CASE REPORT

ASSESS THE EFFECTIVENESS OF VIDEO ASSISTED NURSING INTERVENTION ON LUMBOSACRAL PAIN AND ACTIVITIES OF DAILY LIVING AMONG ANTENATAL PRIMI MOTHERS

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ABSTRACT

A quasi-experimental (pre/post-test) design was used to achieve the study aim. This study was planned to evaluate the effectiveness of video-assisted nursing intervention on lumbosacral pain and activities of daily living among antenatal primi mothers. A non-probability purposive sampling technique was used to select a total of 50 antenatal primi mothers at 28–40 weeks gestation at the Government Maternity Hospital attending the OPD in Tirupati. Data collection was done using a structured questionnaire on pain intensity levels. Data were analysed with the help of descriptive and inferential statistics.

Major findings of the study: In the pre-test scores regarding lumbosacral pain (Oswestry scale) among antenatal (primi) mothers, out of 50 samples, 23 (46%) experienced No disability, 20 (40.0%) experienced Mild disability, and 7 (14%) experienced Moderate disability, Severe disability was not reported. The mean and standard deviation of pain intensity among mothers in the pre-test were 2.26 and 0.694, respectively.

In the pre-test scores regarding lumbosacral pain (numerical pain scale) among antenatal (primi) mothers, out of 50 samples, 24 (48%) experienced moderate pain, 10 (20%) experienced severe pain, and 16 (32%) experienced mild pain. The mean and standard deviation of pain intensity among mothers were 1.88 and 0.718, respectively.

A scheduled video-assisted nursing intervention program was conducted among 50 antenatal (primi) mothers. After 7 days, a post-test was conducted on the same samples.

In the post-test scores regarding lumbosacral pain (Oswestry scale) among antenatal (primi) mothers, out of 50 samples, 12 (24%) experienced No disability, Mild and severe disability was not reported, and 38 (76%) experienced Moderate disability. The mean and standard deviation of pain intensity among mothers were 1.24 and 0.431, respectively.

In the post-test scores regarding lumbosacral pain (numerical pain scale) among antenatal (primi) mothers, out of 50 samples, 23 (46%) experienced moderate pain, 5 (10%) experienced severe pain, and 22 (44%) experienced mild pain. The mean and standard deviation of pain intensity among mothers were 1.66 and 0.658, respectively. There was a statistically significant association between socio-demographic variables and lumbosacral pain intensity levels (measured by the Oswestry scale) among antenatal (primi) mothers. Educational status, age of the mother, family income, place of residence, and occupation of the mother were significant at $p < 0.01$. Similarly, the post-test showed a statistically significant association between socio-demographic variables and lumbosacral pain intensity levels (measured by the numerical scale) among antenatal (primi) mothers in the post-test. Specifically, age, family income, type of family, and occupation of the mother were significant at $p < 0.01$. The study concluded that video-assisted guidelines improved pregnant women's knowledge, practices, and recommended daily living activities among antenatal primi mothers to relieve low back pain.

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INTRODUCTION

Pregnancy-related low back pain is a common complaint among pregnant women, and it might possibly adversely affect on their quality of life[3].

The known risk factors of low back pain during pregnancy incorporate a history of back pain, maternal age, multiparty and physical activity. An expansion in Body Mass Index during pregnancy is a much-discussed risk considers the event of low back pain. During pregnancy, the event of low back problems could have worldwide results including physical, mental, and social effects among women and their unborn children[5].

NEED FOR THE STUDY

Around 60% to 70% of pregnant ladies are said to encounter low back pain (LBP) eventually during their pregnancy. This type of LBP can manifest in the pelvic girdle, between the posterior iliac crest, gluteal fold and additionally in the overall lumbar spine area. It is remembered to happen due to hormonal, circulatory, and mechanical changes, and thus, the quality of life of the pregnant woman is affected[1].

A review was conducted on Low back pain Prevalence, risk factors risk elements, and relationship with everyday exercises among pregnant women in urban Blantyre, Malawi. A cross-sectional review was led among 404 pregnant women; the mean age of respondents was 25.83 years old (SD: ±5.91). The commonness of LBP (Low back pain) in pregnancy was 62% (n=249); 172 (69%) of these revealed LBP interestingly during the current pregnancy. Gestational age was fundamentally associated with the presence of LBP (P= 0.03). LBP was associated with the women's sleep pattern, mobility, lifting methods, and sexual exercises. However, a reasonably high proportion of those with LBP (34%) didn't look for care for their low back pain[1,9].

Moderate administration of LBP is the treatment of choice. A portion of the treatment choices incorporate physiotherapy, adjustment belts, nerve stimulation, pharmacological treatment, acupuncture, massage, relaxation, and yoga. Weight reduction procedures during post pregnancy and avoidance of weight gain may help prevent the risk and severity of LBP[8].

