

## AN EXPLORATORY STUDY OF LOW BACK PAIN AMONG YOGA PRACTITIONERS AND NON YOGA PRACTITIONERS IN RELATION TO PAIN AND DEPRESSION

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**ABSTRACT** - The purpose of the study is to investigate an exploratory study of low back pain among the yoga practitioners and non yoga practitioners in relation to specific life style factors. The subjects are equally assigned to random sampling procedure into two equal groups, i.e., the experimental group and control group. The experimental group does the practices in yogic practices. The control group does not practice any kind of yogic practices during the training programme of twelve weeks. The training is given in alternate days in a week. Each session is scheduled for 60 minutes. The pain and depression are measured before and after the experimentation using the standardized test and standardized questionnaire. The data are analyzed by Analysis of Covariance (ANCOVA) and it is concluded that the selected yogic practices group than the control group has significant ( $P < 0.05$ ) effect on the pain and depression level.

**keywords :** Yogic practices, pain and depression and low back pain.

### 1. INTRODUCTION

**"Sama dosha samagnisca sama dhatu mala kriyaha"**

The person who always eats wholesome food, enjoys a regular lifestyle, remains unattached to the objects of the senses, gives and forgives, loves truth, and serves others, is without disease. The total body is mind and spirit. It also includes physical health, mental health, emotional health, and social health. It is a well-known fact that India is, next only to China, the second largest country in terms of population in the world. But the health status of a great majority of the people is far from satisfactory as compared to China and other developed countries. However, Over the last five decades or so, India has built up health infrastructure and manpower at primary, secondary and tertiary care in government, voluntary and private sectors and made

considerable progress in improving the health of its population (Ray 2003; Bhat and Babu 2004).

However, India is one of the major countries where communicable diseases are still not under control. The incidence of new fatal diseases such as AIDS / HIV and hepatitis-A are increasing and tuberculosis and malaria still take a high toll. Chronic non-communicable diseases such as heart diseases, diabetes and cancer are also in the rise (Bhat and Babu 2004). Health risk due to high prevalence of alcohol and Tobacco consumption is also increasing. Due to that India's dream of "World Class" health care delivery system is difficult to achieve.

### **Pancha Kosha - the Subtle Energy Body or 'Five Sheaths'**

The subtle anatomy of the humans is divided into five energetic sheaths known as 'pancha kosha'. Pancha, means five and kosha, means layer or sheath. This ideology describes the human being "as multi-dimensional, with the source or foundation in a spiritual dimension." The so-called 'spiritual dimension' is pure consciousness which is hidden by the other four koshas, the outermost layer being the most dense, physical body. Each kosha is thought of as energy vibrating at a different frequency. The physical body therefore vibrates at the slowest rate and the 'inner light of consciousness' or 'atman' vibrates at the fastest rate or frequency. Although all the five layers interpenetrate one another.

These five sheaths are divided into three bodies:

1. **Sthula Sharira / Physical Body** - Annamayakosha
2. **Sukshma Shariria / Astral Body** - Pranamayakosha, Manomayakosha, Vijnanamayakosha
3. **Karana Shariria / Causal Body** - Anandamayakosha

Among these, the anandamaya kosha is not bound by time or space and does not die. When the practitioners reside in this sheath, they have remembered or realized their true nature, reached enlightenment and health will pervade on all layers.

Yogic exercises recharge the body with cosmic energy. This facilitates

- Attainment of perfect equilibrium and harmony
- Promotes self- healing.
- Removes negative blocks from the mind and toxins from the body
- Enhances Personal power
- Increases self-awareness
- Helps in attention focus and concentration, especially important for children
- Reduces stress and tension in the physical body by activating the parasympathetic nervous system.

According to Patanjali, one can attain this (the individual self with the Supreme One) union by controlling and eliminating the ever- arising ‘vrittis’ or modifications of the mind. He also suggests that the mind, in turn, can be controlled through the right kind of discipline and training. Patanjali says that there are basic obstacles pervading the mind that are not conducive to yoga practice.

**2. AIM OF THE STUDY**

The aim and objective of the study is to investigate an exploratory study of low back pain among the yoga practitioners and non yoga practitioners in relation to anger and heart rate.

**3. METHODS AND MATERIALS**

The sample for the present study consists of 40 low back pain sufferers from Chennai city. The subjects are selected using the random sampling method. Their age ranged from 30 - 40 years. They are divided into two groups namely Experimental group and control group (n=40), and Goldberg Depression Questionnaire is designed by Ivan Goldberg (1993) and pain measurement scale is administrated to them. Experimental group is under the practice of yogic practices for the period of 12 weeks regularly at 6.30 to 8.00 in the morning. . The training programme is administered for 60 to 90 minutes per session. The control group does not engage in any special activities. The load is fixed based on the pilot study. The pre test and post test are taken before and after the experimental training programme. The test is conducted by the Goldberg

Depression Questionnaire which is designed by Ivan Goldberg (1993) and pain measurement scale is administrated on each end of the cessations and data are recorded. Analysis of covariance is used as a test of significance.

**Experimental Group: Yogic Practices**

YOGIC PRACTICES (group-I)	
•	Loosening exercises:
•	Asanas:
	1. Ardhakati chakrasana
	2. Ardhakakraasana
	3. Parivatha trikonaasana
	4. Bhujangaasana
	5. Salabhaasana
	6. Vakrasana
	7. Ustraasana
•	Relaxation:
•	Meditation
-	Pain Management
-	Meditation

**Group II: Control Group (No Practice)**

**4. RESULTS**

The data pertaining to the variables under the study is examined by the analysis of covariance for each criterion variables separately in order to determine the differences, between the groups at different stages.

