A cross-sectional study of association of weight, gender and age with work related low back ache among clinical physiotherapists in Kanpur, India

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Abstract **- Background: The term low back ache is used for any cause which is between the ribs and the top of the leg. Work- related low back ache is originates in the conditions of work and is considered clinically to be caused by or exacerbated by the person's job. Low back ache affects the working and psychological status. Material and Method: Total 10 physiotherapists were selected from the Kanpur city in India. A self-modified questionnaire was provided to the participants. Results: Out of 10 physiotherapists, 8 were having low back ache. And among 8 participants, 5 were males and 3 were females who suffered from low back ache. The highest prevalence of low back ache was found in the age group of 29-45 years. Chi-Square test result was 0.551. Analysis by weight showed high prevalence of low back ache in weight group 44-89. Pearson chi-square test result was 0.803. Conclusion: Low back pain is the most common problem which affects both [male & female]. Low back pain is associated with weight and age of the physiotherapist. The study concluded that male and younger physiotherapists were having a high prevalence of low back ache. It also concluded that physiotherapists within low weight groups were having a high prevalence as compare to physiotherapists in high weights groups.**

Index Terms **- Physiotherapists, Low back ache, Posture, cross-sectional survey, and job related pain.**

INTRODUCTION

Low back ache is a common problem among working adults in India. Occupational risk factors for low back ache include forceful lifting, bending and twisting of the trunk, whole body vibration and heavy manual labor. The initial assessment of the patient with low back ache requires obtaining an occupational history to identify risk factors in the workplace in addition to the usual enquiries and physical assessment. For those with uncomplicated low back ache, minimal use of medical tests and rapid return to limited activity are indicated. Long-term prevention of low back ache requires modification of occupational or other risk factors. The term low back ache is used for pain from any cause which is between the rib cage and top of the leg.1 Work related low back ache is pain that originates in the context of work and is considered clinically to be caused by the person's job.2 Low back pain with a specific cause is called specific while low back pain with no known cause is called non-specific low back pain.3 Low back ache affects working and psychological status of health worker's and also decreases job satisfaction and lead to financial loss.4 Study shows that about 60% to 90% of people will suffer from low back pain at some point in their life.2 In Great Britain in 1988, 40% of adults declared that they had experienced low back pain which lasted more than a day.5 A study on WRMDs in physiotherapists having a sample of 29 physiotherapists showed that the most common site of pain was low back that is 35%.6 A study on WMSDs reported highest annual prevalence of low back 45% followed by upper back 28.7% and neck 24.7%.7 In another study on WRMDs among physical therapists it was shown that annual and career prevalence of low back pain in the united Kingdom was 68% and 58% respectively and in the United States prevalence among physical therapists ranged from 45% to 62%. The same study reported that 91.3% of the participants suffered WRMDs during 12 months preceding the study. Low back pain was most common site of pain [69.8%] while elbow was the least affected part.8 Scholey and Hair in a Great Britain study including 243 physical therapists, reported annual work-related LBP prevalence as 38%.9.

MATERIAL AND METHOD

Using a self-modified questionnaire, cross-sectional study was performed. 10 clinical physiotherapists were selected by convenient sampling. Patients were provided with self modified work related low back ach questionnaire. Data collected was analyzed by SPSS version 20 using descriptive statistics. Percentages and frequencies were calculated for age, weight and gender. Chi-square test was applied to identify the association among age, weight, gender and LBP.

RESULTS

In this study, after analyzing data by gender out of 10 total 8 were having LBP, among 8 participants, 5 were males and 3 were females who suffered from low back ache. Pearson Chi-square was 0.272. Among all the patients having low back ache some were having mild low back ache [male- 2, female- 1], some moderate [male- 1, female- 1], while some were having severe low back pain [male- 2, female- 1]. More of the patients were having pain which was of sub-acute in nature [male- 1, female-1], acute [male- 2, female- 1], chronic [male- 2, female- 1]. When data was analyzed by age groups, 3 physiotherapists of age group 29-32, while 2 physiotherapists of age group 32-39, and 3 physiotherapists of age group 39-45 were having low back pain. Pearson Chi-square was 0.551. In age group 29-32 pain symptoms distribution was mild- 1, moderate-1, severe-1. In age group 32-39, mild-0, moderate- 1, severe-1. While in age group 39-45 pain symptoms was mild- 1, moderate-1, severe-1. When data was analyzed by weight group, 4 physiotherapists in weight 44-59, 2 physiotherapists in weight group 60-74 and 2 physiotherapists in weight group 75-89 were having low back pain. Pearson Chi-square test was 0.803.

