

Assessing the Effectiveness of Yoga Therapy on Low Back Pain among Women

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Abstract

Due to the present day lifestyle and scant knowledge about proper body posture, the incidence of low back pain shows an upward trend, more so with women. Yoga has been traditionally practised to restore the health in India. The authors therefore undertook assessment of level of low back pain as also the disability among women before and after Yoga therapy to determine the effectiveness of Yoga and find its association with select demographic variables. In this quasi-experimental study on 30 samples in 30-50 years age group in Loni, Ahmednagar (Maharashtra), Yoga therapy was found to be quite effective in ameliorating the level of low back pain and disability that also enhances the quality of life.

Back pain is pain felt in the back that usually originates from the muscle, nerves, bone, joint or other structure in the joint. Low back pain is one of the most common pain disorders today; it is chronic condition characterised by a persistent dull or sharp pain in the lower back.

Kimberly (2002) reported that back pain has become a leading epidemic of which more than 80 percent of adults will experience it sometime during their lifetime. Singh & Rupali (2008) reported that in India occurrence of low back also alarming. Nearly 60 percent of the people in India have significant back pain at some time or other in times. The highest rate of back pain occurs among the 45 to 65 years age group. The incidence of low back pain is greater among women.

Study shows that Yoga is holistic practice that is prescribed as alternative or complementary rehabilitation for back pain. There are very few studies related to Yoga therapy and its effect on back pain are conducted in the Indian scenario. Thus a study was carried out to assess the effectiveness of Yoga therapy on back pain.

Objectives:

This study attempted to (i) assess the level of low back pain among the women before implementing Yoga therapy; (ii) assess the level of disability among the women before implementing Yoga

therapy; (iii) determine the effectiveness of Yoga therapy on low back pain and disability among the women with low back pain; and (iv) find out association of the level of low back pain with selected demographic variables, after Yoga therapy.

Hypotheses

H₀₁ - There is no significant difference in the level of low back pain between pre-test and post test period.

H₀₂ - There is no significance difference in the level of disability between pre- and post-test period.

H₀₃ - There is no significant association between level of low back pain and selected demographic variables.

H₀₄ - There is no significant association between the level of disability and their selected demographic variables.

Conceptual framework: Modified theoretical framework based on Nola J Pender's Health promotion model was used for present study.

Methodology

Research design: It adopted a quasi-experimental study design; pre-test and post-test without control group approach.

Sample and sampling technique: Women who are having low back pain between 30-50 years of age group who were present during the period of data collection were the sample for this study and non-probability purposive sampling technique were used

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to select the 30 samples.

Setting: The present study was conducted in Vitthalnagar and Musale Vasti at Loni, Ahmednagar (Maharashtra).

Tools: The tools were well prepared and expert-validated. The structured questionnaire socio demographic data with 14 items and 10 item of The Oswestry Low Back pain Disability questionnaires and Numerical Pain scale with 0 to 10 points scale) was in the interview schedule to collect the data.

Ethical consideration: Prior to collection of data written permission was obtained from the Sarpanch of Loni BK village. Informed consent was taken from all the samples prior to investigation.

Data collection procedure: Data collection was done in three stages, which is pre-test, implementation of intervention (Yoga therapy) and post-test. First day of study pre-test was conducted to assess the disability and pain level, then instructions and demonstration of Yoga therapy on Bhujangasana, Naukasan, Dhanurasana, Balasana, shavasana, followed the samples during their practice and after 30 days post-test was carried out. The collected data was organised and analysed according to the objectives of study by using descriptive and inferential statistics.

Results

Findings related to demographic data: The highest (74%) women were in age group between 30-40 years; 67 percent of women had height of 150-160 cm, 50 percent had more than 60 kg and above, 60% women had average body mass index (BMI). 70 percent of them had school education, 74 percent were housewives, 73 percent of women had income of over Rs. 5000/-, 70 percent had moderate work. Transport facility used was two wheeler and bus (47% & 40% respectively), only 17 percent had orthopaedic illness and 74 percent had received information through mass medias.

Assessment of level of low back pain and disability

Table 1 : Effectiveness of yoga therapy on low back pain and disability (n=30)

S. No.	Area	Pre-test			Post-test			Difference in mean (%)
		Mean	SD	Mean (%)	Mean	SD	Mean (%)	
1	Pain	4.9	0.80	49	0.9	0.84	9	40
2	Disability	12.3	2.17	24.6	6.6	1.44	13.2	11.4

among the women: Highest percentage (67%) of the women had severe pain whereas (33%) of them had moderate level of pain. Scores on disability shows maximum (83%) of women had moderate level of disability and 17 percent of them had minimum disability.

During pre-test the mean score was 4.9 ± 0.8 , which is 49 percent (moderate pain); however, post-test the score was 0.9 ± 0.84 which is 9 percent of the total score. This indicates that women had mild pain in post-test and had 40 percent effectiveness of yoga therapy (Table 1).

In relation to the disability during pre-test mean score was 12.3 ± 2.17 which is 24.6 percent whereas in post-test it was 13.2 percent, which shows the effectiveness of yoga therapy on reducing the level of disability. Significant difference was found on pain ($t = 3.98$) and disability ($t = 5.38$) in pre-test and post-test at $p > 0.05$ level.

Discussion

Women with low back pain pose a growing problem all over the world, the incidence of low back pain is greater among women. Peter (2005) reported that back pain is the most frequent cause of activity limitation in people aged younger than 45 years. Approximately 90 percent of all people experience low back pain at same time and 50.5 percent of working adult have back pain. Lifetime recurrence rate of as high as 85 percent have been documented.

Our study shows that women had moderate level of pain and disability. These findings are supported by Wong et al (2005), who observed the prevalence of low back pain and disability among women, to the tune of 72 percent with moderate level and required leave or absence from the work.

However, after the implementation of Yoga therapy the women had significant reduction in the level of pain and disability. Similar findings were observed by Leslie et al (2000). They showed that women with chronic low back pain had statistical significance ($p > 0.05$) in reducing the severity of pain after the intervention (Yoga programme).

Conclusion

Yoga therapy was found to be quite effective on women with low back pain and disability. There was significant association found between the level of pain and the variables like marital status, transport facility and associated illnesses, where the level of disability had significant association with weight and

transport facility. Hence the Yoga therapy enhances the quality of life and reduces the level of back pain and disability.

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