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The Description Of Risk Level Disability Due To Lower Back Pain Employees At Logistics Company Site J Surabaya 2023

Nurul Auliya¹, Mirta Dwi Rahmah Rusdy², Putri Handayani³, Decy Situngkir⁴

¹Program Studi Kesehatan Masyarakat, Fakultas Ilmu Ilmu Kesehatan Universitas Esa Unggul, Jakarta, Indonesia. ^{2,3,4}Dosen Prodi Kesehatan Masyarakat, Program Studi Kesehatan Masyarakat, Fakultas Ilmu Ilmu Kesehatan Universitas Esa Unggul, Jakarta, Indonesia

Article Info **ABSTRACT** Keywords: Musculoskeletal disorders (MSD) are diseases that are identically caused Nyeri Punggung Bawah, NPB, by work. One of the musculoskeletal disorders is low back pain (LBP). Low back pain, LBP, ODI, Factors causing LBP are unergonomic positions when working, worker's Oswestry Low Back Pain age, gender, and education. Site logistics company J Surabaya is a Disability Questionnaire company that operates in the field of product storage services and distribution of goods from J customers to several distributors. In its operational processes, several employees were found to be carrying out unergonomic actions, apart from that, many employees were experiencing lower back pain. As a result of this condition, the company suffered losses. This research was conducted to know the risk of disability due to lower back pain in employees at the logistics company site J Surabaya. The research method used was univariate descriptive research by taking data on employees who complained of lower back pain using the ODI questionnaire. The data analysis used is cross-tab. The results of the questionnaire obtained data to describe the risk of disability due to lower back pain in employees at the logistics company site J Surabaya, the highest was in the male category aged > 30 years at 95.5% (21 employees), the lowest was female 2 employees 50% good at ages < 30 years and > 30 years. Based on age at >30 years old with a percentage of 95.5% (21 employees) and <30 years old with (4.5%) 1 employee. Based on employee gender, 90.9% are male (20 employees) and 9.1% female (2 employees). This is an open access article Corresponding Author: under the CC BY-NC license Nurul Auliya Program Studi Kesehatan Masyarakat, Fakultas Ilmu Ilmu Kesehatan Universitas Esa Unggul, Jakarta, Indonesia nurul.auliya021@gmail.com

INTRODUCTION

Disturbance *musculoskeletal* (MSD) is identical disease caused by work, illness This caused If muscle accept static load repeatedly and deeply quite a long time (Hutabarat, 2021). Apart from that, Cieza's (2020) research on studies The 2019 Global *Burden of Disease* (GBD) shows that about 1.71 billion people worldwide live with condition *musculoskeletal disorders*, including painful back lower (*low back pain*), painful neck, broken bones, injuries others, *osteoarthritis*, amputation, and *arthritis rheumatoid*. Income countries tall are the countries most affected impact in matter amount population – 441 million people – followed by



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countries in the Western Pacific Region with 427 million people and the Southeast Asia Region with 369 million soul (Cieza et al., 2020)

One of disturbance *musculoskeletal disorders* is *low back pain* (LBP). LBP is disturbance painful back, stiffness and abnormalities shape on the back, *paresthesia* or weaknesses in members body part lower. LBP sufferers experience Sick back usually felt in parts bottom and in second side of the center line back, often widespread until part on butt and up to bottom, apart That stiffness can happen in a way suddenly consequence spasm muscle or keep going continuous and predictable more bad consequence inflammation joints bone behind (Apley & Solomon, 2018).

Disability according to The KBBI dictionary is circumstances like sickness or limiting injury mental and physical abilities of somebody. Symptoms of LBP or painful waist bottom (NPB) can be painful local radicular or both. The painfully felt waist will cause the sufferer to experience something inability or disability so that limitations functional in doing activity daily (Wahyuddin, 2016)

A causative factor in the occurrence of LBP is position No ergonomic when Work can cause tension muscle and pain back lower or *lower back pain*. Without consciousness, behavior bend (bend), position head No upright, view always to bottom and pattern monotonous work often done moment Work. Whereas all activities can trigger lower *back pain*. Not only that, but the condition can also be influenced by several other factors such as age, type of gender, sitting habits, the condition bone the back doesn't normal, habit lift objects heavy, or disease certainly like disease *degenerative* (Kemenkes RI, 2023).

Cases of *low back pain (LBP)* based on data from *The Global Burden of Disease (GBD)* in *studies* research conducted by Prof. Manuela L Ferreira informs that in 2020 the number case painful waist reached 619 million, in study it also informs that this LBP happen caused by factors employment, smoking, and high (Ferreira et al., 2023)BMI. Meanwhile in Indonesia based on reported data Riskesdas 2018 found as many as 713,783 cases related diseases with joints (*Laporan Riskesdas*, 2018).