**Table I**

**ANALYSIS OF COVARIANCE FOR PRE AND POST TESTS DATA ON PAIN OF YOGIC PRACTICES GROUP AND CONTROL GROUP.**

	YOGIC PRACTICES GROUP	CONTROL	SOURCE OF VARIANCE	SUM OF SQUARES	df	MEAN SQUARES	OBTAINED F
Pre Test Mean	7.15	6.90	Between	0.63	1	0.63	0.44
			Within	54.35	38	1.43	
Post Test Mean	4.85	7.40	Between	65.03	1	65.03	37.81*
			Within	65.35	38	1.72	
Adjusted Mean	4.75	7.50	Between	74.71	1	74.71	89.36*
			Within	30.93	37	0.84	
Mean Dif	2.30	0.50					

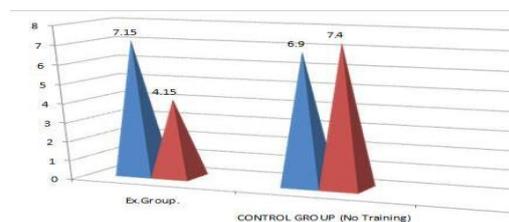
\*significant.

Table value for df 1 and 38 is 3.21 Table value for df 1and 37 is 3.22.

The obtained adjusted mean values are presented through the bar diagram in the figure 1.

**FIGURE - 1**

**BAR DIAGRAM ON ORDERED PRE AND POST MEANS OF PAIN**



## 5. DISCUSSIONS ON THE FINDINGS OF PAIN

Taking into consideration of the pretest means and posttest means the adjusted posttest means are determined and analysis of covariance is done. The obtained F value 89.36 is greater than the required value of 3.22. And hence it is accepted that the Yogic practices significantly improve (decreased) the pain level of the yoga practitioners.

The post hoc analysis of the obtained ordered adjusted means proved that there is significant differences existed between the Yogic practices group and Control group on pain level. This proves that due to 12 weeks of Yogic practices the pain level is significantly improved (decreased) among the yoga practitioners.

Table II

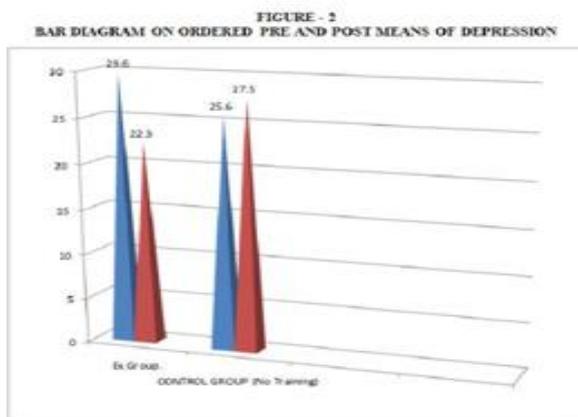
### ANALYSIS OF COVARIANCE FOR PRE AND POST TESTS DATA ON DEPRESSION OF YOGIC PRACTICES GROUP AND CONTROL GROUP.

	YOGIC PRACTICES GROUP	CONTROL	SOURCE OF VARIANCE	SUM OF SQUARES	df	MEAN SQUARES	OBTAINED F
Pre Test Mean	29.60	25.60	Between	160.00	1	160.00	2.35
			Within	2591.60	38	68.20	
Post Test Mean	22.30	27.50	Between	270.40	1	270.40	6.94*
			Within	1481.20	38	38.98	
Adjusted Mean	21.49	28.31	Between	438.44	1	438.44	15.38*
			Within	1054.65	37	28.50	
Mean Diff	7.30	1.90					

\*significant.

Table value for df 1 and 38 is 3.21 Table value for df 1 and 37 is 3.22.

The obtained adjusted mean values are presented through the bar diagram in the figure 2.



## 6. DISCUSSIONS ON THE FINDINGS OF DEPRESSION

Taking into consideration of the pretest means and posttest means the adjusted posttest means are determined and analysis of covariance is done. The obtained F value 15.38 is greater than the required value of 3.22. And hence it is accepted that the Yogic practices significantly improve (decreased) the depression level of the yoga practitioners.

The post hoc analysis of the obtained ordered adjusted means prove that there is significant differences existed between the Yogic practices group and Control group on pain level. This proves that due to 12 weeks of Yogic practices of depression level is significantly improved (decreased) among the yoga practitioners.

## 7. CONCLUSION OF THE RESEARCH

The analysis of co-variance of pain and depression level indicates that the experimental group I (Yogic practices), and group II (Control group), are significantly improved (decreased) the depression level. It may be due to the effect of the Yogic practices.

Nearly everything in life requires balance. Yogic practices on its own are a good step towards a healthy life style. However, as an individual, it is important to realise that the need to work on the body as well as the mind.

Yogic practices can be used not only as part of a program to improve (decreased) the pain and depression level, but also as a way to assist in attaining other goals,

Yogic practices improve the efficiency of health level significantly.

On the basis of the findings of the study, it may be considered that the yogic practices program is very useful method of training for the low back pain sufferers to decrease the pain and depression within the shorter duration. But it only retains for 12 weeks in yogic practices the improvement is slow but it could retain the efficiency for longer duration.

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