Nurses play an essential role in improving the quality of antenatal care by providing pregnant women with education and support regarding the conservative treatment of back pain during pregnancy, which normally includes sufficient activity and appropriate body mechanics. These efforts encourage and support correct posture, which is vital to avoid excessive stress on supporting structures[2].

METHODS

Research Design

A quasi-experimental research design with a one-group pre-test and post-test with randomization was adopted for the study.

Setting of the study

The study was conducted at the Government Maternity Hospital Outpatient Department (OPD) in Tirupati.

Population

The population consisted of antenatal primi mothers between 28 and 40 weeks of gestation, attending the maternity OPD.

Sample size

The sample comprised 50 antenatal primi mothers.

Sampling Technique

A Purposive sampling technique was adopted.

Sampling Criteria

Inclusion Criteria

Antenatal primi mothers experiencing low back pain between 28-40 weeks of gestation.

Participants from different age groups, with various types of delivery, and different parity.

EXCLUSION CRITERIA

Antenatal primi mothers with polyhydramnios, carrying twins, or experiencing repeated abortion.

Participants with serious spinal pathology or any other associated risks.

ETHICAL CONSIDERATIONS

- Ethical approval was obtained from the Institutional Ethical Committee for conducting the study.
- Written permission was obtained from the Medical Superintendent at the Government Maternity Hospital in Tirupati, A.P, India.
- Written informed consent was obtained from each participant.

DEVELOPMENT AND DESCRIPTION TOOL

The data collection procedure utilized the Oswestry questionnaire and a numerical pain scale. The tool was organized under the following headings:

PART I: Socio-demographic data consisting of Age, Education, Type of Family, Occupation, Religion, Parity, Monthly Income, and Place of Residence.

PART II: Oswestry questionnaire consists of 10 questions, Pain intensity, Personal care, Lifting, Walking, Sitting, Standing, Sleeping, Sex (if applicable), Social, Travel. Each item consists of 6 statements which are scored from 0 to 5. With 0 indicating the least disability and 5 the greatest then the total score is calculated as a percentage, with 0% indicating no disability and 100% indicating the highest level of disability.

Table 1 Activities of Daily living score interpreted.

Score	Disability level
0-4	No disability
5-14	Mild disability
15-24	Moderate disability
25 -34	Severe disability
35-50	Completely disabled

Table 2 Numerical pain assessment scale scores

Level of pain	Score Range
Mild pain	1-3
Moderate pain	4-6
Severe pain	7-10

DATA ANALYSIS AND INTERPRETATION

SECTION I: Frequency and percentage distribution of demographic variables among Antenatal (Primi) Mothers regarding lumbosacral pain and activities of daily living.

Table 3 Frequency and percentage distribution of demographic variables
(N= 50)

		Frequency	Percentage %
1	Age of the mother		
	Below 20 Years	19	38.0
	21 - 25 Years	24	48.0
	26 - 30 Years	7	14.0
	Above 30 Years	0	.0
	Total	50	100.0
2	Parity		
	Primi	23	46.0
	Multi	27	54.0
	Total	50	100.0
3	Educational Status of mother		
	Illiterate	15	30.0
	Primary	11	22.0
	Secondary	13	26.0
	Higher	11	22.0
	Total	50	100.0
4	Place of Residence		
	Rural	25	50.0
	Urban	25	50.0
	Total	50	100.0
5	Occupation Mother		
	Home Maker	23	46.0
	Daily Earner	10	20.0
	Business	17	34.0
	Employee	0	0.0
	Total	50	100.0
6	Type of Family		
	Nuclear Family	24	48.0
	Joint Family	26	52.0
	Extended Family	0	.0
	Total	50	100.0
7	Income		
	<Rs. 10000	24	48.0
	Rs.10001 - Rs 20000	19	38.0
	Rs.20001 - Rs 30000	5	10.0
	>Rs. 30000	2	4.0
	Total	50	100.0
8	Religion		
	Hindu	26	52.0
	Muslim	19	38.0
	Christian	5	10.0
	Total	50	100.0

SECTION-II: Frequency and percentage distribution of level of scores regarding lumbosacral pain among antenatal (primi) mothers in pre-test.

Table 4 Distribution of Sample Respondents of Oswestry scale in pre-test.

Oswestry scale -pre-test	Frequency	Percentage	Mean	SD
No disability	7	14.0		
Mild disability	23	46.0	2.26	0.694
Moderate disability	20	40.0		

Severe disability	-	-		
Total	50	100		

In the pre-test scores regarding lumbosacral pain (Oswestry scale) among antenatal (primi) mothers, out of 50 samples, 23 (46%) experienced Mild disability, 20 (40.0%) experienced Moderate disability, and 7 (14%) experienced No disability, Severe disability was not reported. The mean and standard deviation of pain intensity among mothers in the pre-test were 2.26 and 0.694, respectively (Fig:1).