Research conducted by Verdia Apriliana Sari (2020) shows that in the group aged \geq 35 years (70.8%) compared group aged <35 years (0%), the percentage of LBP was higher among respondents type sex man men (57.7%), compared type sex female (50.0%). Part big LBP respondents have mass work >5 years (65.0%). Compared mass work < 3 years and mass work 3-5 years (50%). More LBP is higher in the percentage of respondents who have a habit of smoking (61.1%) compared to No own habit of smoking (50.0%) and higher among respondents who have Risk posture Work high (83.5) compared to posture Work step and more tall respondents 16.7%. The conclusion from Veridia's research shows that mass work > 5 years with a habit of smoking and risk posture Work tall own complaint *lower back pain* the taller (Sari, 2020).

Case incident *low back pain* No only influenced by posture bodywork and length of work but also possibly influenced by age worker as research conducted by Ameilia Putri et al (2021) explains that no there is a connection between posture body and standing for a long time with the incidence of LBP in workers. This matter can influence age-dominant workers including category age productive so that characteristic physiological muscles are still very



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supportive of productivity work beside in between activities, workers can freely do minimal stretches to the body so that stiffness in the surrounding muscles back lower can avoided (Ameilia Putri et al., 2021).

Done with use questionnaire is one of them is *the Oswestry low back pain disability questionnaire* (ODI). Completed questionnaire Alone containing ten topics about the intensity of pain, lifting load, ability to nurse self-own, ability to walk, sitting ability, function sexual, ability to stand, life social, quality sleep, and ability travel (J.C.T. Fairbank & Pynsent, 2020). Site J Surabaya Logistics company is moving company in the field service storage product as well as distribution goods from customer J to several distributors. Has 50 employees number the team includes; (1) the Operational team for team consists of several positions including; operator, checker, picker, return, and TKMB, (2) the Admin team consists of several positions including Inventory, returns, inbound, outbound, HRGA, QHSE, POD and transport admin, and (3) supporting teams consisting of from cleaning service and security department.

Site J Surabaya Logistics company has a facility for employee room health, sick employees can rest in the room with a duration maximum 1 hour more than 1 hour (documentation Look figure 1), for employees who will use room health outside of rest hours must use the permission form rest in the room health. Based on visit data to room health in the company Logistics site, J Surabaya obtained data from January 2023 to December 2023 amount visits visiting employees' room health as many as 110 visits, For employee signs of pain in parts painful back bottom and pain waist as much as 31.82% (34 visits of 22 employees). The consequence of circumstances This company lost working hours as much as 38 hours or equivalent with a loss amounting to Rp. 994,042 (salary operational team employees per hour 26,159). Besides for employee data permission No enter Because Sick disturbance painful back bottom and pain waist as many as 22 days (154 hours) equivalent with IDR 4,028,486 total losses experienced company Because exists experienced employees Sick disturbance painful back bottom and pain waist for the period January 2023 – December 2023 amounting to IDR 5,022,528.

Based on *observation* beginning writer for the work team operations and team *cleaning service* found several work *manual handling* with position Work No ergonomic like bending, reaching, lifting burden heavy. as well as the admin team, writers find employees sit with position hunchback hand bend and legs bend. Circumstances This all makes muscle rigid which potentially gives rise to pain in the bones back *I lower back pain. Low back pain/pain* is a disturbance and risky disability in employees, as well based on data from HRD there are losses incurred consequence of employee sickness. So that important to do a study related to the description of the risk level of disability due to painful back lower for employees at the logistics company site J Surabaya in 2023

METHOD

Types of research quantitative is method research that uses data processes in the form of data number as tool analyze and perform study study, especially about what 's been researched. Research design This is cross-sectional i.e circumstances Where study only give A description about conditions that are not nature continuous, only at points time certain.



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Data Collection

a. Primary data

Primary data is collected with direct data collection to sample study. Data in the form of age, type gender, length of service, education and description position work through question questionnaire. Meanwhile, related data complaints of low back pain were obtained through visit employee to room health logistics company site J Surabaya.

b. Secondary data

Secondary data obtained from company profile data J Surabaya site logistics in 2023 in the form of data: (1) Total population employee with complaint painful back below at Indonesian Logistics Company site Surabaya, (2) *job description* job in every department PT.X Logistics Indonesia site J Surabaya (3) documents *work instruction* process in operations, (4) visit data employee to room health.

Population And Sample

a. Population

Population taken is all experienced employees complaint Sick low back pain / pain category back bottom / pain waist / lumbago in the company logistics site J Surabaya. in study This population study This as many as 22 employees. (data based on from visiting HRD employee to room health and letters permission No enter information doctor Sick LBP / Back pain category bottom / *lumbago*.

b. Samples

In this research, the researcher used a Saturated sampling technique. The saturated sampling technique is a technique for determining a sample when all member populations make a sample. This matter is done when the population is relatively small or not enough of 30 people. The saturated sampling technique is research you want to make generalizations with tiny errors. Another term sample fed up is a census, where all member populations made a sample. That's Why the researcher chose saturated sampling Because by considering at least amount of population and desires researcher zoomed out errors in the study (Sugiyono, 2021)

Limitations researcher

Limitations researcher in study This is in matter taking sample study. Sample study taken from employees who suffer disease painful back lower based on visit employee to room health. Based on data obtained by researchers from the company's HRD logistics site J Surabaya quantity employees who visit room health as many as 22.

