

A Study On Prevalence Of Work Place Related Stress And Its Association With Quality Of Life In Physiotherapists Working In Out-Patient Departments In Chandigarh Capital Region.

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Abstract

Numerous studies have reported significant costs associated with workplace stress. Businesses in the United States incurred \$300 billion in stress-related expenses, and the European Union cited 20 billion euros as the price of stress in 1999. Furthermore, 89% of the population in India reported experiencing stress, exceeding the global average of 86%. Previous research has identified that physiotherapists often face workplace stress due to factors such as staffing shortages, excessive workloads, limited time to attend to patients and their families, and burdensome administrative duties. This stress has been shown to negatively impact the provision of physiotherapy services. The current study aimed to assess the prevalence of work-related stress and its association with quality of life among physiotherapists employed in outpatient departments within the Chandigarh Capital Region. A cross-sectional survey was conducted with 100 physiotherapists from both private and government hospitals in the region. The results revealed that 84% of the physiotherapists experienced moderate to severe levels of work-related stress. Additionally, physiotherapists with higher stress levels reported a diminished quality of life across various domains. Consequently, the implementation of effective stress management strategies is recommended to mitigate work-related stress and enhance the well-being of physiotherapy professionals.

Keywords: Workplace related stress, Quality of life.

Introduction

Stress is the disruption of the body's homeostasis or a state of disharmony in response to a real or perceived threat or challenge.¹ It is the body's response to pressure that is either mental, emotional, or physical. Stress alters the body's chemical composition, which can increase blood pressure, heart rate, and blood sugar levels. Additionally, it could cause feelings of annoyance, worry, rage, or melancholy. Normal daily activities or a specific occurrence, such as a trauma or disease, can both lead to stress. Problems with mental and physical health may result from prolonged stress or excessive levels of stress. In 2006, businesses reported stress costs of \$300 billion USD (American institute of stress, 2006). 20 billion euros were cited as the cost of stress in Europe in 1999.² Compared to the global average of 86%, 89% of the population in India reports experiencing stress. People may experience workplace stress as a reaction to pressures and demands at work that are out of line with their skills and expertise and that test their coping mechanisms. Although stress can arise under a variety of work conditions, it is frequently exacerbated when staff members feel they have little support from managers and co-workers and little influence over work procedures. Stress is linked to a number of health issues, including cardiovascular disease, obesity, diabetes, depression, anxiety, immune system suppression, headaches, back pain, and sleep issues.^{3,4} Work-related stress is the second most common occupational health issue in the world, costing an estimated \$5.4 billion annually, after low back pain.⁵ Stress at work has reportedly been identified as a drawback that makes physiotherapy as a vocation less alluring.⁶

Objectives

To study the prevalence of work place related stress and its effect on quality of life among the physiotherapists working in OPDs.

Methods

A total 100 physiotherapists were taken from Chandigarh capital region as per inclusion and exclusion criteria. Thorough history and assessment was done for all the participants. After comprehensive description of study each of participant was asked to sign an informed consent. Work place stress was measured by The Work Place Stress Scale (WSS) created by the Marlin Company, North Haven, CT, and the American Institute of Stress, Yonkers, NY. This scale consists of 8 items for each item there is score ranging from 1 to 5. Permission was obtained from American Institute of stress. Quality of life was measured by The World Health Organization Quality of Life (WHOQOL - 100) it consists of 26 items which are divided into 4 domains and two individual items which consider overall perception of quality of life and health. 4 domain score scaled in positive direction with higher score indicating a high quality of life. Three items of the BREF was reversed before scoring. The respondent's perception of physical, psychological, level of independence, environmental and spirituality (Domains). The 6 domain score denotes an individual perception of quality of life in each particular domain. Permission was obtained prior to use. The questionnaires were filled through direct interview. So this study was designed to evaluate work place stress and its association on quality of life in physiotherapists in Chandigarh capital region.