SECTION-III: Frequency and percentage distribution of level of scores regarding lumbosacral pain among Antenatal (Primi) mothers in pre-test.

Table 5 Distribution of Sample Respondents of Numerical Pain Scale in -Pre Test

Numerical Pain scale - pre-test	Frequency	Percentage	Mean	SD
Mild pain	16	32.0		
Moderate pain	24	48.0	1.88	0.718
Severe pain	10	20.0		
Total	50	100		

In the pre-test scores regarding lumbosacral pain (numerical pain scale) among antenatal (primi) mothers, out of 50 samples, 24 (48%) experienced moderate pain, 10 (20%) experienced severe pain, and 16 (32%) experienced mild pain. The mean and standard deviation of pain intensity among mothers were 1.88 and 0.718, respectively

SECTION-IV: Frequency and percentage distribution of level of lumbosacral pain (Oswestry scale) among Antenatal (Primi) mothers in post-test**.**

Table 6 Distribution of Sample Respondent of Oswestry scale in -post test

Oswestry scale post test	Frequency	Percentage	Mean	SD
No disability	38	76.0	1.24	0.431
Mild disability	12	24.0		
Moderate& Severe disability	-	-		
Total	50			

In the post-test scores regarding lumbosacral pain (Oswestry scale) among antenatal (primi) mothers, out of 50 samples, 12 (24%) experienced Mild disability, Moderate and severe disability was not reported, and 38 (76%) experienced No disability. The mean and standard deviation of pain intensity among mothers were 1.24 and 0.431, respectively

SECTION-V: Frequency and percentage distribution level of lumbosacral pain (numerical pain scale) among Antenatal (Primi) mothers in-post-test.

Table 7 Distribution of Sample Respondents of Numerical Pain Scale -post test

Numerical Pain scale post test	Frequency	Percentage	Mean	SD
Mild pain	22	44.0	1.66	0.658
Moderate	23	46.0		

	pain				
	Severe pain	5	10.0		
	Total	50	100		

In the post-test scores regarding lumbosacral pain (numerical pain scale) among antenatal (primi) mothers, out of 50 samples, 23 (46%) experienced moderate pain, 22 (44%) experienced mild pain and 5 (10%) experienced severe pain.

SECTION –VI: The analysis deals with the paired samples of lumbosacral pain among antenatal (primi) mothers.

Table 8 Paired Samples Statistics of Oswestry scale Pre and post test

		Mean	N	S.D	Std. Error Mean	t-value	Sig.
Pair 1	Pre Knowledge	24.38	50	6.401	0.905	15.137**	0.000
	Post Knowledge	13.12	50	4.163	0.589		

Significant at 0.01 level.

Out of 50 antenatal (primi) mothers the mean and standard deviation of lumbosacral pain scores were 24.38 ± 6.401 with a standard error (SE) of 0.905 in the pre-test and 13.12 ± 4.163 with a standard error (SE) of 0.589 in the post-test

SECTION-VII: DEALS WITH THE PAIRED SAMPLE OF LUMBOSACRAL PAIN SCORES AMONG ANTENATAL (PRIMI) MOTHERS

Table 9 Paired Samples Statistics of Numerical Pain pre and post test

		Mean	N	S.D	Std. Error Mean	t-value	Sig.
Pair 1	Pre Knowledge	4.96	50	2.176	0.308	3.383**	0.001
	Post Knowledge	3.58	50	2.081	0.294		

*Significant at 0.01 level.

Out of 50 antenatal (primi) mothers, the mean and standard deviation of knowledge scores were 4.96 ± 2.176 with a standard error (SE) of 0.308 in the pre-test and 3.58 ± 2.081 with a standard error (SE) of 0.294 in the post-test.

In the post-test, there was a statistically significant association between socio-demographic variables and lumbosacral pain intensity level (measured by the Oswestry scale) among Antenatal (Prima) mothers. Specifically, educational status, age of the mother, family income, place of residence, and occupation of the mother were significant at $p < 0.01$.

Similarly, there was a statistically significant association between socio-demographic variables and lumbosacral pain intensity level (measured by the numerical scale) among Antenatal (Prima) mothers in the post-test. Age, family income, type of family, and occupation of the mother were significant at $p < 0.01$.

SUMMARY AND CONCLUSIONS

The performance of adequate physical exercise is crucial for pregnant women, benefiting both the mother and the foetus. Pregnancy-related low back pain (LBP) may arise from various factors, including mechanical and hormonal changes in the body. Implementing video-assisted teaching interventions on daily living activities is recommended to address these challenges. Such interventions have the potential to overcome barriers to increasing physical activity levels among pregnant women. Future studies could explore how interventions targeting daily living activities influence the quality of life among pregnant women and promote their well-being by alleviating pregnancy-related symptoms.

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