



Impact of Yoga Therapy on Chronic Low Back Ache in Middle Aged Subjects

KEYWORDS

Chronic low back ache, Yoga therapy, Pain and disability

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ABSTRACT Yoga Therapy can be define as the systematic application of the yogic techniques in curative and preventive aspects in the people by understanding the physical condition. Present study is done to analyze the impact of yoga therapy on functional disabilities in subjects with suffering chronic low back ache. There were total number of 60 subjects (n=80) including male and female divided in to two groups which experimental and control groups consisting 40 number each. application of selected yogic techniques has been applied in the period of three months .The study could observe that there were a significant improvement in the functional disabilities in the experimental group after the yoga therapy($p < 0.05$), whereas such a significant difference couldn't observe in the control group. There for yoga therapy can be consider as the therapeutic solution for the chronic low back ache.

Introduction

Yoga therapy can be define as the systematic application of yogic techniques in curative and preventive aspects in the people depends upon the physical condition. There are lots of yogic techniques can be used as the tool in the yoga therapy. Also yoga is popular for giving holistic results. Practice of yoga works not only in the physical aspects, but also benefits in psychological social and spiritual aspects of the life.

Low back pain is an important clinical, social, economic and public health problem affecting the population in Indian community. In accordance with the report of World Health Organization in 2002 Lower back ache constituted 37% of all occupational risk factors which occupies the first rank among the diseases complications caused by work. The 2010 Global Burden of Diseases study estimated that low back pain is among the top 10 diseases and injuries that account for the highest number of DALYs worldwide. There are lots of study has done in the area of Low back pain and how it impact in human life, physically as well as mentally. In most of the study the problem analyzed very well and the study regarding solution for prevent or reduce the risk of degenerative symptoms is comparatively less

Chronic low back ache.

Chronic low back ache is low back pain of unspecified pathologies that persist more than three months. The complications of back pain can be reflect in our daily life and activities. Therefore it can be consider as a clinical, social, economic and public health problem.

There are many factors which can lead in to the condition of chronic low back ache. The most prevalent factor is progressive degeneration of intervertebral disc. As age increasing the age related mechanical changes happens in the body. It also gives extra pressure in the intervertebral disc area also. The age related progressive changes in the intervertebral disc is the most prevalent and common factor which found in the condition of chronic low back ache

Review of literature

There are some information we can get about global burden of low back pain. Here we are providing some basic

and important observation that we observed in the review of literature. In the worldwide around 37% of low back pain attributable to occupational causes³. Also 75 to 85 % of the people have low back pain at some point of their time. The etiology of chronic low back is not clear, but about 40% of the cases are related to degenerative changes in the intervertebral disc. The age is also a critical factor in the condition of low back ache. There is a nine time more risk of back pain in people with > 35 years compared with < 35 years.

Yoga therapy and chronic low back ache

There are lots of study has happened in the field of yoga therapy which highlighting the holistic approach of yoga in the treatment in various aspects. Chronic low back ache also needed a holistic approach in the treatment so that it can be cured and mitigate all the complications. As early as attending the issue of chronic low back ache, the progression towards the critical condition can be prevented.

Objective of the study

The objective of the present study is to analyze the impact of yoga therapy on pain and functional disability in the subjects with chronic low back ache in middle aged group.

Materials and Methods

The study conducted at the Dept. of Human Consciousness and Yogic Sciences, Mangalore University, Karnataka. There were total 60 numbers of volunteers suffering from chronic low back ache, age between 45 to 60 years, including male and female, were selected for this study. Before starting the yoga therapy application a detailed case history and informed consent form were taken from all the subjects. Totals subjects were divided in to experimental group and control group consisting the number of 30 each. All the subjects in the study were without any previous experience in yoga. Application of yoga therapy done in the period of three months in the experimental group, whereas the control group instructed to maintain the routine lifestyle. The present study has approved by Institutional Human Ethical Committee in Mangalore University.

Inclusion criteria

We have included in the study the only subjects with the history of low back ache more than one year. The subjects with acute back ache, pain due to sciatica nerve compression, are excluded from the study

Hypothesis

The hypothesis of the study framed as, “there will be a reduction in the pain and functional disability in the subjects with chronic low back ache after the yoga therapy application”.

Yoga therapy application

Based on the case history which obtained, we have framed a yoga therapy protocol to apply in the patients. The therapy session were conducted early in the morning and all the subjects were instructed to come with empty stomach. We have applied selected asanas, pranayamas, meditation and relaxation techniques details are given below. The duration of the therapy session were approximately 60 minutes. Also we have provided personal attention to each subjects during the therapy session.

Applied asanas:

Swatikasana, Vjrasana, Suptavjrasana, Ūrdhwavajrasana, Tadasana, Ardhaandrasana, Pascimottanasana, PŪrvvotananasana, Pavanamuktasana, Bhujangasana, Salabhasana, Dhanurasana, Janusirsasana, Vrksasana, Marjjalasana, Utanapadasana.

Applied Pranayamas:

Ujjayi, anulomaviloma, bhastrika, sitali
Also So^ham meditaion and relaxation techniques are applied.

