



ASSOCIATION BETWEEN THE ACUTE LOW BACK PAIN AND KINESIOPHOBIA – A CORRELATION STUDY



B.Arun, S.Mohamed Auriff And M.S.Nagarajan

Professor, K.G.College of Physiotherapy, K.G.Hospital & Post graduate medical institute.India.
Physiotherapist, Kare partners and Complete rehab incorporation,USA.
Manger of Sports, Special Olympics Asia pacific. Aquatic complex, Velachery main road,
Guindy, Chennai, India.



Abstract: Low back pain is one of the most frequent problems treated by Orthopaedicians. It is becoming increasingly problematic over the past century, it receive increasing amount of attention and concern due to the burdens placed on health systems and social-care systems. There are evidences showed that fear of movement has close association with low back pain. This study aims to find out the association between the acute low back pain and kinesiophobia. 100 subjects were selected by convenient sampling method with the age group ranging from 20—40 years. Subjects were chosen following suitable inclusion and exclusion criteria. The study was conducted for 6 months. The outcome measures were pain and kinesiophobia. The pain was assessed using visual analog scale and the kinesiophobia was assessed using Tampa scale of kinesiophobia. Karl pearlson's correlation coefficient is used to compute the result between the acute low back pain and kinesiophobia. The result found that it was 0.859 which shows a high correlation between the back pain and kinesiophobia.

Keyword: Acute Low back pain, Kinesiophobia, Tampa scale for kinesiophobia, Visual analog scale.

INTRODUCTION

Low back pain is the common epidemic in the 20th century. (Wadell et al., 1998). The back pain affects almost 80% of individual during the life time. (Hult, 1954, Nachmeson, 1976). It the second condition next to common cold as a cause of work absenteeism. There are high prevalence of community and their effect on individuals in term of pain and disability. (Reyaz et al., 2003).

Low back pain is ubiquitous in western society, significantly affecting approximately 50-80% of the population. (Waddell 1987), It is a work-related injury is second only to the common cold as a cause of work absenteeism. (Deyo and Bass 1989).

Research studies suggest that an excessively negative orientation on fear of movement (kinesiophobia) and pain (pain catastrophizing) are the most important in the causes low back pain and associated disability. Kinesiophobia is defined as the unreasonable or irrational fear of pain and painful reinjury upon physical movement. (Martelli, 1997). Fear of movement (i.e, kinesiophobia) has become known as a significant predictor of pain- linked outcomes including functional disability and psychological distress across various types of pain. (Pells 2007).

The mechanism of fear of movement is depicted as people who has the fear of movement misinterpret innocuous bodily sensations, including pain, are likely to become fearful of pain, which results in at least two processes. First, pain-related fear is connected with avoidance behaviors and thus results in avoidance of movement and physical activity. Avoidance also means withdrawal from rewarding activities such as work, leisure, and family. Second, pain related fear is associated with increased bodily awareness and pain hypervigilance.

Pain-related fear has been shown to be a very salient predictor of pain disability in a chronic pain population (Wadell 1996). It has been stated that disability results because of pain-related fear. (Crombez 1999). Pain-related fear predicts future disability and health status in the general population (Buer 2002, Lehem 1983). There are few studies which explain about the fear of movement and the pain, patients with low back pain will have shown less recovery because of fear of movement. If patient was not able to move because of fear on pain, the rehabilitation becomes very difficult. This study focused to find out the relation between pain & fear of movement.

PROBLEM OF THE STUDY :

The aim of the study is to find out the association between the acute low back pain and kinesiophobia.

SIGNIFICANCE OF THE STUDY:

- Back pain is the costliest disease in the world, the findings in the study will help to understand the basic mechanism on the fear of pain and the low back pain relationship.
- The findings of this study will bring about the treatment modification in the patient community who suffers with chronic

low back pain.

- The study will be an eye opener for physiotherapist and researchers who focused to do on low back pain patients.

SCOPE AND LIMITATIONS

- Study limited in patients with acute low back pain.
- No treatment was provided to the patient, since it was an observational study.
- The activities of daily living, Work Pressures and Psychological factors, nutritional factors, anthropometric variations and the climatic conditions could
- Compliance of the subject and the researcher to the intervention, changes in knowledge and skills do not necessarily result in behavioral changes.