Results

There were total 100 participants in the study. **Table 5.1** depicts the descriptive statistics of the study participates. The data was presented in mean \pm SD, minimum, maximum, and median (interquartile ranges). The mean \pm SD for the age was 33.25 ± 3.23 . The maximum age was 30 years and minimum age was 43 years. The median age of the study population was 32.50. The interquartile ranges are from 30 to 36 years. The mean \pm SD for the working experience was 7.44 ± 3.98 . The minimum working experience was of one year and maximum was 16 years. The median (interquartile ranges) were 7 (4, 11). The mean working hours were 8.73 with the SD was 1.69. The minimum working hours were 6 and maximum working hours were 18. The median (interquartile ranges) were 8 (8,10). **Table 5.2** depicts that The 2% participants had the stress score ≤ 15 i.e. no stress and 40 % had stress score between 16-20 i.e. fairly low stress. 44% had stress score from 21 to 25 i.e. moderate stress and only 14% had stress score between 26-30 i.e. severe stress. Further, the study found that, there were 50 participants with ≤ 32 years of age. Among these only one i.e. 2% was having no stress. Twenty-one participants i.e. 42% was having fairly low stress. Twenty-one participants i.e. 42% was having moderate stress. Only 7 participants i.e. 14% was having severe stress. Thirty-two participants were having age more than thirtytwo. Among these was only one in no stress category. Nineteen participants i.e. 38% was having fairly low stress. Twenty-three participants i.e. 46% were having moderate stress. Only 7 participants i.e. 14% were having severe stress. The Chi square statistics value was 0.191 and the association was statistically insignificant as $p=0.979$. The study also reported an insignificant association of workplace stress with gender $p=0.198$. The study reported the association of qualification with workplace stress was insignificant, there were 42 participants with BPT degree. Nobody was having no stress. Nineteen participants i.e. 45.2% was having fairly low stress. Fifteen participants i.e.35.7% was having moderate stress. Only 8 participants i.e. 19% was having severe stress. Fifty-eight participants were having MPT=PhD. Among these only two was in no stress category i.e.3.4 %. Twenty-one participants i.e. 36.2% was having fairly low stress. Twenty-nine participants i.e.50% were having moderate tress. Only 6 participants i.e.10.3% were having severe stress. The Chi square statistics value was 4.393 and the association was statistically insignificant as $p=0.22$. The study showed statistically insignificant association of daily working hours with workplace stress with $p=0.493$. **Table 5.3** table shows the descriptive statistics of the study variables. the data was presented in mean \pm SD, minimum, maximum and median (interquartile ranges). WSS workplace stress score WSS was, the mean \pm SD value was 21.56 ± 3.23 . Minimum value was 14 and maximum value was 30 with median 21. WHOQOL score for D1WHOQOL(Domain1), the mean \pm SD value was 71.28 ± 13.25 . Minimum value was 31 and maximum value was 100 with median 69. The 1st quartile (Q1) was 63 and 3rd quartile (Q3) was 81. WHOQOL quality of life score for domain 2 (D2WHOQOL), the mean \pm SD value was 69.89 ± 15.34 . Minimum value is 19 and maximum value is 100 with median. 75 The 1st quartile (Q1) was 63 and 3rd quartile (Q3) was 81. WHOQOL Quality of life score for domain 3 (D3WHOQOL), the mean \pm SD value was 69.27 ± 20.40 . Minimum value was 6 and maximum value was 100 with median 72. The 1st quartile (Q1) was 56 and 3rd quartile (Q3) was 81. WHOQOL quality of life score for domain 4 (D4WHOQOL), the mean \pm SD value Was 69.02 ± 15.34 . Minimum value Was 38 and maximum value was 100 with median 69. The 1st quartile (Q1) was 56 and 3rd quartile (Q3) was 81. **Table 5.4**, shows the negative correlation between workplace stress (WSS) and all the domains of quality of life (WHOQOL) D1WHOQOL was $-.307$ (Fig 1.1) which was statistically significant with $p=0.002$. The coefficient of correlation between WSS workplace stress score and D2WHOQOL was $-.222$ (Fig 1.2) which was statistically significant with $p = .026$. The coefficient of correlation between WSS workplace stress score and D3WHOQOL was $-.229$ (Fig 1.3) which was statistically significant with $p = .022$. The coefficient of correlation between WSS workplace stress score and D4WHOQOL was $-.284$ (Fig 1.4) which was statistically significant $p = .04$.

