



Risk Factors for Tailor Workers with the Incident of Flak Pain at Pt X

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Abstract

Flank pain is a type of problem in the musculoskeletal system. This condition causes pain that appears both on the right and on the left, behind the waist, precisely in the area below the ribs and above the pelvis. Back pain is still a problem from the decline in work productivity in various parts of the world. The purpose of this study is to analyze job risk factors, namely length of sitting, sitting position, and length of work and to find the most influential occupational risk factors among the 3 variables. Research method Quantitative research design through a "cross sectional" approach. This researcher uses Simple Random Sampling with obtained as many as 155 respondents. The data analysis technique uses the Logistic Regression test. The results of this study note that the factor of sitting too long is the most influential factor in the incidence of "flank pain". The results showed that of the 155 respondents who were studied by the researchers, 132 respondents (85%) experienced Flak pain. Respondents with a long duration of sitting > 9 hours were 134 respondents (84%), most of the respondents were in a non-ergonomic sitting position of 132 respondents (92%), as many as 100 respondents (59%) had worked > 10 years. Based on the Logistic Regression test based on the omnibus model test, it shows a significance value of $p\text{-value} = 0.000 < \alpha = 0.05$, meaning that H_0 is rejected and H_1 is accepted, this means that there is a joint effect between the factors of length of work, length of sitting and duration of work on the incidence of flak pain on Toilor at PT X. . Based on the Exp (B) value with the highest Exp (B) value.) namely 15,808, it can be concluded that the factor that most influences the incidence of flak pain is long sitting. There is a joint influence of long sitting, sitting position, and length of work with the incidence of Flak Pain in Tailors at PT X and It was found that the most dominant factor influencing the incidence of Flak Pain in Tailor workers was long sitting.

Keywords: genesis flank pain; long work; long sit; position sitting

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INTRODUCTION

Flak pain is an unpleasant sensory experience and emotional hole in the area between the 12th thoracic vertebra to the bottom of the pelvis or rectum that arises because of potential tissue damage or damage (Noor Z.H., 2013)back or spine. This is due to atherosclerosis which then clogs blood vessels so that muscle work becomes continuous and muscle tension occurs due to the supply of oxygen, lactic acid and nutrients which will then cause back pain or flaccid pain (Reo No, 2018). if the worker sits in the same position continuously for a long period of time. Flak pain is a very common world health problem, because it often affects work productivity. (Organization, 2015) The prevalence of flaccid pain in the world shows that 33% of the population in developing countries experience persistent pain. In the UK about 17.3 million people have experienced back pain and of these around 1.1 million people experience paralysis caused by the back. Epidemiological data

regarding flax pain or back pain in Indonesia do not yet exist, but the incidence based on patient visits from several hospitals in Indonesia ranges from 3 to 17% who experience "flax pain" reaching 60-70% in early adulthood. Indonesia has obtained data on the number of sufferers of "flax pain" which is not known for certain, but ranges from 7.6% to 37% of the total population of Indonesia (Lailani, 2015). According to (Parjoto, 2013) in several developing countries, the number of sufferers of "flak pain" is around 15-20%, most of the contribution of patients recovering from acute and chronic flak pain. One of the causes of flax pain is muscle disorders which will be exacerbated by certain situations, such as prolonged sitting and wrong sitting position, age, gender, overweight (BMI), posture and chairs that are not ergonomic. plays an important role in the occurrence of back pain, due to prolonged sitting, long working sitting position, and repetition (Umami AR, Hartanti RI, 2014).