METHODOLOGY

Study is a descriptive study, 100 subjects were selected for the study by convenient sampling method with the age group ranging from 20—40 years. The patients who visit the department of physiotherapy and have diagnosed as low back pain were included in the study. The subjects included were subjects with acute low back pain (duration of low back pain is not more than 10 days), 1st onset of low back pain, not involved in any research, not underwent any treatment for pain, both sex were included, able to read and write in English. Subjects excluded were chronic low back pain, Disc problems, congenital spinal disorders, spinal fractures, postural abnormalities, and patients with severe intolerable pain. The measurement was taken from the patient using visual analog scale to measure the amount of pain. VAS is a 10 cm scale where patient marks the amount of pain, 0 stands for no pain and 10 stands for intolerable pain. The patients asked to touch the amount of pain he perceives. Tampa scale of kinesiophobia is to measure the fear of movement in patients with low back pain. It consists of 17 questionnaires which measures the amount of kinesiophobia. It is a 4 point scale which ranges from strongly disagrees to strongly agree. The consent form was filled up by every individual who participated in the study. The study was approved by institutional ethical committee. Once the data was collected from every participant the data's were analyzed using correlation.

Karl pearlson's correlation coefficient is used to compute the result between the acute low back pain and kinesiophobia.

RESULT

The Data were collected as Demographic data, Data of Visual analogue scale & Data of Tampa scale of Kinesiophobia.

a

**DEMOGRAPHIC DATA
TABLE I**

S.NO	AGE GROUP	NO OF SUBJECTS	MALE	FEMALE
1	25 — 27	30	17	13
2	28 — 30	37	25	12
3	31 — 34	33	18	15

GRAPH I

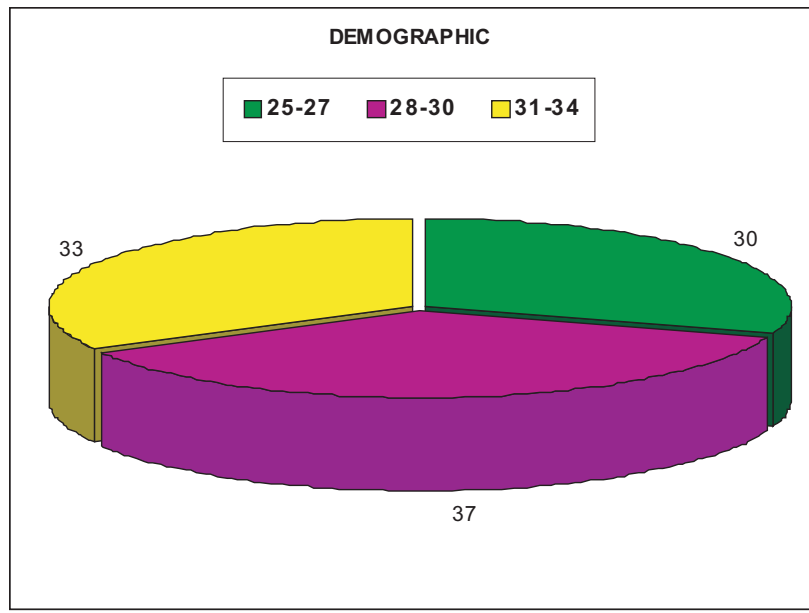
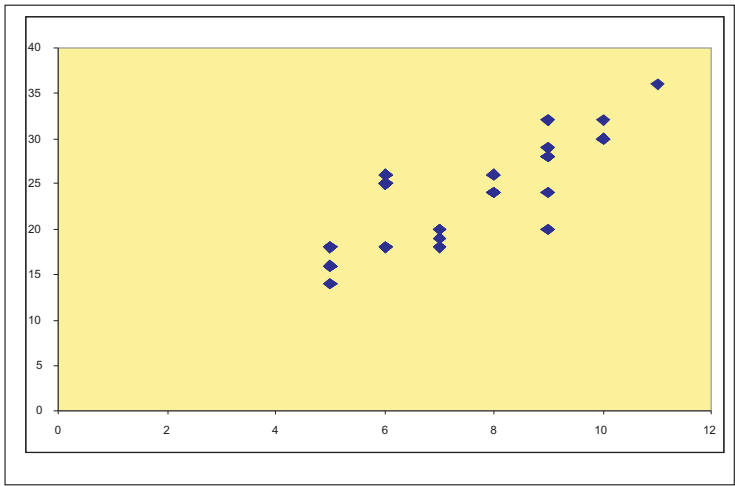


TABLE II

S.No	Variables	Mean Value	Correlation
1.	PAIN (VAS) (X)	7.7	0.859
2.	KINESIOPHOBIA (TAMPA SCALE) (Y)	23.87	

Biased SD: X- 1.71 Y- 5.51

GRAPH II
CORRELATION ANALYSIS OF FEAR OF MOVEMENT & PAIN



The Result of the study shows that there is a strong positive relationship between the Pain measured through Visual analogue scale (VAS) and the Kinesiophobia (Tampa scale of Kinesiophobia). The result found that a strong positive correlation of 0.859. This shows that the Pain & Fear of Movement are correlated.

