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Original Article

The Relationship Of Work Stress With Lower Back Pain Complaints In Dentists In Jambi City

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ABSTRACT

Background: Work stress is one of the factors causing complaints of lower back pain (LBP). Work stress has a negative impact on a person's physical and psychological health. Dentists who experience ongoing stress will usually experience complaints of low back pain. Pain can increase during prolonged activities. Increased pain can be felt due to psychological conditions and an unsupportive environment**.** The aim of this research is to determine the relationship between work stress and complaints of lower back pain among dentists in Jambi City**.**

Method: This research is a quantitative study using an analytical observational design with a cross sectional approach. Respondents in this study were 70 dentist taken randomly. Data collection used the Oswestry Dissability Index (ODI) questionnaire to measure complaints of low back pain, the Perceive Stress Questionnaire (PSQ) to measure work stress. Data analysis uses statistical correlation tests.

Results: The results of the statistical correlation test show that the work stress variable (p= 0.006)

Conclusion: There is a positive correlation between the work stress variable and the lower back pain complaint variable among independent practicing general dentists in Jambi City.

INTRODUCTION

Health is one of the causes of productivity and increased performance of the workforce as human resources. Good health conditions can influence good work productivity, where work that requires high work productivity can only be carried out by workers with excellent health conditions. It's different if you are sick or have health problems which can cause workers to be less productive in their work. The implication of ergonomics is an effort to adapt work to the workforce so as to create work comfort. Fatigue that quickly arises due to monotonous work, pain during work, physical and mental stress that lasts a long time can cause mental and psychological problems, therefore by implementing ergonomics, fatigue problems can be reduced. Ergonomics can help prevent additional burdens on workers, so that a worker's abilities are only aimed at the main job. If

ergonomics are not met, discomfort or pain will arise in certain parts of the body. Workers with the wrong work attitude can cause complaints of pain in the lower back.[1]

Lower Back Pain (LBP) is a symptom that has many causes for the increase in pain. The pain felt can originate from abnormalities in anatomical structures such as nerves, muscles, joints and intervertebral discs. Pain can increase during prolonged activities. Increased pain can be felt due to psychological conditions and an unsupportive environment. Therefore LBP is influenced by the individual's biopsychosocial condition. Biopsychosocial relates to several factors such as psychological, social and biological in understanding a person's disease process which views the mind and body as one unit. Biopsychosocial has an interconnected integration of mind and body. NPB can be influenced by biological, psychological and social environmental factors. These biopsychosocial factors can be influenced by interventions that target biopsychosocial factors to improve their quality of life.[2]

Stress is a state of pressure both mentally and physically that can occur to everyone at one time or continuously. Health workers tend to have high levels of work stress. This may be due to the high frequency of their direct encounter with people who are experiencing pain. Work stress has a negative impact on a person's physical and psychological health. Dentists who experience ongoing stress will usually experience complaints of spinal pain and headaches.[3]

Work stress not only causes a decrease in work ability and mental health problems but also causes a person's physical disorders.[4] The results of research show that stress can cause various health problems in workers. Several things that can be influenced by stress include tension conditions which affect the emotional condition of workers, causing accumulated stress to affect a person's ability to adapt to the environment, causing work implementation and work performance to be disrupted.[5]

Lower Back Pain is often ignored but is very worrying because it can reduce a worker's productivity. A lot of work and great demands to complete tasks on time require workers to sit for long periods of around 7-8 hours per day. Apart from that, this habit occurs every day, if work demands are greater than the worker's abilities, it will trigger work stress. Based on previous research, the factors above can cause LBP. Factors that often cause stress at work for workers include excessive workload, pressure or pressure for time, frustration, interpersonal and group conflicts, and differences in employee and company values.[6]

The high prevalence of LBP among dentists can cause services to the community to be less than optimal. Health problems experienced by dentists such as NPB can reduce the quality of dental and oral health services. This is supported by several studies which report that NPB causes a decrease in daily life activities. Occupational factors such as working position are also associated with the occurrence of NPB in dentists. Limited movement and a narrow visual field associated with the oral cavity often cause the dentist to assume unergonomic body positions to achieve good access and visibility within the oral cavity.[7]

Based on research, 30% of respondents experienced NPB.[8] Similar research was also conducted by Paldhikar, S in Pune, India, reporting that 62.1% of the dentists studied suffered from NPB.[9] In research of 60 dentists, it was reported that 47.6% suffered from LBP.[10] In Indonesia, the prevalence of LBP among dentists the prevalence of LBP among dentists was 41.2%. Of the 148 dentists who were respondents, 61 people experienced LBP. This figure means that almost half of dentists in North Sulawesi suffer from NPB.[7] Similar research was also carried out by Damian Abdul and Arya Adiningrat on dentists in Yogyakarta. From this study, 39 dentists

