the female body as it undergoes physiological changes. One of the most common complaints is low back pain, which has been reported to affect between 50% and 80% of all pregnant women was identified during the use of pelvic tilt exercise for ligament pain relief.Additionally,between 10% and 33% of these women experience back pain severe enough to interfere with their daily activities and, at its worst, require prolonged bed rest.

Statement of problem

" A study to assess the effectiveness of pelvic-tilt exercises on reduction of low back pain among the antenatal mothers attending out-patient department at paddharic.h.c in rajkot."

Objectives of study

- To assess the intensity of low back pain among antenatal mothers by using numerical pain scale.
- To assess the effectiveness of demonstration of pelvic tilt exercises among antenatal mothers.
- To find out an association between the level of pre intervention pain score with demographic variables.

Assumptions

This study assumes that:

- All antenatal mothers may not perform exercise regularly.
- Demonstration will improve correct way of performing pelvic tilt exercises.
- Exercises will reduce the low back pain among antenatal mothers.

Conceptual framework

Conceptual model conceived for this study provided a frame to reference for the effectiveness of pelvic tilt exercises on reduction of low back pain among antenatal mothers (between 28-36 weeks of

gestational age). It further gives direction to research for finding solutions. The conceptualization of this study is based on general system theory. A system is a group of elements that interact with another in order to achieve a goal.

This theory has four components: Input, Process, Output, and Feedback.

Research methodology

Research approach

A Quantitative approach was used for analyzing the effectiveness of pelvic tilt exercises on reduction of low back pain among antenatal mothers attending out-patient department.

Research design

The research design is quasi-experimental pre-test post-test time series design.

Variables

Independent Variables : Pelvic tilt exercises.

Dependent Variables : Intensity of back pain.

Hypothesis

H_1: The mean post intervention pain scores of antenatal mothers are significantly lower than their mean pre-intervention pain scores.

H_2: There will be significant association between the level of pre intervention pain score of antenatal mothers and selected demographic variables.

Inclusion criteria

- Antenatal mothers between the gestational age of 28 to 36 weeks .
- Antenatal mothers who are having back pain during pregnancy.
- Antenatal mothers who are willing to participate in this study.
- Antenatal mothers who are available during data collection.

Setting of the study

The study was conducted atPaddhari C.H.C.in Rajkot, Paddhari is a small village which is situated 35 km far from Ghanteshwar park. Paddhari C.H.C center is NABH certified center and monthly 20 deliveries are been carried out so this setting was selected for the study.

Population

Target population: Antenatal mothers between the gestational age 28 to 36 weeks of pregnancy.

Assessible population: Antenatal mothers between the gestational age 28 to 36 weeks residing at Paddhari.

Sample size

A total of 50 samples were selected for the present study from the antenatal women who attendingout-patient department at Paddhari C.H.C in Rajkot.

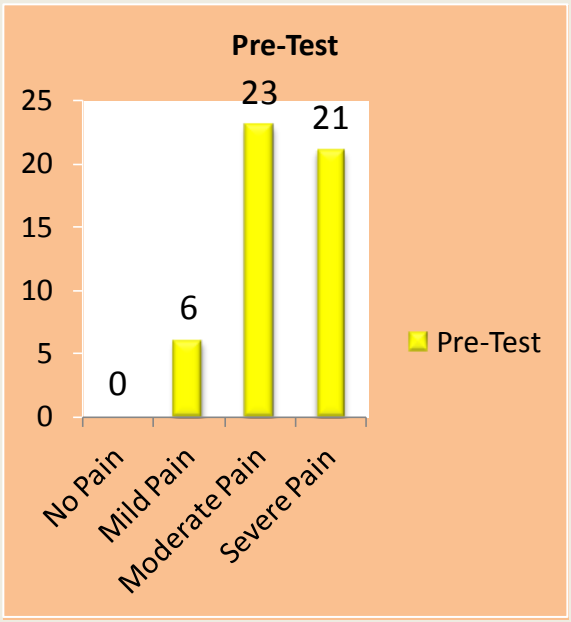
Description of the tool

Standardized numerical pain scale assessment scale.

Major findigs

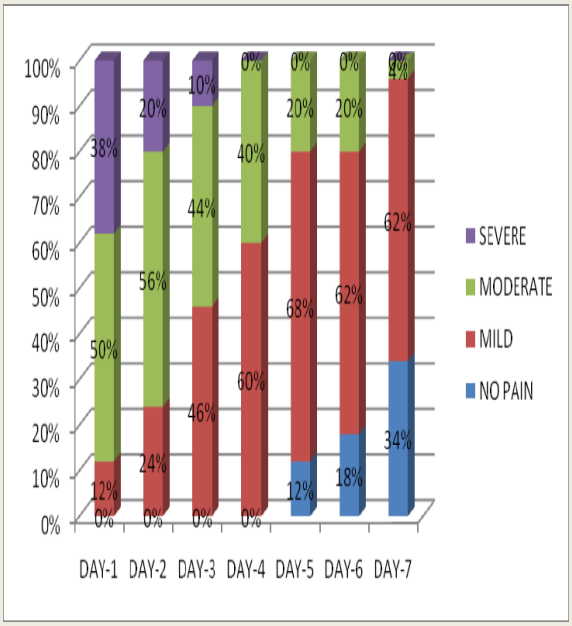
Major findigs

Data on demographic variables of antenatal mothers with low back pain. Among antenatal mothers with low back pain, most of them were between 24-29 years 19(38%), primigravida 28 (58%), non-working 35 (70%), family income above Rs.8000 17 (34%),family nuclear and joint 25 (50%) above education and secondary education 11 (22%)and weight above 46 had severe pain 15 (30%).