Kinesiophobia is said to have a negative influence on the outcome of rehabilitation (Crombez 1999, Buer 2002), this phenomenon ought to be taken into account in the clinical situation.

Swinkels-Meewisse et al. 2003 showed that pain intensity predicts disability in patients with acute low back pain, where disability also plays a mediating role in the association between pain intensity and Kinesiophobia.

High anxiety and depression are associated with a greater impact of generalized musculoskeletal pain on daily activity. Persistent pain and inactivity may also lead to depression (Maruta 1989). Psychological distress was more common in a population of general practice patients with musculoskeletal illness than in a population of consecutive general practice patients (Jorgensen 2000).

CONCLUSION

The results showed that people with high kinesiophobia may have lower daily functional activities. They were more likely to report higher pain levels than patients with low kinesiophobia. This study concludes that kinesiophobia and the acute low back pain has strong association.

RECOMMENDATIONS

- Study focuses only on evaluation whereas treatment focusing on the fear of movement will help to reduce the back pain occurrence.
- We strongly recommend this study to be conducted in subjects with CLBP ,which help to understand on pathology.
- Study has to be done with different scales and different parameters.

REFERENCES

- 1.Buer N, Linton SJ. Fear-avoidance beliefs and catastrophizing: occurrence and risk factor in back pain and ADL in the general population. *Pain* 2002; 99: 485 -491.
- 2.Caillet R, *Low Back pain syndrome*, Jaypee F.A Davis, New Delhi (1992).
- 3.Crombez G, Vlaeyen JW, Heuts PH, Lysens R. Pain-related fear is more disabling than pain itself: evidence on the role of pain-related fear in chronic back pain disability. *Pain* 1999; 80: 329-339. *a*
- 4.David J. Magee. *Orthopaedic physical assessment (IV edition)* Saunders Philadelphia 2002.
- 5.Gorden Waddell, *Back Pain Revolution*, Churchill Livingstone, Edinburgh (1998)
- 6.Knibbe JJ, Frielfe RD, *Prevalent Of Back Pain And Characteristic Of The Physical Work Load Of Community Nurses* ergonomics 1998.
- 7.Kori S, Miller R, Todd D. Kinisiophobia: a new view of chronic pain behavior. *Pain management* 1990; Jan/F: 35 -43.
- 8.Leeuw,M.; Goossens,M.E.J.; Linton,S.J.; Crombez,G.; Boersma,K.; Vlaeyen,J. The fear-avoidance model of musculoskeletal pain: Current state of scientific evidence, *Journal of Behavioral Medicine*, 2007.
- 9.Lethem J, Slade PD, Troup JD, Bentley G. Outline of a Fear- Avoidance Model of exaggerated pain perception-I. *Behav Res Ther* 1983; 21: 401-408.
- 10.McCracken LM, Zayfert C, Gross RT. The Pain Anxiety Symptoms Scale: development and validation of a scale to measure fear of pain.*Pain* 1992; 50: 67 -73.
- 11.Schiphorst Preuper, H. R. (2008) Relationship between psychological factors and performance-based and self-reported disability in chronic low back pain. *European Spine Journal*.
- 12.Staal, J. Bart (2008) Graded activity for workers with low back pain: Who benefits most and how does it work?. *Arthritis & Rheumatism* 59.
- 13.Staal, J. Bart (2008) Graded activity for workers with low back pain: Who benefits most and how does it work?. *Arthritis & Rheumatism* 59.
- 14.Sullivan, Michael J. L. (2006) Initial Depression Severity and the Trajectory of Recovery Following Cognitive-Behavioral Intervention for Work Disability. *Journal of Occupational Rehabilitation* 16(1)
- 15.Vlaeyen JW, Kole-Snijders AM, Boeren RG, van Eek H. Fear of movement/(re)injury in chronic low back pain and its relation to behavioral performance. *Pain* 1995; 62: 363 -372.
- 16.Vlaeyen JWS, Seelen HAM, Peters M, et al. Fear of movement injury and muscular reactivity in chronic low back pain patients: an experimental investigation. *Pain* 1999,82:297-304
- 17.Vlaeyen, Johan W.S. (2007) The psychology of chronic pain and its management. *Physical Therapy Reviews* 12(3)
- 18.Waddell G, Newton M, Henderson I, Somerville D, Main CJ. A Fear-Avoidance Beliefs Questionnaire (FABQ) and the role of fear avoidance beliefs in chronic low back pain and disability. *Pain* 1993; 52: 157-168.