DISCUSSION

Weight, age and gender have been studied as risk factors for low back ache. Many of the studies found a significant relationship among age, weight, gender and low back pain. In this study, male physiotherapists [5] are more suffered by low back pain than female physiotherapists [3]. More male physiotherapists are having low back pain and contributing factors are thought to be that male physiotherapists applies more manual therapy techniques, apply more forces and treat more patients per day. According to a study by Islam, MD [2012] out of 35, 32 participants who suffered from WRMD 15 [40%] were male and 17 [60%] were female.10 A study has shown that older therapist, female therapists were more to develop WMSDs. The higher prevalence of WMD among female physiotherapists may be associated to their weight and height. Female physiotherapists were generally smaller in height than male physiotherapists and which put them in physical disadvantage when transferring or lifting patients. A study on 35 physiotherapists showed that 25.70% physiotherapists were in between 20-25 years, 54.30% in between 26-30 years, 17.10% were in between 31-40 years, 2.90% in between 36-40 years. In the same study after analysis researcher found that among the 32 participants, who suffered from WRMD, lowest age was 23 and highest age was 39 years.10 A study found that participants aged more than 50 years had lowest rate of work-related injuries.9

Molumphy et al (1985) found that most participants first developed symptoms before the age of 30 years and that more than half of these initial episodes occurred within five years of graduation.11 A study has found from 25 to 50 years of age, prevalence of WMD in low back ranged between 42% & 52% and after age 50 years, the prevalence of WMD in the low back decreases to 34%. 9 An Australian study on occupational injuries has shown that occurrence of major injury age on average, respondents were 28.5 years old when they initially experienced their major injury.12

When an association between low back pain and weight was analyzed the results were very strange because a large number of physiotherapists in lower weight groups were having high prevalence of low back pain than groups with higher weights the possible reason could be, less number of participants in the higher weight groups or less number of overweight physiotherapists in the sample. According to Islam (2006) study showed that 32 participants out of 35 who have suffered from WRM 42.86% participants were in between 51Kg-60kg, 40% were in between 61-70kg, 17.14% were in between 40-50kg. In the same study, female physiotherapists reported a higher prevalence of WMD than did male physiotherapists in every anatomical region except the knees.10

CONCLUSION

In this study concluded that male and younger physiotherapists have less knowledge and less professional skills. Also, younger male physiotherapists apply more manual therapy techniques. Male physiotherapists are mostly apply manual therapy instead of electrotherapeutic modalities. The study also concluded that physiotherapists in lower weight groups have high prevalence of low back pain could be less number of physiotherapists in high weight groups or less number of obese physiotherapists participated in the study.

REFERENCES

[1] Loney PL, Stratford PW. The prevalence of low back ache in adults: a methodological review of the literature. Physical therapy 1999; 79(4):384-96.

[2] De Beeeck RO, Hermans V. work-related low back disorders. Brussels: Institute for Occupational Safety and health 2000.

[3] Aggarwal N, Anand t, Kishore j, Ingle GK. Low back pain and associated risk factors among undergraduate students of a medical college in Delhi. Education for Health 2013:26(2):103.

[4] Karahan A, Kav S, Abbasoglu A, Dogan N. Low back pain: prevalence and associated risk factors among hospital staff. Journal of advanced nursing 2009; 65(3):516-24.

[5] Coole C. Changing perceptions of work ability in people with low back pain: a feasibility and economic evaluation. University of Nottingham, 2012.

[6] Buddhadev NP. Work-related musculoskeletal disorders: A survey of physical therapists in saurashtra region. Age (years) 2012; 21(25):27.5.

[7] Cromie JE, Robertson VJ, Best MO. Work-related musculoskeletal disorders in physical therapists: prevalence, severity, risks and responses. Physical therapy 2000;80(4):336-51.

[8] Adegoke BO, Akodu AK, Oyeyemi AL. Work-related musculoskeletal disorders among Nigerian Physical therapists. BMC musculoskeletal disorders 2008; 9(1):112.

[9] Bork BE, Cook TM, Resecrance JC, Engelhardt KA, Thomason M-EJ, Wauford IJ, et al. Work-related musculoskeletal disorders therapy 1996;76(8):827-35.

[10] Islam MS, Habib MM, Hafez MA, Nahar N, Lindstrom-Hazel D, Rahman MK. Musculoskeletal complaints among physiotherapy and occupational therapy rehabilitation professionals in Bangladesh. Work: A journal of prevention, assessment and rehabilitation 2015;50(3):379-86.

[11] Molumphy M, Unger B, Jensen GM, Lopopolo RB. Incidence of work-related low back pain in physical therapists. Physical therapy 1985; 65 (4):482-86.

[12] West DJ, Gardner D, Occupational injuries of physical therapists in North & Central Queensland. Australian Journal of physiotherapy 2001;47(3): 179-86.