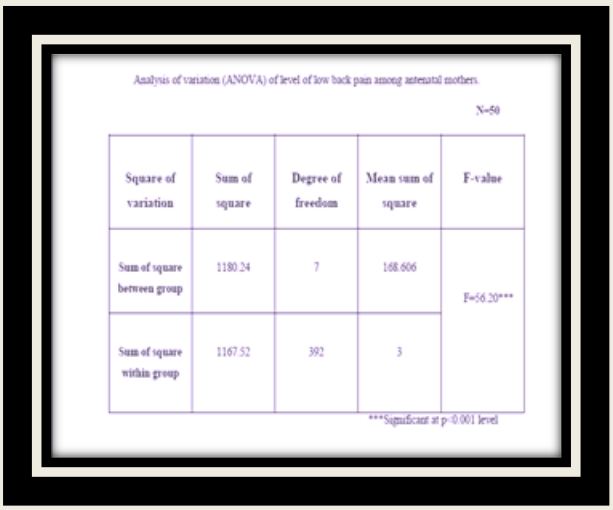
Data on level of pain among antenatal mothers with low back pain.

Regarding the level of low back pain most of them reported moderate pain and severe as well as mild pain score was comparatively less on the 1st day. On 2nd day also no measurable difference was noted, on the 3rd day majority of them reported mild pain, less number reported moderate pain and very few reported severe pain. On the 4th day majority reported mild pain and rest all reported moderate pain no one reported sever pain, on the 5th day majority reported mild pain, some reported moderate pain and few of them reported no pain, on the 6th day no measurable difference was noted, on the 7th day majority reported no pain, some reported mild pain and very few reported moderate pain no one reported severe pain.



Data on effectiveness of pelvic tilt exercises on reducing level of pain among antenatal mothers with low back pain.

With regards to effectiveness of pelvic tilt exercises on reduction of low back pain among antenatal mothers, the obtained 'F' value for the level of pain was 56.20*** that was highly significant at p<0.001 level.



Analysis of variation (ANOVA) of level of low back pain among antenatal mothers.

N=50

Square of variation	Sum of square	Degree of freedom	Mean sum of square	F-value
Sum of square between group	1180.24	7	168.606	F=56.20***
Sum of square within group	1167.52	392	3	

***Significant at p<0.001 level

Data an association between the levels of pain among antenatal mothers with low back pain with their selected demographic variables.

With regards to the association between the level of low back pain with their selected demographic variables such as Age, Parity, Occupation of mother, Family monthly income, Type of family, Education of mother, weight. were significant association found with age 24-29 years, primigravida, non-working, family income above Rs.8000, illetrate and weight above 46 had severe pain and others were not significant.

SR.NO	DEMOGRAPHIC VARIABLES	LEVEL OF PAIN SCORE				TOTAL	χ^2
		NO PAIN	MILD	MODERATE	SEVERE		
1.	**Age**						
	a. 18-23 years.	4	11	0	0	15	6.45
	b. 24-29 years.	9	10	0	0	19	df=4
	c. 30-35 years.	4	10	2	0	16	P=9.49 NS
2.	**Parity**						
	a. Primigravida.	13	15	0	0	11	6.16
	b. Multigravida.	4	16	2	0	9	df=2
							P=5.99 S
3.	**Occupation of Mother**						
	a.Working.	7	8	0	0	6	2.13
	b.Non working.	10	23	2	0	14	df=2
							P=5.99 NS
4.	**Family Monthly Income**						
	a. Rs.2000-Rs.4000.	0	9	0	0	3	19.08
	b. Rs.4001-Rs.6000	9	5	0	0	6	df=6
	c. Rs.6001-Rs.8000	3	5	2	0	4	P=5.99
	d. Rs.8001 & above	5	12	0	0	7	S
5.	**Type of family**						11.52
	a. Nuclear	11	14	0	0	10	df=2
	b. Joint	6	17	2	0	10	P=5.99 S
6.	**Education of Mother**						
	a. Illiterate.	2	16	2	0	8	15.54
	b. Primary education	4	4	0	0	4	df=6
	c. Secondaryeducation	8	3	0	0	4	P=5.99
	d. Above	3	8	0	0	4	S

7.	**Weight**						
	a. 31-35 Kg.	0	14	0	0	5	20.65
	b. 36-40 Kg.	4	7	0	0	5	df=6
	c. 41-45 Kg.	5	3	2	0	4	P=5.99
	d. 46 & above	8	7	0	0	6	S

Recommendations

- The study can be replicated with large sample size.
- The study can be conducted on antenatal mothers with low back pain due to other changes due to pregnancy.
- The intervention of pelvic tilt exercises therapy have good effects can be taught to all the care givers including family members.
- A study can be conducted to assess the attitude and practice among nurses posted in antenatal ward.
- Comparative study can be conducted between the pelvic tilt exercises with other exercises.

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