Length of work can affect the workforce both positively and negatively, length of work will have a positive influence on workers if the longer the tailor's worker the more experience he has in carrying out his duties. Conversely, it will have a negative effect if the longer the tailor's work will cause boredom and work fatigue which is at risk of experiencing flak pain. The results of research conducted by (Syuhada, 2018) concerning the risk factors for lbp in tea picking workers at cianter tea plantations in Subang Regency found that there was a relationship between length of work, back posture, body weight with the incidence of lbp ($p < 0.05$). Sitting duration is related to the physical condition of the tailor worker's body. Heavy physical work will affect the work of the muscles, cardiovascular, respiratory system and others. If the work goes on for a long time without rest, it will reduce the body's ability and can cause pain in the tailor's limbs. Prolonged sitting also forces the spine along with the tendons or muscles to be forced to maintain the upper body excessively, this will cause fatigue in the back muscle tissue, especially the lumbar muscles, resulting in complaints of aches and pain in the lower back of tailor workers. Sitting duration > 4 hours has a relationship with complaints of low back pain or flak pain. In accordance with the literature review from Samara et al stated that sitting for 1.5 to 5 hours has a 2.35 times greater risk of developing low back pain or flak pain. Workers who have a sitting position for the duration of half the working day or more have a 1.6 times risk of suffering from flak pain. In a study conducted by (Sari, Theresia, I., &Engeline, 2015) showed that out of 30 samples of travel company computer operators, 90% suffered from flak pain and there was a strong relationship with length of sitting. The sitting position that is most at risk of causing flak pain is sitting upright and bending over for 5-6 hours. Likewise, in (Sumekar DW, 2010) there was a relationship between prolonged sitting and complaints of back pain, namely from 63 (81.8%) respondents there were (58.7%) respondents who complained of back pain due to working in a sitting position for > 4 hours. Wrong sitting position with a chair that is not ergonomic will cause flak pain. Flai pain is caused by excessive and continuous muscle contractions, therefore it is necessary to pay attention to the correct sitting position. Factors that affect sitting position include joint angle, vertical inclination of the body, head, arms and legs and the degree of addition or reduction in the shape of the spinal curve.

Based on data from the Central Lampung Regional General Hospital, the musculoskeletal disease group, including back pain, ranks in the top 10 most common diseases in outpatients. Sitting position that is not ergonomic and sitting for too long can cause excessive burden and tissue damage to the lumbar spine. It was found that workers who sat static for 91 – 300 minutes had a risk of developing LBP 2.35 times greater when compared to those who sat static for 5 – 90 minutes (Diana, 2015)

Flak pain is pain in the lower back area. Factors that influence the incidence of flak pain include age, body mass index, gender, smoking, workload, duration or duration of work, repetition, length of sitting and sitting position. Improper body position in tailor workers when doing work will cause flak pain conditions. Flak pain is caused by an inefficient transfer of energy from the muscles to the skeletal tissue, causing fatigue which will eventually lead to complaints of flak pain. According to the results of research conducted by

(Widjayanti et al, 2013) concerning the relationship between sitting position and complaints of lower back pain, it was found from 46 respondents 36 (78%) of respondents complained of lower back pain. Low back pain or lumbago is a musculoskeletal disorder caused by poor body activity. If this activity is carried out continuously for a long time, it will cause the back muscles to become tense and can damage the surrounding soft tissue (Wijana, 2016). By knowing the risk of affecting flak pain in workers, this can encourage researchers to conduct research on the analysis of occupational risk factors that affect the occurrence of flak pain in tailor workers at PT. X

This study aims to analyze the occupational factors that influence the incidence of flak pain in tailor workers at PT. X with the specific objective of analyzing the effect of working time, sitting duration and sitting position on the incidence of flak pain in tailor workers and analyzing the dominant factors that influence the occurrence of flak pain in tailor workers at PT. X

METHOD

This study used a quantitative approach using a correlational study with a cross sectional design. The population in this study were all Tailor workers totaling 250 people. The sampling technique used is Simple Random Sampling with the formula for calculating the sample size to get a sample of 155 respondents. The analysis technique used was the Logistic Regression test. The instrument used for data collection in this study was an observation sheet on the variable length of work, length of sitting and sitting position, while the flak pain variable used the lasereque test with laserque examination. Laserque examination with a positive result if the patient feels pain that radiates from the lower back to the lower leg, while a negative result: If the patient does not feel pain that radiates from the lower back to the lower leg (Fathoni et al, 2009) in (Zuniawati, 2021)

RESULTS AND DISCUSSION

The incidence of flak pain in this study was influenced by factors such as length of sitting, sitting position, length of work. The results are in Table 1-5.