Research Instrument

a. Complaints Low back pain

Complaint *low back pain* be measured with method technique interview to respondent use questionnaire *Oswestry Disability Index* (ODI). Measurement done with steps as following:

1. Respondent bought sheet questionnaire *Owestry Disability Index* (ODI) which contains 10 questions that describe condition disability respondents.



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- 2. Respondent fill in the 10 questions in the questionnaire the with Choose 1 of the 6 answers available at each question, where is each condition have mark between 0 to 5.
- 3. After respondents fill in questionnaire, then researcher will add up mark, if 10 conditions question can filled in, then Enough direct add up all over score with value maximum overall 50 points.

Categorization shared into 5, namely:

- a. Minimal disability (minimal disability), results assessment 0%-20%
- b. Moderate disability (disability medium), results assessment 21-40%
- c. Severe disability (disability severe), results assessment 41%-60%
- d. Paralyzed (very severe disability), results assessment 61-80%
- e. number highest disability 81% -100%.
- b. Age

Age be measured with method technique interview to respondents use questionnaire, way measurement shared become No risky if aged < 30 and at risk when aged > 30.

c. Gender

Gender obtained with method technique interview use questionnaire.

Data Analysis

1. Analysis Univariate

Analysis univariate done to each variable study for give description general to results study. Depiction done with use distribution frequency of each variable. Analysis univariate aim see big percentage of each variable studied.

2. Test crosstab

In research this, writer using the crosstab statistical test. Crosstab is something method analysis shaped table, where displays tabulation cross used for identify and know is There is correlation or connection between something variable with other variables. in short, crosstab analysis is method for tabulate a number of different variables to in something matrix. Crosstab in SPSS is possible just displays between two or more variable. Or until with count is There is connection between (variable row) and column sebah variable (Prakasa & Kurnianigtyas, 2022). In research this, tabulation cross used For displays connection between two or more variable, in matter this is crosstab for displays connection between level disability in complaints *low back pain* with supporting data like category type gender (male and female), category age (< 30 years and > 30 years), As for calculations scores and supporting data This will processed and analyzed with SPSS program assistance.

RESULTS AND DISCUSSION

Results and discussion containing research data, discussion of research results, and comparisons with other research.

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Disability Level Risk Overview Consequences of Lower Back Pain in Employees at Logistics Company site J Surabaya in 2023.

Based on the results research conducted at the respondent's company site J Surabaya Logistics obtained results as follows.

Table 3.1.1 Risk overview level disabilities in employees in the company logistics site J

Surapaya				
		Category		Total
		< 30 years	<u>></u> 30 years	
Woman	Amount	1	1	2
	Percentage	50%	50%	100%
Man	Amount	0	20	22
	Percentage	0	100%	100%
Total	Amount	1	21	22
Percentage type sex		4.5%	95.5%	100%

Table 3.1.2 Risk overview level disability based on part every department

Part	Frequency	percentage
Forklift operator	6	27.3 %
Picker	6	27.3 %
Tkbm	7	31.8 %
Admin	3	13.6 %
Total	22	100%

Table 3.1.3 Risk overview level disability based on part every department with ODI questionnaire

Part	Disability currently	Disability critical	Total
Forklift operator	4	2	6
% percentage	66.7%	33.3%	100.0%
Picker	3	3	6
% percentage	50.0%	50.0%	100.0%
TKBM	4	3	7
% percentage	57.1%	42.9%	100.0%
Admin	3	0	3
% percentage	66.7%	0.0 %	100.0%
Total	14	8	22
% percentage	59.1%	36.4%	100.0%

Based on Table 3.1.1, it is obtained obtained description of risk level disabilities in employees in the company The highest logistics site J Surabaya is at in highest is in the



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category man with age \geq 30 years amounting to 95.5% (21 employees) and the lowest was 50% for women, 2 employees aged < 30 years as well as \geq 30 years.

In sufferers with low back pain category disability medium, possible patient experiences a lot of pain and mass when sitting, lifting, and standing. Travel and life social are more difficult even patients often cannot Work (J. Fairbank & Pynsent, 2000). matter This is seen in the company logistics site J Surabaya, HRD staff noted in the period January – December 2024 there were 34 visits of 22 employees to room health with complaints of painful back and pain back lower.

In sufferers with low back pain category disability serious, possible patient often experience mass significant like method walking, care personal (washing, dressing), life social (sports, dancing), activities work (lifting, pushing, pulling) and sleep(J. Fairbank & Pynsent, 2000). Based on table 3.1.2 Risk overview level disability based on part every department obtained that percentage highest in the TKBM section with a percentage of 31.8% (7 employees), followed by pickers and forklift operators with a percentage of 27.3% (6 people).