(51%) suffered from LBP.[11] Research conducted by Sawitri and Mulyono on dentists in Probolinggo shows that the risk most often suffered by dentists is musculoskeletal disorders. From this research, complaints of pain in the spine were experienced by several dentists in Probolinggo City.[12]

METHOD

This research is a type of quantitative research with an analytical observational design with a cross sectional approach. This research will be carried out from September 2024 - November 2024 at a general dentist's practice in Jambi City. The population in this study was 204 dentists with a sample size of 70 people. The sampling technique used in this research is Simple Random Sampling sampling with correlation data analysis.

RESULT AND DISCUSSION

Based on table 1, frequency distribution of complaints of Lower Back Pain among Independent Practicing General Dentists in Jambi City, there are more respondents who experience Lower Back Pain, namely, 120 people (89,6%) compared to respondents who do not experience Lower Back Pain, namely 28 people (10,4%).

Table 1. Distribution of respondents based on complaints of Lower Back Pain

Complaints Of Lower Back Pain	n	%
Experiencing LBP	120	89.6
Do Not Experience LBP	14	10.4
Total	134	100

Based on table 2, frequency distribution of Job Stress among Independent Practicing General Dentists in Jambi City, respondents in the category of experiencing job stress were 70 people (100%). From the results above, the median value for the work stress score variable was also obtained, namely 0.25 with an IQR of 0.21 -0.31, which means that 100% of respondents experienced work stress.

Table 2. Distribution of respondents based on work stress

Work Stress	n	Median	IQR
≥0	70	0,25	0,21 -0,31
Total	70		

Based on table 3 above, the results show a significance value of 0.006 because the value 0.006 <0.05 means there is a significant relationship between the work stress variable and the lower back pain variable. In the results of the correlation test, the r value was 0.327, which means that the level of strength of the relationship is sufficient between the low back pain variable and the work stress variable. The correlation coefficient number in the results above is positive so that the two variables are in the same direction, which means that if respondents experience increased work stress, complaints of lower back pain will also increase. So it can be concluded that the work stress variable and the lower back pain variable have a significant and unidirectional relationship.

Table 3. Distribution of respondents based on complaints of Lower Back Pain

Variabel Penelitian	r	p
Complain of LBP and work stress	0.327	0,006

DISCUSSION

Based on the research results, it was found that there was a positive correlation between work stress and complaints of lower back pain. The correlation test carried out has a sufficient and unidirectional relationship, meaning that dentists who experience increased work stress will also experience increased complaints of lower back pain[15].

This research is in line with research conducted by Alfaridah and Kresna (2022) which stated that more respondents felt severe stress due to a lack of fulfillment of psychological needs caused by work which became a daily routine which could make respondents feel stressed.[13] In the results of research conducted by Dian and Anita (2021), factors that often cause stress at work for respondents include excessive workload, pressure or time pressure, frustration, conflict, and difficulty resting.[6,16]

The psychosocial factors in this study indicate that depressive symptoms not only increase the risk of LBP but also have an adverse effect on the prognosis of LBP. Psychosocial factors identified that poor general health and individual, psychological and physical risk factors were associated with LBP and sciatica.[17,18] There is some association between some of these risk factors and LBP and sciatica. Regarding poor general health, sleep problems have been found to increase the risk of future LBP.[19,20] Recent research shows that sleep quality and pain intensity are closely related. This shows that lack of sleep is not good, reducing sleep duration will increase LBP complaints[21]. Meanwhile, psychological stress is a very influential risk factor for LBP disorders[22,23]. A common theory states that depression and pain symptoms follow the same pathways from the central nervous system.[24,25] In this case, dentists are advised to reduce working hours, get enough rest, and have time for relaxation and recreation in order to reduce work stress and prevent complaints of low back pain.[14]

CONCLUSION

There is a positive correlation between work stress and complaints of lower back pain. In the correlation test carried out, it was found that there was a sufficient and unidirectional relationship, meaning that dentists who experienced increased work stress then complaints of lower back pain would also increase. For respondents who experience work stress and experience complaints of lower back pain, it is best to reduce working hours, get enough rest and have time for relaxation and recreation in order to reduce work stress and prevent complaints of lower back pain.

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