Table 1. Respondents Based on Flak pain

Flak Pain	f	%
Positive	132	85
Negative	23	15

Table 1 shows that most of the respondents experienced the incidence of Flak pain as many as 132 respondents (85%). Flak pain is pain in the lower back which is a musculoskeletal disorder caused by poor body activity. Risk factors that influence the occurrence of flak pain include age, body mass index, gender, smoking, workload, duration or duration of work, work position, repetition, length of work. Work period is an accumulation of work activities in tailor workers carried out over a long period of time. If this activity is carried out continuously for years, of course it can cause disturbances in the body, especially disorders of the lower back which will cause pain. Back pain or flak pain is caused by tension in the vertebrae, especially in the lumbar region. Back pain can occur in work situations for tailor workers, but the risk is greater if tailor workers sit for too long in the wrong sitting position, this will cause continuous muscle contractions and narrowing of the blood vessels. Preferably, work activities while sitting must be carried out ergonomically so as to provide comfort at work and minimize the incidence of falk pain in workers (Zuniawati, 2021)

Table 2. Respondents Based on Long Sitting

long sitting	f	%
≤8 o'clock	21	16

>9 o'clock

134

84

Table 2 shows that most of the respondents took a long sitting >9 hours as many as 134 respondents (84%). Complaints of flak pain caused by sitting too long. Sitting for a long time triggers tension and stretching of the ligaments and muscles of the spine, resulting in flak pain. Flak pain is related to sitting for more than 4 hours in an unergonomic position. Therefore, it is necessary to pay attention to the length of sitting for seamstresses when sewing, taking short breaks from sitting and standing and relaxing is necessary to reduce and prevent flak pain. In addition, exercise activities can also reduce and prevent flak pain (Reo No, 2018)

Table 3. Respondents Based on Sitting Position

Sitting position	f	%
Non ergonomic	132	92
Ergonomic	23	8

Table 3 shows that most of the respondents are in a non-ergonomic sitting position as many as 132 respondents (92%). One of the factors that influence the incidence of flak pain is sitting position. The wrong sitting position with a chair that is not ergonomic will cause lower back pain. Low back pain is caused by excessive or continuous muscle contractions and narrowing of blood vessels, both of which cause pain. Therefore, it is necessary to pay attention to the correct sitting position and the use of lumbar support, while sitting lumbar support really helps reduce the risk of flak pain. In addition, sports activities can also help reduce and prevent the occurrence of flak pain in tailor workers (Parjoto, 2013)

Table 4. Respondents Based on Length of Work

Length of work	f	%
< 6 year	25	18
6 – 10 year	30	23
> 10 year	100	59

Table 4 shows that more than half of the respondents have worked longer than 10 years as many as 100 respondents (59%). Length of work is one of the factors that influence the incidence of flak pain in tailor workers. Working for long periods of time will cause the disc cavity to narrow permanently and will result in spinal degeneration which will cause flak pain. Flak pain is a condition of limited movement that results in back pain when doing activities or mobilization. Tailor workers should work a maximum of 8 hours per day according to Law no. 13 of 2003 concerning employment in industry, especially article 77 paragraph 1, according to interviews conducted by tailor worker researchers, it states that there are tailor workers who work more than 8 hours per day, besides that the amount of production must be adjusted to the worker's target, if workers produce clothes that has been sewn more, the production or wages of workers is also increasing (Sari, Theresia, I., &Engeline, 2015)

Table 5. The results of the Job Factor Analysis with the Incidence of Flak Pain on Tailors at PT. X

Omnibus test of model coefficients				
Step	Step	Chi-square	Df	Sig.
Block		83.320	3	.000
Model		83.320	3	.000
Model Summary				
Step	-2 Log likelihood	Cox	& Snell R	Nagelkerke R Square
Square				

1						
		65.451 ^a	.345			
	B	S.E.	Wald	Df	Sig.	Exp(B)
Step 1 ^a	X3	.387	6.938	1	.009	.362
	X2	.684	11.910	1	.000	15.808
	X1	.800	15.967	1	.002	.066
Constant		1.594	1.208	1	.273	5765

Variables entered in step 1: X3, X2, X1

Table 5 shows that the incidence of flak pain in the toilet is influenced by the length of sitting and the long working position. Sitting for too long in the wrong sitting position with a chair that is not ergonomic can cause lower back pain or flak pain. Flak pain is excessive muscle contraction and narrowing of blood vessels in the area between the 12th thoracic vertebra to the bottom of the hip or anal canal. Long working hours is one of the factors that influence the incidence of flak pain. Sitting for too long while working will cause the disc cavity to permanently narrow resulting in spinal degeneration which will later lead to back pain or flak pain.