Based on table 3.1.3 Risk Description level disability based on part every department obtained that percentage highest in category disability critical is in the picker position 50% and TKBM 42.9%. Employee LBP sufferers with category disability seriously that works the forklift operator section has 2 employees and the admin section has 3 employees category disability currently. 2 parts This own similarity working at the company Logistics site J Surabaya over 5 years besides work with position Sit down for 7 hours a day a week (40 working hours/week), not yet including overtime.

On the operator's side, the sitting position is deep for a long time to condition place Narrow footrest and no seating can be moved back make position back the static back is compressed by the inner body a long time. The same thing with employee admin workers where 3 employees are found to suffer *from low back pain* category disability currently with the use of broken chairs (chairs can't used flexibly) as well as position Work employees who are used to sitting hunched over moment type. This is what is risky for employees happen *low back pain*.

Sitting for too long has risky consequences such as low *back pain*, this is in line with research conducted byUsmiarti (2019) research conducted at PT. Pioneers of Indonesian Fishing Facilities 2019 assessed the posture of employees' sitting bodies with the RULA method as well an investigation obtained that working employees with posture bodies with No ergonomic risk experience complained of low back pain.

Sitting for too long can be a condition of lower lumbar lordosis as well as increased activity in muscle back lower pressure disc, and associated pressure on the ischium with its development from LBP. Deep sitting posture long time results in bones being in a static position, so bones become more rigid Because of the lack of intensity movement bones, stiff bones increase the Risk of aches, pain, and bone disorders (Ameilia Putri et al., 2021).

Employee LBP sufferers with category disability serious who works in the company Logistics site J Surabaya in the picker section has 3 employees and TKBM has 3 employees similarity working with mass Work more from 5 years besides That You're welcome Work with position Work stand for 7 hours a day during a week (40 working hours during a week)



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as well do activity *manual handling* like lift burden range between 500 grams – 15 kg, activities lower items, pulling and pushing hand pallet, as well do activity *re-wrapping*. Apart from that on the second part, this often found employees take goods with method bending, squatting. Condition posture work that doesn't have ergonomics, mass work, and burden Work gives contribution for employees caught with Sick *low back pain*. This matter is in line with research ever done by Limbong (2020)about the connection between position work and frequency lift with complaint *low back pain* in warehouse housing society BULOG Pematang Siantar with method REBA and NBM analysis explains the higher mark Risk attitude work that doesn't ergonomic so the taller Risk pain in parts waist and on the part bone back part lower. As explained previously the TKBM and picker sections have similar work including

1. Lifting Goods

Activity lift goods are one of form burden work. Activity This causes muscles in maintain balance all over the body to experience wounds or irritation in the cycle *of intervertebral* and compression discus to exiting nerves through bone behind so which can cause pain in the area including in the regions waist (Yusmardiansah, 2020).

2. Work with stand

On posture, the body stands in it will be a long time resulting in the burden of static work on the back and legs so condition This makes the blood in members' bodies gather in parts that in the end cause pain in the part back. Likewise, sitting for too long can result in sitting for too long lower *lumbar lordosis* as well as increased activity in muscle back lower pressure discs, and associated pressure on the *ischium* with its development from LBP. Deep sitting posture long time results in bones being in a static position, so bone becomes more rigid Because lack of intensity movement bones, stiff bones increase the Risk of aches, pain, and bone disorders (Ameilia Putri et al., 2021; Kurniawati et al., 2023).

3. Bending.

Position bow will stretch the distance between bones waist, apart That the bow more Stylish and stylish too pressure on the back part lower matter This in the period more and more time increases potency happen *lower back pain* (Nurkertamanda et al., 2017).

4. Pushing and Pulling

Push is the activity push in a way opposite direction body with a purposeful effort To move something object. Activity interesting is the opposite of activity push. Second activity This demands deployment of great power Where activity This surpasses strength muscles and when often done will heighten complaint muscles and even can cause painful muscle frame including pain back and waist (Hutabarat, 2017; Restuputi et al., 2022).

Control Program Risk disability Consequences of Back Pain Below at Logistics Company site J Surabaya.

See results of existing research exposed related level risk disabilities in employees in the company logistics site J Surabaya then need for researcher present the control program health work that has been done available at the company logistics site J Surabaya. The existing controls are as follows:



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1. Facility room health

The medical room is the room that has been provided by the company for employees who need Rest Because sick during working hours. Employees can use it with a duration Rest maximum of 1 hour/person/ day. If it's more than 1 hour, still Sick so the employee is permitted to go home for treatment. Usage room health uses the permission form to room health with known superiors in the department and HRD.

