



EFFECT OF PARASPINAL STRENGTHENING EXERCISE ON THE LEVEL OF LOW BACK PAIN AMONG POST MENOPAUSAL WOMEN

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ABSTRACT

Low back pain is a global public health crisis that threatens the economies of all nations, particularly developing countries. This study has been conducted to assess the effect of Para spinal strengthening exercise on the level of low back pain among post menopausal women. The objectives of the study are, to assess To assess the effect of paraspinal strengthening exercise on the level of low back pain among post menopausal women. Quantitative research approach, quasi experimental pre test post test control group research design was used for the study. 55 samples were selected by purposive sampling technique. Pre test and post test level of low back pain were assessed by using a standardized Oswestry low back pain disability questionnaire. The collected data were analyzed by descriptive and inferential statistics. The results of the study show that the mean score on the level of low back pain among post menopausal women is 24.7% in pre test and 13.7% in post test respectively. The paired 't' value for low back pain were 29.82 which is significant at ($p < 0.01$). Thus the study concluded that the paraspinal strengthening exercise was effective in reducing the level of low back pain among post menopausal women.

KEYWORDS : effect; para spinal strengthening exercise; low back pain; post menopausal women.

INTRODUCTION

Low back pain can occur due to heavy physical work, pregnancy, sedentary life style, increased estrogen level, hormonal changes, age, anxiety, depression, obesity, ovarian problems, nerve irritation, lumbar radiculopathy, bony encroachment, congenital bone conditions, tumour. A minority of cases of low back pain results from trauma to the back, osteoporosis or prolonged corticosteroid use. Relatively less common are vertebral infections, tumors and bone metastasis.

Low back pain on the basis of studies in Indian population. LBP prevalence has been found to range from 6.2% to 92% with increase of prevalence with age and female preponderance. The prevalence rate of western India is 17.3%. In Jammu the prevalence rate is 34.7%. North India the prevalence rate is 23.09%. The prevalence rate of west Bengal is 48.8%.

An evidence based literature review shows that menopause as a potential cause for higher prevalence in low back pain in women than age matched with men. Female sex hormone plays an important role for musculoskeletal degenerative disease. Because of the hormonal deficiency, the prevalence rate was higher in post-menopausal women³⁷. prevalence of LBP was 31.2%, 33.1%, 38.5%, and 34.9% for the age ranges of 18-29 years, 30-44 years, 45-59 years, and ≥ 60 years, respectively, for men; 32.2%, 41.5%, 49.2 %, and 43.7% for the age ranges of 18-29 years, 30-44 years, 45-59 years, and ≥ 60 years, respectively, for women.

Para spinal strengthening exercise helps to support the spine and muscles in back and hold the joint together. It helps to reduce the level of low back pain. Based upon a Life in motion journal, shows that Para spinal strengthening exercise have much more benefits and positive effects in low back pain and also no side effects. The above factors created an interest to the researcher to conduct a study in the field among the post-menopausal women. Most of the post-menopausal women are suffering from low back pain; because of the pain they are not performing their daily activities, reduced quality of life etc. So the researcher interested to do a study related to assess the effect of Para spinal strengthening exercise on the level of low back pain among post-menopausal women.

MATERIALS AND METHODS

The research approach adopted for the study was quantitative approach and design was one group pre test post test design which is a quasi- experimental design. The population of the

study was post menopausal women between the age group of 45yrs and 60yrs in Hindusthan latex, Balaramapuram, TM. The independent variable in this study was Paraspinal strengthening exercise and dependent variable was level of low back pain. The tool was used Oswestry low back pain disability questionnaire for sample characteristics and effect of Para spinal strengthening exercise for assessing the level of low back pain. Content validity was established by 6 experts and the tool was found to be feasible for the study. A pilot study was conducted from 15/01/2021 to 20/01/2021 in Spinning mill, Balaramapuram. Five subjects were selected. Purposive sampling techniques were used to collect the selected samples. The pilot study helped to modify the data collection procedure. The final study was conducted from 1/02/2021 to 01/03/2021 at Hindusthan latex, Balaramapuram. Prior permission from authority was obtained. The 55 samples were selected by simple random sampling technique, who met the inclusion criteria. The investigator introduced herself to the participants and objectives of the study was explained to them and their written consent was obtained. Pre test was done. Intervention was given in the form of paraspinal strengthening exercise which is administered for one hour per day weekly six day in one month. Post test was done on the 31st day of study. The data gathered was analyzed and interpreted in terms of objectives. Descriptive and inferential statistics were used for data analysis.

RESULTS

Description of sample characteristics

- Majority (51%) of the sample between the age group of 51-55 years and 49% of samples between the age group of 56-60 years.
- Majority (67%) of the samples completed higher secondary education and in 33% of the samples completed high school education.
- While considering the monthly income 100% of samples were earning to 5000-10000/-.
- Based on the residence 100% of samples were living in rural area.
- Majority (83.6%) of the samples were using two wheeler and 16.4% of samples were using public transport.
- While focusing the nature of work 65% of the samples were doing their work in sitting position and 35% samples were doing their work in standing position.
- Majority (69%) of the samples have 2 children, 16% of the samples have 1 child and 15% of the samples have 3 children.
- While considering the nature of delivery 84% of samples were delivered their children normally and 16% of

- samples were delivered under cesarean section.
- Majority (35%) of the samples had over weight (BMI above 25), 34% of the samples had normal weight (BMI upto 25), and 31% of samples had obese (BMI above 30).
 - While considering the duration of back pain 65% of samples had the history of low back pain for the past 2-5years and 20% of samples had low back pain, past 6-8years and 15% of samples had low back pain for less than 2years.
 - Majority (62%) of samples had history of other illness such as DM, HTN, CAD, 38% of sample had no history of other illness. while focusing the co-morbidity 25.5% of sample had the history of HTN, 16.4% of the sample had the history of DM and 1.8% sample had the history of CAD.

Effect of Paraspinal strengthening exercise on the level of low back pain among post menopausal women.

- In pre test, majority (81.8%) of the sample had moderate low back pain, 18.2% of the sample had severe disability. After post test 61.8% of the sample had moderate disability, 32.7% of sample had minimal disability and finally 5.5% of the sample had severe low back pain
- Paired 't' test was done to find out the effect of Para spinal strengthening exercise on the level of low back pain among post-menopausal women. It found that there was a significant difference between pretest and post test level of low back pain. The obtained 't' value was statistically significant at 0.01 level. Hence the Para spinal strengthening exercise was effective in reducing low back pain among post menopausal women.

DISCUSSION

From this study, in pre test, majority (81.8%) of the sample had moderate low back pain, 18.2% of the sample had severe low back pain. After post test 61.8% of the sample had moderate low back pain, 32.7% of sample had minimal low back pain and finally 5.5% of the sample had severe low back pain.

In pretest, mean score of low back pain were 24.7% and in the post test, mean score were 13.7%, it was significantly reduced. It shows that the level of low back pain was reduced among post menopausal women after the administration of Para spinal strengthening exercise. The obtained 't' value was statistically significant at $P < 0.001$. hence it shows that the Para spinal strengthening exercise was effective in reducing the level of low back pain. A meta analysis study was conducted to assess the exercise therapy for non specific low back pain. A total of 6390 sample participant were selected for study. This study result revealed that mean low back pain reduction was 13.3 points and 6.9 points for improvement of function. In acute low back pain, exercise therapy and other programs were equally effective (pain, 0.03 point). They concluded that exercise therapy slightly effective for decreasing pain and improving function in adults with chronic low back.

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