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Analysis of Providing Stretching and Postural Physiotherapy Education during Handling of Upper Cross Syndrome, Neck Pain and Sleep Quality in Physiotherapists at PT Indo Sehat

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ABSTRACT

Background: Neck pain and upper cross syndrome (UCS) are common complaints among physiotherapists, often exacerbated by poor posture and repetitive tasks. These conditions can negatively impact sleep quality and overall work performance. Stretching and postural education are simple, non-invasive interventions that may reduce symptoms.

Purpose: This study aimed to determine the effects of neck stretching and postural education on neck pain, upper cross syndrome, and sleep quality among physiotherapists at PT Indo Sehat.

Methods: A true experimental, descriptive-analytical study was conducted over four weeks in four PT Indo Sehat clinics. Using proportional random sampling, 60 physiotherapists with a history of neck pain and poor sleep quality were selected and divided into intervention and control groups. Interventions included stretching routines and postural correction education. Data were collected through questionnaires and observation, and analyzed using paired and independent sample t-tests.

Results: The intervention group showed statistically significant improvements in neck pain ($p = 0.004$), sleep quality ($p = 0.000$), and upper cross syndrome symptoms ($p = 0.000$). The control group showed limited or no significant improvement, especially in UCS ($p = 0.061$). Comparative analysis between groups showed meaningful differences pre- and post-intervention across all three variables ($p < 0.005$).

Conclusion: Stretching and neck posture education significantly reduce neck pain and improve sleep quality and UCS symptoms in physiotherapists. These simple interventions are effective workplace strategies and are recommended for broader implementation.

Keywords: neck pain, postural neck, sleep quality, upper cross syndrome

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BACKGROUND

Physiotherapy is a rehabilitation action or therapy performed on patients after experiencing certain conditions, such as illness or injury. Basically, physiotherapy is needed to restore normal body function and be able to do activities as usual (William, 2017) . Physiotherapy is not only done with physical exercise, but also in the form of providing education and treatment. Therefore, it is related to Physiotherapy which is a medical personnel who also does a lot of physical activity when treating patients, this is related to the impact felt by the physiotherapy itself, namely neck pain, Upper Cross Syndrome and sleep quality disorders experienced by physiotherapy according to research conducted. This study was conducted on 60 Physiotherapists who had general complaints of neck pain, who also had complaints of sleep quality disorders or radiating pain (Algarni,2017).

Neck pain has a major impact on our quality of life, reducing not only our work ability but also the quality of sleep and radiating pain as well as Upper Cross Syndrome, this is caused by supporting the cervical spine in a neutral position to prevent the vertebral posture from experiencing unbalanced loading, this is considered to increase biomechanical pressure on the cervical spine structure which affects the reduction of neck pain (Lin , 2015).

Stretching is a simple method to minimize pain and muscle tension, especially in complaints of Upper Cross Syndrome, besides not requiring medical costs, stretching can be done independently to minimize pain with stretching movements and techniques used with the aim of relaxing muscles that are stiff (Airi, 2015). Postural neck can also be an alternative to minimize complaints of neck pain and improve sleep quality, this is based on research conducted by the Department of Industrial Design National Cheng Kung University Taiwan. Our active position greatly influences neck posture, which is closely related to neck pain which can result in disturbed sleep quality (Desta, 2017).

OBJECTIVE

Based on the results of the Preliminary Study conducted at PT INDO SEHAT from a total of 112 Physiotherapists who work as physiotherapists in physiotherapy clinics who filled out the form using google form, as many as 87 people filled it out because they had the complaint, and it was found that 53 people experienced neck pain and 53 people also experienced sleep quality disorders and followed by 20 experiencing radiating pain disorders and 23 people did not spread, 15 other people only experienced sleep disorders without neck pain and 19 people only experienced neck pain disorders without any sleep disorders, so it was concluded that the sample taken was respondents who had complaints of neck pain and sleep quality totaling 53 people. Neck Pain and Upper cross syndrome that were given interventions given Stretching and Postural neck interventions had a significant effect on reducing neck pain in the treatment group and did not have a significant effect on the control group. Measurements using ODI for Neck Pain complaints and UCS Score for Upper Cross Syndrome complaints in the intervention group and control group while the Sleep Quality variable that was given interventions given Stretching and Postural neck interventions did not have a significant effect because pain is not the main factor in a person's sleep disorders but rather psychological influences that are the main influence.(Gong Wu, 2018).

METHODS

This study is a Quantitative study using Descriptive Analytical Study in a true experiment with Proportional Random Sampling technique with ethical certificate number : 001488/EC/KEPK/I/07/2024 where the process of collecting primary data related to individual characteristics is carried out using the method using questionnaires and

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observations. This study examines the level of neck pain, Upper Cross Syndrome & Physiotherapy Sleep Quality by providing Stretching education interventions and providing postural neck education while working, this study was conducted for 4 weeks in physiotherapy in 4 different clinics with a total of 53 and rounded up to 60 subjects, and divided into 2 groups, namely the control group and the treatment group.

RESULTS

In the variable of providing Stretching & Postural intervention to PT. Indo Sehat employees, it has a significant value where it greatly influences Neck pain felt in the treatment group with a Sig value of 0.004 <0.005, while in the control group there is no significant influence with a sig value of 0.035> 0.05. In the variable of providing Stretching & Postural intervention to PT. Indo Sehat employees, it has a significant value where it greatly influences Sleep Quality felt in the treatment group with a Sig value of 0.001 <0.05, while in the control group there is a significant influence with a sig value of 0.001 <0.05. In the variable of providing Stretching & Postural intervention to PT. Indo Sehat employees, it has a significant value where it greatly influences Upper Cross Syndrome felt in the treatment group with a Sig value of 0.001 <0.05, while in the control group there is no significant influence with a sig value of 0.061> 0.05.