Table 5.1. Descriptive statistics of the study population (n=100).

Variable	Mean±SD	Minimum	Maximum	Median(Q1, Q3)
Age (years)	33.25±3.23	30	43	32.50 (30, 36)
Working experiences (years)	7.44±3.98	1	16	7 (4,11)
Working hours	8.73±1.69	6	18	8 (8, 10)

Abbreviations: - SD=Standard Deviation; Q1=1st quartile; Q3= 3rd quartile.

Table 5.2. Prevalence of Workplace stress among study population (n=100).

WSS workplace stress scale	Percentage (%)
15 or lower (No stress)	2
16-20 (Fairy low)	40
21-25 (Moderate stress)	44
26-30 (Severe stress)	14

Table 5.3. Descriptive statistics of study variables.

	Mean ±SD	Minimum	Maximum	Median (Q1, Q3)
WSS workplace stress scale	21.56±3.23	14	30	21 (19, 23.75)
D1WHOQOL	71.28±13.25	31	100	69 (63, 81)
D2WHOQOL	69.89±15.34	19	100	75 (63, 81)
D3WHOQOL	69.27±20.40	6	100	72 (56, 81)
D4WHOQOL	69.02±15.34	38	100	69 (56, 81)

Table 5.4. Correlation among study variables. (Non-parametric)

Variables		Correlation coefficient	p-value
WSS workplace stress scale	D1 WHOQOL	-.307	.002
	D2 WHOQOL	-.222	.026
	D3 WHOQOL	-.229	.022
	D4 WHOQOL	-.284	.04

Abbreviations: - p-value= probability of error.