2. Health Promotion

Promotion of health is one effort in giving information and education to employees, in matter This is specifically related to LBP. Promotion of health that has been carried out by the company as follows:

- Installation of banners and posters
 Related posters or banners health Already installed in space health and place Rest employees, only just Not yet someone is discussing it related to LBP, attitude Work ergonomic.
- b. Training related to LBP and Behaviour

Training is one of them for health promotion. Giving knowledge to workers about good attitudes has an impact on consequential position work that isn't true, or not ergonomics specifically related to LBP. Based on the results of interviews with SPV warehouse final training was carried out in 2019. after that, no one did that training. Related matter This needs to be carried out on a routine agenda for at least a year very related to related training with position ergonomics as well as training related to LBP. Activities promote existing health displayed, in the company logistics site J Surabaya no There is activity action like a sport for a minimum of 5 minutes interrupted activity Work. This matter needs to be done to remember activities in the company This own Risk danger to health specifically diseases related to LBP at risk happen disability.

3. Facilities Work

The Chairs are one of the work facilities to help employees not experience fatigue when sitting. The company has made standard ergonomic chairs. However, what was found in the field regarding the chair procurement program is that there needs to be a rejuvenation of the schedule and repairs, especially for employee chairs that are damaged. Based on this, the results of interviews with the SPV warehouse, the last seat related was carried out in 2019. Meanwhile, facts in the field found that the admin team's chairs were in a damaged condition.

Other work support facilities are on the tool handle. A hand pallet is one of the tools used by the picker and TKBM teams to pick up goods. Where to operate it using the pulling and pushing method? Of the 6 tools in the company, only 3 tools are still in good condition. In the case of this hand pallet wheel, there are no difficult moments in use. Regarding hand pallet facilities, this needs to be done by scheduling routine equipment maintenance. And carry out routine checks on every well used. The gates in the warehouse are made of large iron. Of the 7 gates, all of these doors are very heavy to



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open, so employees need extra effort in the open, related matters. This needs to be done regarding the routine scheduling of warehouse gate maintenance.

4. Medical Check Up

Health checks (MCU) have been carried out by the company for both permanent and outsourced employees. Health checks are carried out before employees first join the company and are carried out once a year. In carrying out company health checks (MCU). Carry out specific Unrelated Potential Job Risk checks specifically related to LBP. The MCU company only focuses on examining infectious and degenerative diseases. Meanwhile, there are no specific work specifications. Does the company have the same job as Hyperkes Doctors? Of course, it is difficult to carry out work due to their control (PAK), especially those related to LBP, even though based on research, several employees have been exposed to the risk of disability due to LBP. In this regard, researchers suggest that companies collaborate with doctors or hospitals or health clinics that have hyperhealth doctors. So it is more appropriate to carry out the health checks recommended by the company.

Disability Level Risk Overview Consequences of Back Pain Bottom Based Age at Logistics Company site J Surabaya.

Based on results of research conducted at respondent company site J Surabaya Logistics obtained results as follows

Age	Frequency	Percentage	Cumulative percentage
< 30 years	1	4.5 %	4.5%
<u>></u> 30 years	21	95.5 %	100%
Total	22	100%	

Table 3.2.1 Risk overview level disability based on age

Table 3.2.2 Risk overview level disability based on age with ODI questionnaire

Category Age	Moderate disability (disability	Severe disability (disability	Total
	currently)	critical)	
< 30 years	1	0	1
% percentage	100%	0%	100%
<u>></u> 30 years	13	8	21
% percentage	61.9%	38.1%	100%
Total	14	8	22
% percentage	63.6%	36.4%	100%

Based on table 3.2.1 results study obtained results that proportion description risk level disability based on. Age highest there in age \geq 30 years with a percentage of 95.5% (21 employees) and < 30 years as many as (4.5%) 1 employee. Condition This is in line with research conducted by Sari (2020) which states that more complaints of low back pain percentage in the group aged \geq 30 years compared group aged < 30 years. However condition This No is in line with research conducted by (Anggraini (2019) that No there is connection between age with LBP complaints to employees of PT Altus Logistics Services.



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Based on table 3.2.2 about the description of risk level disability based on age with ODI questionnaire was obtained that For category age is in the category age > 30 years with category disability currently as many as 61.9% (13 employees) and 38.1% (8 employees) categories disabled critical. Based on employee data from HRD per month January 2024 company logistics site J Surabaya quantity employee as many as 54 employees, with a proportion of 77% (40 employees) of employees aged > 30 years. Meanwhile < 30 years as much as 25% (13 employees).

In line with increased age so will happen degeneration of bones and conditions This occurs at the age of 30 years. It happened degeneration from the replacement network becomes a network scar, damaged network, and reduction liquid. So that results in stability bones and muscles become reduced matter This triggers the emergence of MSDs (Bridger, 2018).

Age middle-aged or more old (over 49 years old) have a Risk more often catching painful back / LBP. The more increase in age so level there will be complaints the more increase. Strength and endurance muscles start to decrease so that risk complaints and pain muscle increase. Strength muscle will decrease when is at the age of 60 years (Tarwaka, 2019). Besides that Research ever performed by Lacokova shows that age older (over 60 years) increasingly often caught lower back pain (Australian Commission Safety Quality Health Care, 2022; Lacokova-Krasnikova et al., 2020). Researchers recommend employees with ages \geq 30 years routinely maintain employee body stamina to spare from some disease as well as balance with the consumption of food nutritious as well as do sport massing light (stretching) before doing work.

