

PREVALENCE OF WORK RELATED LOW BACK PAIN AMONG CLINICAL PHYSICAL THERAPISTS IN PAKISTAN

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ABSTRACT

AIM The objective of this study was to determine the prevalence of work related LBP among clinical physical therapists working in Pakistan.

METHODS A cross sectional survey was carried out using a self modified questionnaire. Study population was consisting of 140 clinical physical therapist selected by convenient sampling. Questionnaires were distributed by self-approach to the nearby physical therapists while questionnaires to provinces other than K.P.K were distributed by email and TCS services. Percentages and frequencies were calculated for age, weight, gender, questions and bar charts were applied.

RESULTS Prevalence of work related LBP was 72.9%. The participants having moderate LBP were 33.6% and 30% were having mild symptoms while 7.9% were having severe LBP. Among the subjects 44 (31.4%) were having sub-acute LBP and 19 (13.6%) were having acute LBP while 38 (27.1%) were having chronic LBP. The common risk factors identified in this study were treating large number of patients, performing different manual therapy techniques, working in same position for a long time, transferring or lifting dependent patients and repetition of tasks.

CONCLUSIONS Physical therapists in Pakistan are relatively at high risk of work related LBP. The prevalence of LBP in physical therapists in Pakistan is high and consistent with the prevalence in other countries.

KEY WORDS Low Back Pain, Work Related Musculoskeletal Disorders.

This article may be cited as: Shah SZA, Jan MBA, Rahman M, Khan DA. Prevalence of work related low back pain among clinical physical therapists in Pakistan. *Ann Allied Health Sci.* 2016;2(1):19-22

INTRODUCTION

Low back pain (LBP) is lumbago or pain in the lumbosacral region, which strikes between the last rib and gluteal region. Low back pain is a usual cause of sickness in health care workers.¹ Hospital employee suffers more from occupational health issues than other professions. The most unusual problem among them is LBP, which lead to hospitalization.² About 90% cases have non-specific LBP which is defined as back pain that does not have a specific

cause. The usual symptom among them is lumbosacral pain, which may radiate to the buttocks or thighs or both. The initial episode commonly occurs between 20 and 55 years of age. Pain is aggravated by certain postures, movements or by any external load and can be constant or intermittent.³ LBP is categorized as specific LBP, non-specific LBP and radicular or nerve root pain.⁴ Variety of terms are used for mechanical nonspecific LBP which includes lumbago, sacroiliac joint syndrome,

facet joint syndrome, segmental dysfunction, myofascial syndrome and low back sprain/strain.⁵ LBP due to disc is called discogenic LBP and discogenic LBP is not radicular. Discogenic pain occurs without presence of any deformity in spine, instability or neural tension. Discogenic pain mechanism is not known but it arises from the disc.⁶

Acute LBP is defined as muscle spasm or stiffness which is localized between the lower costal margin and inferior gluteal fold and sometimes radiate to lower limbs. Pain is called acute pain when it lasts for about 6 weeks, pain become sub acute when it reaches to 12 weeks but does not cross 12 weeks and become chronic after 12 weeks.⁷⁻⁹ Up to 4 weeks symptoms of acute LBP decreases with recovery and relapse rate 90% and 60% respectively. But in some people symptoms of acute LBP may extend to become chronic.⁷ The

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Date Received: Jan 23, 2016 Date

Revised: March 10, 2016

Date Accepted: April 10, 2016

differentiation among the acute, chronic and transient LBP is solely done by duration of symptoms. Acute LBP occurs for sufficient time that compels the victim to take note of it. Variations exist in this groups and pain may last from hours up to 3 months. Chronic LBP belongs to the smallest group but difficult to treat. This group includes those who suffer from up to 3-6 months. The symptoms may be mild or severe. The symptoms may be confined to lumbar region called lumbago or may be radiating to lower limb called sciatica.¹⁰

About 65% of LBP sufferers become pain free after a time of 12 weeks. LBP recurrence is common.³ Prognosis of non-specific LBP is often good yet other evidences show that non-specific low back pain can be recurrent, fluctuating or persistent.¹¹ The cumulative of having at least one recurrence is 73% but the severity of symptoms is less.¹²

Work related musculoskeletal disorders are (WRMDs) defined as injury to the musculoskeletal structures as a result of Physical therapy work related tasks. Studies on health workers reported that physical therapist have high prevalence of WRMDs.¹³ WRMDs in physical therapists are linked with the therapist's age and years of clinical experience. WRMDs prevalence was high in old therapists as compared to younger physical therapists. But many studies have shown that physical therapists suffer from WRMDs before 30 years of age and incidence was high within 5 years after graduation. The reason of high prevalence of LBP in younger physical therapists is less professional experience, less knowledge and inappropriate application of techniques.¹³⁻¹⁵ Physical nature of Physical therapy work is a cause of high WRMD incidence. This physical nature of work leads to abnormal postures in bending and twisting.¹⁶

Physical therapy work demands more bending, twisting, repetition of tasks and working in challenging positions, which make them relatively more susceptible to low back pain. Physical therapy ergonomics in

our country are not well developed. The purpose of this study was to find the prevalence of work related low back pain among clinical physical therapists in Pakistan.