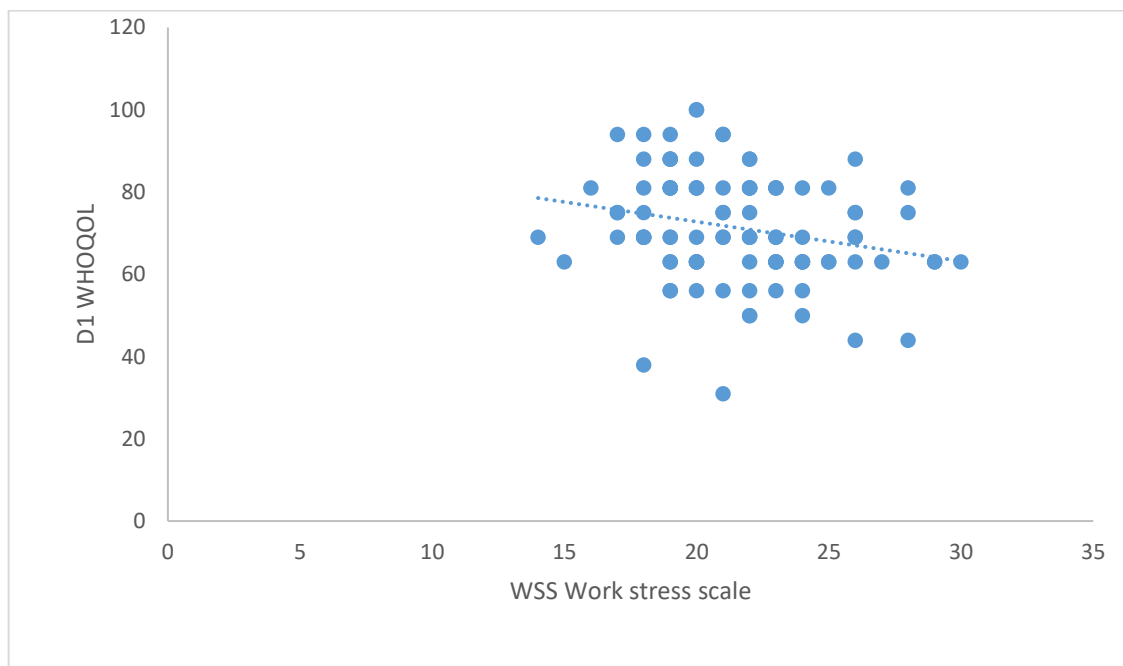


Figure. 1.1. Correlation between WSS workplace stress scale and D1WHOQOL

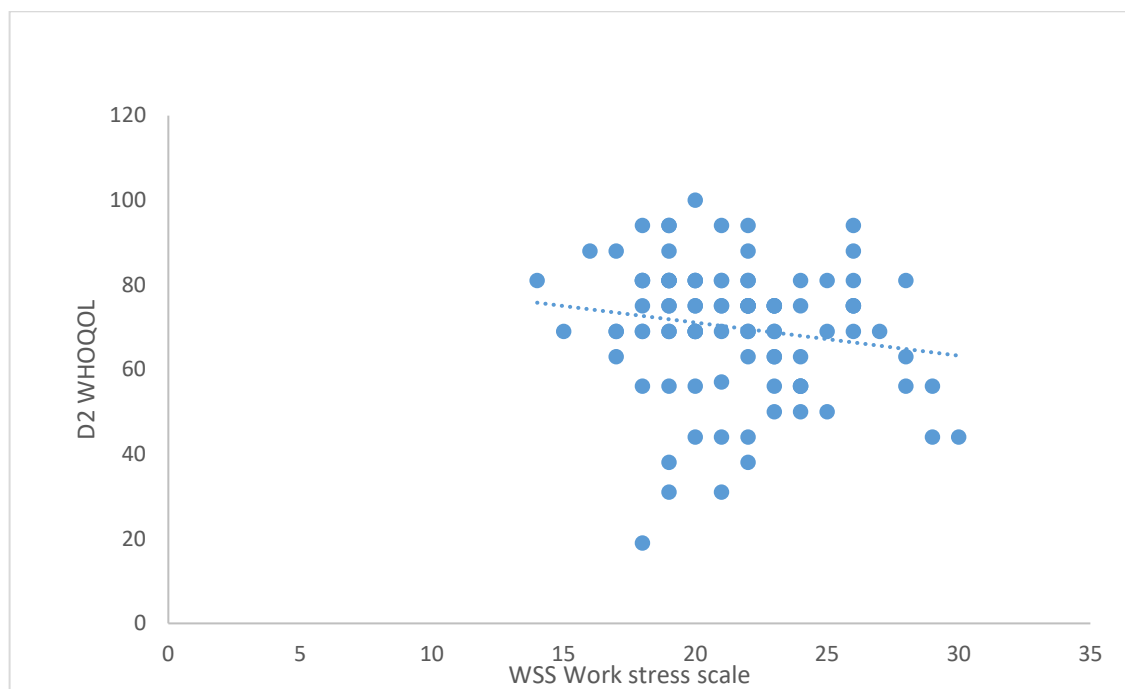


Figure 1.2. Correlation between WSS workplace stress scale and D2WHOQOL