Disability Level Risk Description Consequences of Back Pain Bottom Based on Gender at Site J Surabaya Logistics Company

Based on the results of research conducted on the respondent's company site J Surabaya Logistics obtained results as follows:

Table 4.3.1 Risk Overview Short disability based on type of sex

Gender	Frequency	Percentage	Cumulative
			percentage
Woman	2	9.1 %	9.1 %
Man	20	90.9 %	100%
Total	22	100%	

Table 4.3.2 Risk overview short disability based on type sex with ODI questionnaire

Type Sex	Disability moderate	Disability critical	Total
Woman	2	0	2
% Percentage	100%	0%	100%
Man	12	8	20
% Percentage	60%	40%	100%
Total	13	9	22
% Percentage	59.1 %	36.4%	100%



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Based on results research obtained results that the proportion description risk level disability consequence painful back is lower based on the type of sex The highest is on the employee's manifold sex men 90.9% (20 employees) whereas Women as much as 9.1% (2 employees). Results study This is contradictory with research conducted by sugathot (2022) that type sex women own risk bigger painful back lower.

It happened in different results studies because amount employees in the company J Surabaya site logistics, more Lots man than women. Besides that women in the company This is at in the administration. Where is the load Work is light compared to employee man working man lift loads (TKBM parts and picker) as well as sitting for a long time with condition chair narrow (forklift operator). Based on the data obtained with the ODI questionnaire was obtained that employees manifold sex man risky category disability moderate 60% (12 people), category disabled severe (disability weight) 40% (8 people), and for Women with risk category LBP disability currently as much as 100% (2 people).

Several studies regarding LBP mentioned that there exists a connection between the type of sex with the incidence of LBP physiological ability of muscle women more low than muscle men. However Good Boy and Girl on the Same risk of complaint painful waist until 60 years old. At the age of 60 years, women have a Risk of lower back pain Because tends to happen This makes women more prone to the occurrence of LBP (Hartvigsen et al., 2018).

Based on the data obtained from the company's HRD logistics site J Surabaya obtained a proportion of employees manifold sex women as many as 11% (6 employees) and men as many as 89% (48 employees). Based on an interview with SPV-related recruitment employees they are more Lots placed in the field because in the field Lots need power and in the office area more often recruiting women because inside the work office often need thoroughness and neatness in compiling reports.

CONCLUSION

Based on the results of research that has been done on employees suffering Sick complaints category painful back down in the company J Surabaya site logistics, that can be concluded as follows: Risk overview level disability consequence painful back lower to employees in the company logistics site J Surabaya, highest is in the category men with age > 30 years amounting to 95.5% (21 employees), 2 employees were 50% female, both aged < 30 years and > 30 years. Risk overview level disability consequence painful back lower based on age category age > 30 years with percentage 95.5% (21 employees) and < 30 years as many as (4.5%) 1 employee. Risk overview level disability consequence painful back lower based on sex employee manifold sex 90.9% men (20 employees) and women as much as 9.1% (2 employees) Activity promotion health like banner or poster installation added a topic to theme low back pain (LBP) and attitude Work ergonomic placed in an easy place read by employees like room rest, space health, office, and warehouse. Employee training related to lower back pain and attitude Work ergonomics needs to be done regularly by every employee for at least 1 year once so that employees understand the method works properly so that the Risk of disability and Consequence pain of the back can be reduced. Activity sport together on the spot Work in a way short at least 5 minutes every day need to be done at the time of the hour



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Rest. By using muscles and nerves in the body employees are more relaxed. Facility buildings and supports Work like chairs in the office, tools hand pallets, and gates doors for related maintenance and repair when There is damage. Related the chair already No ergonomic For Can quick do the replacement. Inspection medical *checkup* (MCU) to be added, created more specific on Risk disease consequence work to be done arise at each work. So that expected can do identification beginning related sick employee consequence work. In matter, This is specifically related *to low back pain (LBP)*. Work The same with doctor hiperkes at home Sick nearest or clinic health To use make it easier in analyzing so that expected can develop a health program more work right to employees.