The flak pain factor is influenced by the length of sitting with a duration of 8-9 hours per day. Long sitting reduces muscle activity, especially the large muscles in the legs and back, so that in reducing the body's ability, length of work is also a factor related to Tailor's physical condition. If the Tailor worker sits for too long without resting, it causes fatigue in the back muscle tissue, especially the lumbar muscles(Qareeballa at all, 2018)

The most dominant factor affecting flak pain in Tailor is the factor of sitting too long. This is because the Tailor sits for too long without resting when operating the sewing machine which can later cause a condition where energy transfers from muscles to tissues, including: dermis of blood vessels, fascia, muscles, tendons, cartilage, bones, ligaments, intra-articular meniscus, and bursa which will be inefficient, causing fatigue which can lead to back pain or flak pain. Flak pain is back pain in the lower right or left, which is a musculoskeletal disorder caused by poor activity. Flak pain risk factors that influence include individual factors (smoking, age, body mass index, gender) and occupational factors (long sitting, sitting position, length of work, work position, repetition or repetition, working period) (Zuniawati, 2021)

Discussion

The results of the logistic regression show that the omnibus value of the model test shows $p\text{-value} = 0.000 < 0.05$ so that H_0 is rejected and H_1 is accepted, meaning that there is a joint influence on the factors of length of work, length of sitting and length of work on the incidence of flak pain in Toilor at PT X. Based on the value of Exp (B), it is known that the factors that influence the incidence of Flak pain in Toilor at PT.X are the sitting position factor with the highest Exp (B).) is 15,808. The results of this study indicate that the length of sitting is the most dominant factor. Sitting too long in a position that is not in accordance with an ergonomic chair will cause back pain or flak pain. The cause of Flak pain is excessive muscle contraction and narrowing of blood vessels which causes back pain or flak pain(Reo No, 2018)

Flak pain is influenced by long sitting with a duration of 8-9 hours per day. Long sitting reduces muscle activity, especially the large muscles in the legs and back, so that in reducing the body's ability, length of work is also a factor related to Tailor's physical condition. If the Tailor worker sits for too long without resting, it causes fatigue in the back muscle tissue, especially the lumbar muscles. The most influencing factor for Flak pain is the factor of sitting too long. This is because tailor workers sit for too long without resting when operating sewing machines which can later cause a condition where energy transfers from muscles to tissues, including: dermis of blood vessels, fascia, muscles, tendons, cartilage, bones,

ligaments, intra-articular meniscus, and inefficient bursa, causing fatigue which can lead to back pain or flak pain(Ramdan, 2018)

Flak pain risk factors that influence include individual factors (smoking, age, body mass index, gender) and occupational factors (long sitting, sitting position, length of work, work position, repetition or repetition, working period). Sitting too long in a position that is not in accordance with an ergonomic chair will cause back pain or flak pain. The cause of Flak pain is excessive muscle contraction and narrowing of blood vessels which causes back pain or flak pain. The longest sitting in the wrong position needs to be considered how to adjust the sitting position and it is better to use an ergonomic chair when sitting really helps reduce the risk of back pain or flak pain (Muttaqin, 2010). Flak pain is caused by a muscle (strain) or ligament (sprain) injury. Common causes include lifting weights the wrong way, poor posture, not exercising regularly, fractures, ruptured discs, or arthritis. Usually the only symptom is pain in the back or Flak pain. Flak pain is also an unpleasant condition that patients complain about, which is felt as clear or vague and diffuse or localized (Defriyan, 2011). The trigger factors for flak pain include individual factors (smoking, age, body mass index, gender) and occupational factors (long sitting, sitting position, length of work, working position, repetition or repetition, working period at work)(Santoso, 2013). According to(Widjayanti et all, 2013) the results of his research with the title of the relationship between sitting length and sitting attitude on complaints of myogenic low back pain in students of Muhammadiyah University of Surakarta. The results found a relationship between sitting and sitting posture. Prolonged sitting forces the spine and tendons and muscle tissue to overexert the upper body. Thus the muscle tissue in the back will experience fatigue, especially the lumbar muscles. This can take the form of a sprain or lower back strain that can occur suddenly, or it can develop slowly over time due to repetitive motion resulting in complaints of lower back pain.