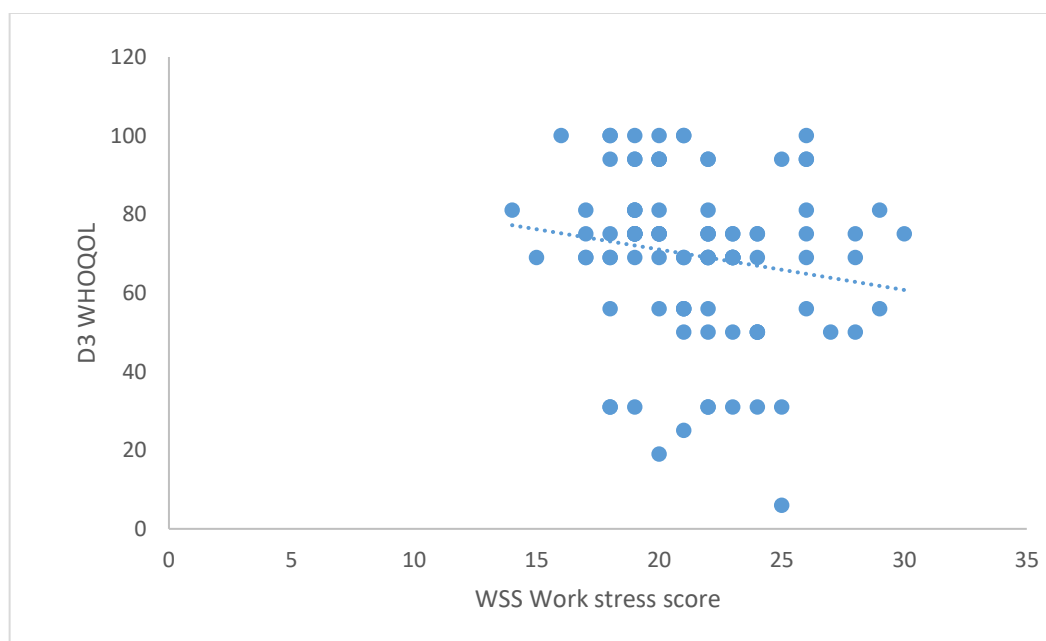


Figure 1.3. Correlation between WSS workplace stress scale and D3WHOQOL

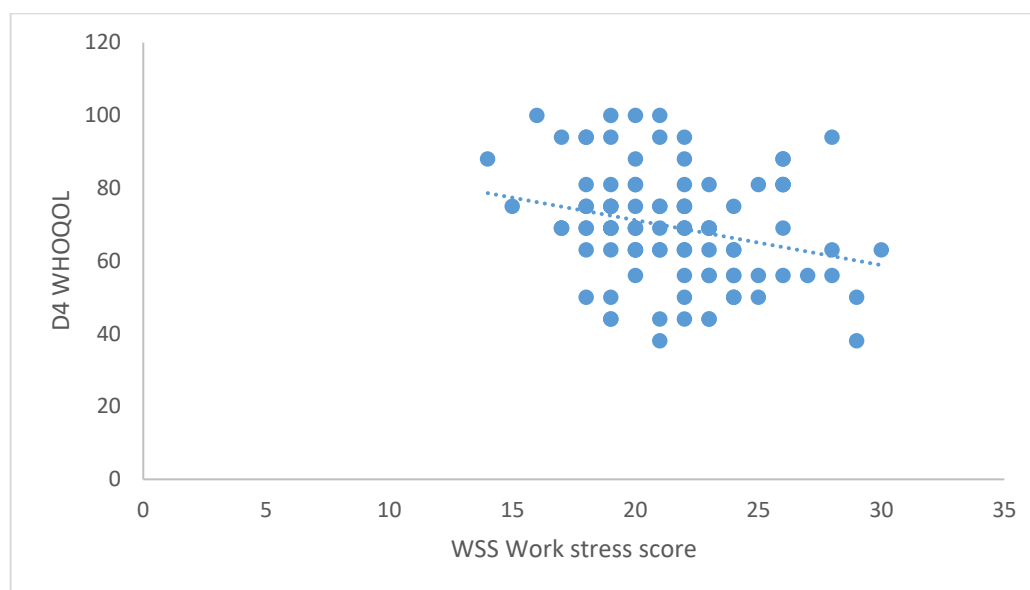


Figure 1.4 Correlation between WSS workplace stress scale and D4WHOQOL.