METHODS

A cross sectional survey was carried out using a self modified questionnaire. Study population was consisting of 140 clinical physical therapists selected by convenient sampling.

Inclusion criteria was age between 28-50 with 2 year post graduation and at least 2 years of clinical experience were included in the study. Subjects with Malignancies, Osteoporosis, and Rheumatoid arthritis, Osteoarthritis, Pott's disease and LBP due to trauma or pain not related to their clinical work were excluded from the study. The subjects were provided with the self-modified work related low back pain questionnaire. Questionnaires were distributed by self-approach, email service and by TCS service. Percentages and frequencies were calculated for age, weight and gender. Questions were analyzed descriptively using frequencies and percentages and bar charts were applied showing percent of people attempting the questions.

RESULTS

Two hundred questionnaires were distributed but only 140 were returned. Among the participants 86 (61.4%) were male and 54 (38.65%) were females (Table 1). Among 137 participants 102 (72.9%) replied "yes" which indicates that they have

LBP and 35 (25%) replied no which means that they do not have LBP (Table 2). Among participants 43.6% were having pain in their low back and 17.1% were having pain in gluteal region while 11.4% were having low back pain radiating to lower limbs (Table 3). The participants having moderate LBP were 33.6% and 30% were having mild symptoms while 7.9% were having severe LBP (Table 3). Among the subjects 44 (31.4%) were having sub-acute LBP and 19 (13.6%) were having acute LBP while 38 (27.1%) were having chronic LBP (Table 3). In response to question that do you feel pain while treating a patient, 86 (61.4%) respondents replied yes they feel pain while treating a patient while 15 (10.7%) replied that they do not feel pain while treating a patient (Table 4). About 84 (60%) responded that their pain is due to the clinical work they normally do (Table 4). Among all participants 87 (62.1%) responded that performing same task again and again is contributing to their pain and 13 (9.3%) responded repetition of task is not contributing to their pain (Table 4). Ninety one (65%) responded that treating large number of patients in a day is also contributing to their pain (Table 4). About 61(43.6%) responded that manual therapy techniques are also contributing in causing LBP (Table 4). Among all participants 70 (50%) replied that working in same position or working in abnormal posture for long time causes them pain (Table 4). Eighty five (60.7%) responded that transferring or lifting dependent patients is also a contributing factor in their LBP (Table 4).

TABLE 1

Variables	N = 140	
Gender	Male	86 (61.4%)
	Female	54 (38.6%)
Hours of duty	Six (6) hours	53 (37.9%)
	more than Six (6) hours	87 (62.1%)

TABLE 2

Variables	Yes; N (%)	No; N (%)
Low back pain	102 (72.9 %)	35 (25 %)

TABLE 3

Variables		N (%)
Where do you exactly feel pain?	Lower back	61 (43.6%)
	Gluteal region	24 (17.1%)
	Low back pain radiating to legs	16 (11.4%)
How bad is your current pain?	Moderate	47 (33.6%)
	Mild	42 (30.0%)
	Severe	11 (7.9%)
Does your pain disturb your sleep?	Yes	47 (38.6%)
	No	54 (33.6%)
From how long you have current low back pain?	less than 2 weeks	19 (13.6%)
	less than 3 months	44 (31.4%)
	more than 3 months	38 (27.1%)
In the past three months how bad was your pain? (For subjects with chronic back pain)	Mild	39 (27.9%)
	Moderate	41 (29.3%)
	Severe	8 (5.7%)

TABLE 4

Activity	Yes N (%)	No N (%)
Pain while treating a patient?	86 (61.4%)	15 (10.7%)
Are you confident in saying that your pain is due to clinical work that you normally do?	84 (60.0%)	17 (12.1%)
Does your pain relate to performing same task again and again?	88 (62.9%)	13 (9.3%)
Do you think that treating large number of patients in a day is contributing to your pain?	91 (65.0%)	10 (7.1%)
Do you think performing manual therapy techniques is also contributing to your pain?	61 (43.6%)	40 (28.6%)
Does working in same position for long time or working in awkward position causes pain?	71 (50.7%)	30 (21.4%)
Do you think lifting or transferring dependent patients is contributing to your pain?	85 (60.7%)	16 (11.4%)