Workers who have a sitting position for half a day of working time or more have a 1.6 times risk of suffering from Flak pain. The longest sitting in the wrong position needs to be considered(Sari, Theresia, I., &Engeline, 2015) if the Tailor worker sits for about 15 to 20 minutes, then the muscles in the back usually start to get tired and start to feel lower back pain. The longest sitting in the wrong position needs to be considered how to adjust the sitting position. Sitting duration > 4 hours has a relationship with complaints of LBP or low back pain. According to Samara et al, it was stated that sitting for more than 1.5 to 5 hours had a 2.35 times greater risk of experiencing Flak pain. Flak pain is a condition of physical discomfort that occurs in any part of the spine or back, ranging from mild to making you unable to move.(Alfiani, 2016)

The working period is one of the factors of Flak pain that causes back pain complaints. The results of research from(Syuhada, 2018) on risk factors for low back pain that occur in tea picker workers at cianter tea plantations in Subang Regency with the results of the relationship between years of service, back posture, body weight are factors that affect the incidence of low back pain in tea picker. In doing work, workers are required to carry out non-ergonomic body positions, for example in an upright sitting position, bent sitting position or half sitting(Todingan, 2015). The sitting position is a working position in which the feet do not get heavy weight and a stable position while they work when done ergonomically. If it is non-ergonomic, the worker will experience a static load which will eventually cause Flak pain. Research by(Widjayanti et all, 2013) at the Catholic STIKES St. Vincentius A Paulo Surabaya there is a relationship between sitting position and complaints of low back pain. Determining whether or not a sitting posture or sitting position is efficient at work is to place a balanced pressure on different body structures and requires little muscle effort to endure so that you will feel comfortable(Tarwaka, 2018). Working for a long time with an unergonomic sitting posture will cause the back muscles to become tense and can damage the surrounding soft tissue(Wijana, 2016). By sitting for a long time, it must be done ergonomically, this can provide a sense of comfort while working(Todingan, 2015)

The results of research on Tailors at PT. X as many as (85%) experienced Flak Pain. Flak Pain is pain in the lower back, musculoskeletal disorders that occur due to poor body activity. Back pain can be caused by things other than the underlying disease. Examples include excessive activities such as exercise or lifting too much, sitting or lying down for a long time, sleeping in an uncomfortable position, or wearing a backpack that doesn't fit (Zuniawati, 2021). The trigger factors for flak pain include individual factors (smoking, age, body mass index, gender) and occupational factors (long sitting, sitting position, length of work, working position, repetition or repetition, working period at work). (Santoso, 2013). The accumulation of activity at the Tailor in a long period of time carried out continuously can cause disturbances to the body, especially disorders of the lower back which can cause pain or Flak pain. Flak pain is caused by tension in the spine, especially at the waist. Flak pain is caused by a muscle (strain) or ligament (sprain) injury. Common causes include the wrong way of lifting weights, poor posture. Tailor workers are at greater risk due to sitting in the wrong position for too long and the chair is not ergonomic, if the Tailor sits for too long in the wrong position when sitting, this can result in contraction of the muscles and constriction of the blood vessels continuously which results in injury to the bones behind. Tailor workers should work while sitting in an ergonomic manner and use chairs that conform to ergonomic standards. Ergonomic chairs are chairs that are specifically designed to meet the needs of the user to sit, provide a sense of comfort while working and minimize Occupational Diseases and the incidence of Flak Pain in Tailors at PT.X

CONCLUSION

The results of the study found that there was a joint influence of the factors of sitting, sitting position, and length of work with the incidence of Flak Pain in Tailors at PT X and it was found that the most dominant factor influencing the incidence of Flak pain in Tailor workers was length of sitting.

RECOMMENDATION

From the results of this study, it will be able to add insight and knowledge to readers or researchers about worker factors that influence the occurrence of flak pain in tailor workers. It is hoped that further researchers can examine other worker factors or with different variables.

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