Parameters

Range of Lumbar Flexibility

The people with chronic low back ache usually express their difficulty in physical locomotion and mechanical movement. Therefore to assess the quantitative difference in flexion of lumbar region in this study we measured Range of lumbar Flexibility (RLF) using a Goniometer in the “pascimottanasana” position. The difference in the Range of Lumbar flexibility marked in degree level.

Questionnaire

Also we have collected a questionnaire consisting ten questions, to analysis pain and disability due to chronic low back ache. The questionnaire framed such a way that the subject has to assess the degree of pain and disability in the numerical rating scale. The number “0” marked normal condition and “10” indicates maximum level of the pain and disabilities. Total Score of the questionnaire can range from 0 to 100.

Statistical analysis

We have applied a two tailed paired t test to assess the statistical significant level of the study. The level of confidence fixed as 0.05. A detailed statistical table has given below.

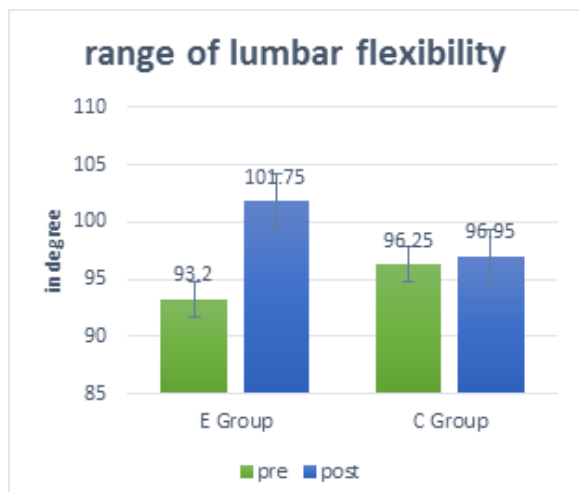
(Table No:1) Statistical analysis of Experimental group

| Sl No. | Parameter | Mean +/- SD | | t Stat | P value | Significance |
|--------|-----------------------------|--------------|-----------------|---------|----------|--------------|
| | | PRE | POST | | | |
| 1 | Range of Lumbar Flexibility | 93.2+/-6.70 | 101.75+/-7.32 | -8.97 | 2.92E-08 | HS |
| 2 | P&D questionnaire | 61.7+/-7.854 | 23.125+/-4.8088 | 23.1491 | 2.15E-24 | HS |

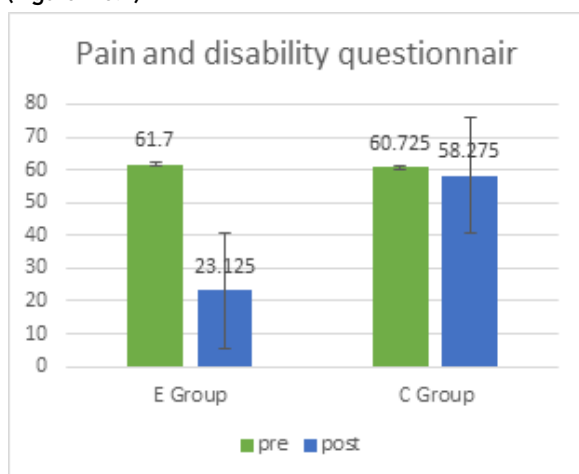
(Table No:2) Statistical analysis of Control group

| Sl No. | Parameter | Mean +/- SD | | t Stat | P value | Significance |
|--------|-----------------------------|------------------|------------------|-----------|----------|--------------|
| | | PRE | POST | | | |
| 1 | Range of Lumbar Flexibility | 96.25+/-6.20 | 96.95+/-6.96 | -1.00 | 0.32 | NS |
| 2 | P&D questionnaire | 60.725 +/-7.7926 | 58.275 +/-7.6338 | 1.1774733 | 0.246142 | NS |

Graphical representation of the results (*E Group = Experimental Group, C Group = Control Group) (Figure No:1)



(Figure No:2)



Discussion

After the three months of Yoga therapy in the present study we could observe a significant improvement in all the parameters. The first parameter which is the “Range of Lumbar Flexibility” shows a highly significant improvement (>0.05) in all the experimental group.

All the subjects in the study explained that they have the physical struggle to perform routine works such as bending, squat, lift heavy items, sitting long duration etc. If they ignore it the possibility of the aggravating the pain is more. In case the pain aggravates usually they have to take sufficient back rest. Also the frequency of recurring of

the intensive pain were high, depends up on the physical activities. The three months of yoga therapy reduced the functional disabilities and improved the flexibility of the body in the experimental group. The progressive method of asana application helped to strengthen the supportive muscular system and inter vertebral disc. The significant improvement in the RLF can be consider as the marker for it.

The obtained pain and disability questionnaire, (>0.05) before and after the study also clarifying the above observation. After the study all the participants were expressed the easiness in the daily activities in their life and reduced the frequency of recurring the intensive low back pain. Also in the experimental group, a remarkable reduction in the anxiety level which triggered from chronic low back ache were observed.

Whereas such a kind of significant improvement couldn't observe in the control group which continued the usual life. Therefor it is evident that the difference which happened in the experimental group is because of yoga therapy application.

Conclusion

Yoga therapy can be consider as the therapeutic solution for the back ache. It will improve the physical and mental wellbeing.

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