REFERENCES

- Ameilia Putri, M., Citrawati, M., & Valentina Astari, R. (2021b). Hubungan Postur tubuh dan lama berdiri dengan kejadian low back pain pada pekerja di cikarang. *Media Kartika Jurnal Kedokteran Dan Kesehatan*, *4*(4), 331–341. https://doi.org/http://dx.doi.org/10.35990/mk.v4n4.p331-342
- Andini, F. (2015). Risk Factors of Low Back Pain in Workers. J MAJORITY, 4(1), 12.
- Anggraini, K. (2019). Hubungan karakteristik individu, kerja lama, dan duduk terhadap keluhan low back pain pada karyawab PT Altus Logistics services Indonesia di massa pandemi COVID-19.
- Australian Commission Safety Quality Health Care. (2022). Low Back Pain Clinical Care Standard. Australian Commission on Safety & Quality in Health Care.
- Bjelkarøy, M. T., Benth, J. Š., Simonsen, T. B., Siddiqui, T. G., Cheng, S., Kristoffersen, E. S., & Lundqvist, C. (2023). They are measuring pain intensity in older adults. Can the visual analog scale and the numeric rating scale be used interchangeably? *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 130, 110925. https://doi.org/10.1016/j.pnpbp.2023.110925
- Bridger. (2018). *Introduction to Human Factors and Ergonomics* (Fourth). CRC Press Taylor & Francis Group.
- Bull, E., & Archard, G. (2007). Simple guide back pain (J. Surapsari, Ed.). Erlangga.
- Cieza, A., Causey, K., Kamenov, K., Hanson, S. W., Chatterji, S., & Vos, T. (2020). Global estimates of the need for rehabilitation based on the Global Burden of Disease study 2019: a systematic analysis for the Global Burden of Disease Studi 2019. *The Lancet*, 396(10267), 2006–2017. https://doi.org/10.1016/S0140-6736(20)32340-0
- De Beeck, R. Op., Hermans, Veerle., & European Agency for Safety and Health at Work. (2000). *Research on work-related low back disorders*. Institute for Occupational Safety and Health.
- Fairbank, J. C. T., & Pynsent, P. B. (2020). The Oswestry Disability Index. In *Number* (Vol. 25). https://doi.org/https://doi.org/10.1097/00007632-200012150-00006
- Ferreira, M. L., De Luca, K., Haile, L. M., Steinmetz, J. D., Culbreth, G. T., Cross, M., Kopec, J. A., Ferreira, P. H., Blyth, F. M., Buchbinder, R., Hartvigsen, J., Wu, A. M., Safiri, S., Woolf, A. D., Collins, G. S., Ong, K. L., Vollset, S. E., Smith, A. E., Cruz, J. A., ... March, L. M. (2023). Global, regional, and national burden of low back pain, 1990–2020, its attributable risk



https://ejournal.seaninstitute.or.id/index.php/healt

- factors, and projections to 2050: a systematic analysis of the Global Burden of Disease Studi 2021. *The Lancet Rheumatology*, *5*(6), e316–e329. https://doi.org/10.1016/S2665-9913(23)00098-X
- Fritz, J. M., & Irrgang, J. J. (2001). A Comparison of a Modified Oswestry Low Back Pain Disability Questionnaire and the Quebec Back Pain Disability Scale. *Physical Therapy*, 81(2), 776–788. http://jcore-reference.highwire.org/content/81/2/776
- Haldeman, Scott., Kirkaldy-Willis, W. H., & Bernard, T. N. (2002). *An atlas of back pain.* Parthenon Pub. Group.
- Handoko, H. (2014). Manajemen Personalia & Sumberdaya Manusia. BPFE Yogyakarta.
- Hartvigsen, J., Hancock, M. J., Kongsted, A., Louw, Q., Ferreira, M. L., Genevay, S., Hoy, D., Karppinen, J., Pransky, G., Sieper, J., Smeets, R. J., Underwood, M., Buchbinder, R., Hartvigsen, J., Cherkin, D., Foster, N. E., Maher, C. G., Underwood, M., van Tulder, M., ... Woolf, A. (2018). What low back pain is and why we need to pay attention. *The Lancet*, 391(10137), 2356–2367. https://doi.org/https://doi.org/10.1016/S0140-6736(18)30480-X
- Hutabarat, J. (2017). Dasar Dasar Pengetahuan Ergonomi (1st ed.). Media Nusa Creative.
- Jenks, A., Hoekstra, T., van Tulder, M., Ostelo, R. W., Rubinstein, S. M., & Chiarotto, A. (2022). Roland-Morris Disability Questionnaire, Oswestry Disability Index, and Quebec Back Pain Disability Scale: Which Has Superior Measurement Properties in Older Adults With Low Back Pain? *Journal of Orthopaedic and Sports Physical Therapy*, *52*(7), 457–469. https://doi.org/10.2519/jospt.2022.10802
- Kurniawati, N., Syakib, A., Mustikasari, N., & Maratis, J. (2023). Pengaruh Koreksi Postur terhadap Penurunan Nyeri Pinggang Bawah pada mahasiswa Sebagai Dampak Kegiatan Pembelajaran Secara Virtual. In *Jurnal Fisioterapi dan Kesehatan Indonesia* (Vol. 03, Issue 01).
- Lacokova-Krasnikova, J., Dimitrov, D., Krasnik, R., Zvekic-Svorcan, J., Kolundzic, M., & Mikov, A. (2020). Low back pain among health workers. *Medicinski Pregled*, *73*(7–8), 200–204. https://doi.org/10.2298/mpns2008200k
- Laporan Riskesdas. (2018). https://repository.badankebijakan.kemkes.go.id/id/eprint/3514/1/Laporan%20Riskesd as%202018%20Nasional.pdf
- Limbong, I. R. (2020). hubungan antara posisi kerja dan frekuensi Frekuensi Angkat Dengan Keluhan Low Back Pain. Airlangga Univesity.
- Marudin, L., Rustam, R., Alifariki, L. O., & Kusnan, A. (2021). Derajat Merokok Dengan Disabilitas Low Back Pain Pada Tenaga Kerja Bongkar Muat Di Pelabuhan Kota Kendari. *Media Kesehatan Politeknik Kesehatan Makassar*, *16*(1), 24. https://doi.org/10.32382/medkes.v14i2.877
- Nurhalisa, S. (2022). *Hubungan Pengetahuan dan Sikap dengan Perilaku Pencegahan Low Back Pain (LBP) pada Buruh Angkut Manual Gudang Bulog Subdivre Makassar.*Universitas Hasanuddin.