DISCUSSION

The aim of the study was to find out the prevalence of LBP in Physical therapy clinicians working in different clinics in Pakistan. The prevalence of LBP in Pakistani Physical therapy clinicians is 72.9% percent according to this study. The physical nature of their work makes them relatively more prone to LBP than other clinicians. The low ergonomic standards could be the cause of high prevalence of LBP in Pakistani physical therapists. Internationally, the prevalence of work-related LBP ranges between 22% and 74%.^{17, 18} In United Kingdom, the 12-month prevalence of work-related LBP among physical therapists was found to be 22%.¹⁸ While the prevalence varied

between 22% to 62.5% in Australia.¹⁴ Bork et al found the annual prevalence of LBP to be 45% in U.S.A.¹⁹ According to a study on Work-related musculoskeletal disorders among Nigerian Physical therapists low back was the most common region of disorders with a 12- month prevalence of 69.8%.¹⁴ A study done on LBP prevalence and associated risk factors among hospital staff in which 1600 out of 2540 hospital staff members returned questionnaires. Among all participants (65%) were physical therapists. Prevalence of LBP in Physical therapist was 72.7% (n=16).²⁰ A study conducted on WRMDs in Korean physical therapists showed that a total of 145 (92.4%) of the respondents experienced WRMDs. The most common region being affected was

the low back, 84 (53.5%).¹³ A study done on WRMDs in Physical therapists showed that LBP prevalence is 62.5%, and one study showed a 29% prevalence of work-related LBP. In other studies of physical therapists, the researchers found a prevalence of work-related LBP of 49.2%. The issue with those studies was that their definitions of LBP were contradictory.¹⁷ Like many other countries the profession of Physical therapy is male dominated. In connection to this the number of males in our study was more 86 (61.4%) relative to those of females 54 (38.65%). Many other studies showed more participation by male physical therapists than female.¹⁷ In this study the participants having moderate LBP were 33.6% and 30% were having mild symptoms, while 7.9% were having severe LBP. According to this study the region that most frequently received scores of 3 or higher (moderately severe) on the scale of severity was the low back, with 187 (34.9%) respondents. Physical therapists that spent more time performing manipulation or mobilization had more severe low back symptoms.¹⁷

Among all participants, 87(62.1%) responded that performing same task again and again is contributing to their pain (Table 4). Ninety one 91(65%) responded that treating large number of patients in a day is also contributing to their pain(Table 4). About 61(43.6%) responded that manual therapy techniques are also contributing in causing low back pain (Table 4). Among all participants 70 (50%) replied that working in same position or working in abnormal posture for long time causes them pain (Table 4). Eighty five 85 (60.7%) responded that transferring or lifting dependent patients is also a contributing factor in their low back pain(Table 4). According to the results of a study on work-related musculoskeletal disorders among Nigerian Physical therapists the two most common work related risk factors identified by physical therapists were treating large number of patients in a day (83.5%) and working in the same position for long time (71.3%).²¹ A study done in India on

work-related musculoskeletal disorders: a survey of physical therapists in saurashtra region showed that twenty nine (29) physical therapists returned the questionnaire. The results of the study are LBP due to management of large number of patients in a day 26.7 % (n=16), Lifting with sudden maximal effort 20.0 % (n=12), Adoption of uncomfortable posture (bending or twisting) 18.4 % (n=11), Working in same position for longtime 11.7 % (n=07).²²

A Korean study on WRMDs in physical therapists showed Job risk factors that may contribute to development of WRMDs as, treating a large number of patients daily 90.4% (n=142), repetition of the same tasks 86.6% (n=136), working in an inappropriate postures 81.5% (n=128), lifting or transferring dependent patients 80.3% (n=126), working in the same position for long periods (standing, bending over, sitting, etc.) 73.2% (n=115).¹³

CONCLUSION

LBP pain is the most common problem which affects both genders and many people seek help for it. LBP results in both direct and indirect costs. This study reveals that the prevalence of LBP in Pakistani Physical therapist is high which is consistent with other countries of the world. The risk factors of LBP in physical therapists are similar to those of the other countries. The common causes according to this study are repetition of tasks, performing manual therapy techniques, working in same position for long time or working in abnormal postures, transferring or lifting dependent patients. The percent of subjects having pain in their low back are more than those who are having pain in the gluteal region and pain radiating to the legs. Among the participants the percentage of physical therapists having moderate LBP is high. The subjects with sub-acute LBP are more than acute and chronic LBP. LBP is disturbing sleep of many physical therapists.

Further research is needed to

identify job and work associated risk factors contributing to LBP.

ACKNOWLEDGEMENT

We acknowledge the study participants who took time out for this study and shared their views.

NOTES ON CONTRIBUTORS

The study was part of SZAS Bachelors in Physical Therapy Education. MBAJ, MR, DAK supervised the dissertation, and were involved in every part of the analysis, idea's development, and write-up.

CONFLICT OF INTEREST

Authors declare no conflict of interest.

ETHICS APPROVAL

The approval/permission was obtained from Khyber Medical University Research and Ethics Board.

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