Table 1. Research results using the Paired T Test

No	Explanation	Paired Differences	df	*Sig.*
1	*Effect of intervention on Neck Pain (Intervention Group)*	.600	29	.007	.004
2	*Effect of intervention on Neck Pain (Control Group)*	1.100	29	.012	.035
3	*Effect of intervention on sleep quality (Intervention Group)*	4.533	29	<.001	<.001
4	*Effect of intervention on sleep quality (kontrol Group)*	5.600	29	<.001	<.001
5	*Effect of intervention on Upper Cross Syndr (Intervention Group)*	1.800	29	<.001	<.001
6	*Effect of intervention on sleep quality (Control Group)*	2.433	29	.011	.061

The results of the descriptive analysis of the research conducted are where improving posture and postural stability of the neck are the main pioneers in reducing neck pain, so that if this neck pain is reduced, it will have an impact on reducing pain in Upper Cross Syndrome so that this directly affects employees who often experience sleep quality disorders due to neck pain. Currently, musculoskeletal disorders often begin in adolescence. Musculoskeletal disorders occur in 67.3%, with the most locations in the waist (66.5%), back (60.5%), and upper neck (58.7%). Musculoskeletal disorders are significantly related to static body posture and lack of physical activity/exercise. susceptible to musculoskeletal disorders

such as low back pain due to progressive tissue growth and development. Musculoskeletal disorders in students have varying degrees of severity, ranging from mild, temporary, to severe disorders that limit daily activities, interfere with health, and affect quality of life. Static and hunched postures can cause weakness in the stabilizer muscles.

According to the author, several factors can cause musculoskeletal disorders in adolescents or adults due to daily activities that can be done with poor posture, both during rest and at work, this causes neck pain disorders that spread to other complaints.

Table 2. Results of comparison of research results using the Independent Sample T test

No	Explanation	Paired Difference		Sig.	
1	PREOSI - POSTOSI	.850	.225	<.001	<.001
2	PREPSQI - POSTPSQI	5.167	.726	<.001	<.001
3	PREUCS - POSTUCS	3.383	1.072	.001	.003

DISCUSSION

The research conducted is where improving posture and postural stability of the neck is the main pioneer in reducing neck pain, so that if this neck pain is reduced, it will have an impact on reducing pain in Upper Cross Syndrome so that this directly affects employees who often experience sleep quality disorders due to neck pain. Currently, musculoskeletal disorders often begin in adolescence. Several factors according to the author that can cause musculoskeletal disorders in adolescence or adulthood due to daily activities that can be done with poor posture, both during rest or at work. Neck pain and sleep disturbances are among the most common complaints suffered by humans. (Lee, 2017). Common causes of muscle pain are incorrect muscle use or overexertion, resulting in oxygen deprivation. According to 2018 data from the World Health Organization (WHO), the prevalence of myalgia disorders ranges from 50-62% of the total population worldwide and often affects people living in industrialized countries. In Indonesia, the prevalence of myalgia sufferers ranges from 45-59%.this causes disorders in neck pain to spread to other complaints the identification results of the variables Neck Pain, Sleep Quality, and Upper Cross Syndrome are related, particularly to 77 employees who complain of neck pain who will have upper cross syndrome. This is because the pain is not limited to one point in the neck but can radiate to the head and back, a characteristic of upper cross syndrome. Furthermore, pain experienced during or after work can affect rest/sleep, resulting in impaired sleep quality, especially at night (Brett, 2017).

CONCLUSION

The results of the identification of the Neck Pain variable given the intervention given the Stretching and Postural neck intervention have a significant effect on reducing neck pain in the treatment group and have no significant effect on the control group measurement using ODI Neck Pain(AF,Cendrawasih, 2014).

The results of the identification of the Neck Pain variable given the Stretching and Postural neck intervention on employees who experience complaints of Sleep quality disorders given the Stretching and Postural neck intervention have a significant effect on reducing sleep quality disorders in the treatment group and have no significant effect on the control group measurement using PSQI.

The identification of the Neck Pain variable given the Stretching and Postural neck intervention on employees who experience complaints of Upper Cross Syndrome given the

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Stretching and Postural neck intervention did not have a significant effect on reducing Upper Cross syndrome disorders in the treatment group and had no significant effect on the control group, measurement using UCS Score. The identification results of the variables Neck Pain, Sleep Quality, and Upper Cross Syndrome have a relationship, especially in employees who have complaints of neck pain will have complaints of upper cross syndrome because the pain felt is not only one point of the neck area but will spread to the head or back which are characteristics of this upper cross syndrome itself, as well as other factors pain felt while working or after work will have an effect on rest / sleep which results in disruption of employee sleep quality, especially at night. Further research is recommended to add other independent variables that have not been studied in this study, so that it can be known what factors most influence neck pain, sleep quality and upper cross syndrome.

CONFLICTS OF INTEREST

Not whether there is a conflict of interest in this research

SUGGESTIONS

For the Company

PT Indo Sehat pays special attention, especially to facilitate dynamic chairs which are one way out to reduce complaints felt and minimize the occurrence of compensation for complaints felt by employees, especially those who experience Neck Pain.

For Further Researchers

Further research is recommended to add other independent variables that have not been studied in this study, so that it can be known what factors most influence neck pain, sleep quality and upper cross syndrome.

For the community

The community can know a good working position to avoid musculoskeletal disorders such as neck pain and upper cross syndrome.

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