Discussion

The study depicts that fairly low to moderate work related stress exist in 84% of study population. Only 14% of the physiotherapist were having severe level of stress. Whereas 2% population has reported no stress. Hence, the physiotherapists were having stress due to profession. These findings are in accordance with Carmona-Barrientos et al. The study was conducted on 272 Physiotherapist between age 20-65 year of age. The study concluded that about 2/3 of the physiotherapists in the study have moderate to high level of stress.⁷

The study has also established an insignificant association with gender. However, more number of the females were in severe stress category i.e. 17.5%. Only 9.3% males were in severe stress category. The previous cross sectional observational study has also reported more stress level among females as compared to males. The study has evaluated the stress level among males and females.⁸ Young-Hyon et al have also reported the gender influence over the work related stress. The more stress among females might be because they have to play multiple role in their life along with their job. Moreover, they have to constantly prove themselves against the society mind set. Along with all these problems they have to face various physiological changes taking place into female's body during her reproductive phase. There is not any relation of working hour and stress because results are statistically non-significant. However, severe stress was reported more by the participants having working hour ≤ 8 hours i.e. 18.2%. These findings are supported by Young-Hyon et al. The study found that the participants with working hour more than 9 hours have more stress as compared to others who had less working hours.⁹ Further, there was significant association of work related stress with all the domains of the quality of life. All domains i.e. physical health, psychological health, social relationship, and environment deteriorate with the work related stress. Similar findings are reported by Young-Hyon et al.⁹ This might be because work related stress leads to physical issues like body pain. Moreover, stressed person may attain certain unhealthy habits like smoking, drinking etc. which can lead to deterioration in quality of life.⁹ Therefore, the study reported the work related stress among the physiotherapists.

Quality of life is a highly subjective measure. It is a measure of happiness that is an essential component of many factors. Factors that play a role in the quality of life vary according to personal preferences, but they often include financial security, job satisfaction, family life, health, and safety. The results of the study show a negative correlation between workplace stress and the various domains of quality of life (WHOQOL) i.e. D1WHOQOL (physical health), D2WHOQOL (psychological health), D3WHOQOL (personal relationship) and D4WHOQOL (environmental relationship).

The most common cause of stress in physiotherapists would be repetitive movement, work related musculoskeletal disorders, wrong or prolonged postures and they will turn into possible cause of stress. The most common cause of stress in physiotherapists would be repetitive movement, work related musculoskeletal disorders, wrong or prolonged postures and they will turn into possible cause of stress.⁹ Stress if persist for long become chronic in nature and cause further illnesses into body suggested by Michie S et al.¹⁰ Chronic stress raises blood sugar level, blood pressure, over progressive increase in time increasing the risk of heart related problems like myocardial infraction and strokes. Added to that, it encourages unhealthy behaviour changes such as development of smoking habit, drinking liquors, and poor diet, compounding the risk of serious health hazardous and illness conditions. In stress condition, the cortisol hormone is released, triggering a cascade of changes in various system of body like in the nervous, cardiovascular, digestive, and

immune systems. This triggers the body to divert flow of energy to where it's needed most, the "battle stations", while it down-regulates less critical activities such as digestion^{11,12}. There by leading to problem related to gastric region. Physiotherapist often faced not only the physical disability and pain in their patients, but also their depressive, anxious behaviour, anger and sometime bullying at work places could also be a reason for work related stress. Bullying at work places has found to be influenced to decreased well-being of people along with organizations. Workplace bullying has also been found to be clearly related to mental and emotional health related problems, such as depression, anxiety, suffocation, irritability and there are indications for associations to physical ailments the body or body get prone to disease. Physiotherapist deals physical incompatible body, social and psychological impairments of mental and emotional control, due to the nature of their job profile.⁷ Therefore, physiotherapist is developed to provide a sense of patience, security and trust for their clients with anxiety and irritability through the course of their treatment plan.

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