https://ejournal.seaninstitute.or.id/index.php/healt

- Nurkertamanda, D., Nyoman Adiputra, I., Tirtayasa, K., & Putu Gede Adiatmika, I. (2017). Postur Kerja dan Risiko Low Back Pain pada Pekerja Pasiran. *The Indonesian Journal of Ergonomic*), *3*(2), 11–16.
- Oktavia, S. (2022). The relationship between individual characteristics and occupational factors to low back pain complaints among LPG Agent workers at Manggarai subdistrict Jakarta in 2020. *Journal of Public Health Research and Community Health Development*, *6*, 27–34. https://doi.org/10.20473/jphrecode.v6i1.21535
- Prakasa, R. R., & Kurnianigtyas, A. P. (2022). SPSS untuk Analisis & Perencanaan Kota yang Lebih Baik (Maya, Ed.). Andi Offset.
- Restuputi, D. P., Masudin, I., Nignrum, I. S., & Septira, A. P. (2022). *Ergonomi Industri Pendekatan Rekayasa Manusia* (1st ed.). Universitas Muhamadiyah Malang.
- Sahara, R., & P, T. (2020). Faktor-Faktor yang Berhubungan dengan Kejadian Low Back Pain (LBP): Systematic Review. *Jurnal Ilmiah Kesehatan*, *19*, 92–99. https://doi.org/10.33221/jikes.v19i03.585
- Saputra, A. (2020). Sikap Kerja, Massa Kerja, dan Usia terhadap Keluhan Low Back Pain pada Pengrajin Batik. https://doi.org/10.15294/higeia.v4iSpecial%201/36828
- Sari, V. A. (2020). Gambaran beberapa fator yang berhubungan dengan keluhan low back pain pada pekerja kantor di PPSDM MIGAS CEPU.
- Sugathot, A. I., Agni, A. S., Kumara, M. G., Cristian Abeh, A., & Simatupang, S. F. (2022). Hubungan Faktor Risiko Usia, Gender, Jumlah Kunjungan, Pekerjaan dengan Nyeri Punggung Bawah Neuropati di Poli Fisioterapi Puskesmas Kalasan dalam Rentang Tahun 2020-2021. 4(1), 2020–2021.
- Sugiyono. (2021). Metode penelitian kuantitatif, kualitatif, dan R&D (3rd ed.). Alfabeta.
- Sujono, Raharjo, W., & Fitriangga, A. (2018). Hubungan antara Posisi Kerja terhadap Low Back Pain pada Pekerja Karet Bagian Produksi di PT. X Pontianak. *Jurnal Cerebellum*, *4*(2), 1037–1051.
- Suma'mur. (2020). *Higiene Perusahan Dan Kesehatan Kerja (HIPERKES)*. Sagung Seto.
- Sutajaya, M. (2018). *Ergonomi* (Vol. 1). Rajawali Pers.
- Tarwaka. (2019). Ergonomi Industri, Dasar-dasar Pengetahuan Ergonomi dan Aplikasi di Tempat Kerja (2nd ed.). Harapan Press.
- Traeger, A., Buchbinder, R., Harris, I., & Maher, C. (2017). Diagnosis and management of low-back pain in primary care. *SMAJ*, *189*(45), E1386–E1395. https://doi.org/10.1503/cmaj.170527/-/DC1
- Usmiarti, E. (2019). *Gambaran Postur Duduk dan Keluhan Low Back Pain pada Pekerja Bagian Forged di PT. Perintis Sarana Pancing Indonesia Tahun 2019*. http://repositori.usu.ac.id/handle/123456789/24747
- Wahyuddin. (2016). Adaptasi Lintas Budaya Modifikasi Kuesioner Disabilitas Untuk Nyeri Punggung Bawah (Modified Owestery low back pain disability Questionnarie/ODI) Versi Indonsesia.
- Yusmardiansah, Y. (2020). Hubungan antara faktor Risiko (usia, massa kerja, beban kerja) dengan low back pain di PT. Tasma Puja Kecamatan Kampa Tahun 2020. *Jurnal Kesehatan Tambusai*, *1*, 41–49. https://doi.org/10.31004/jkt.v1i3.4166