Analysis of work attitudes and musculoskeletal complaints in laundry workers in bandar kediri

by Perpustakaan IIK Bhakti Wiyata

Submission date: 04-Mar-2025 02:19PM (UTC+0700)
Submission ID: 2426158131
File name: 5-Article_Text-23802-2-10-20240129_-_MELY_PURNADIANTI_Kediri.pdf (253.18K)
Word count: 3966
Character count: 22473

Journal of Midwifery and Nursing, 6 (1) (2024) pp. 268-274
Published by:IOCSCIENCE
Journal of Midwifery and Nursing
Journal homepage:www.iocscience.org/ejournal/index.php/JMN

Analysis of work attitudes and musculoskeletal complaints in laundry workers in bandar kediri

Ningsih Dewi Sumaningrum[1], Ely Purnadianti[2], Nureen Azreina Zaahera Rahim[3]
[1]SI Hospital Administration, Bhakti Wiyata Institute of Health Sciences Kediri, Indonesia
[2]D4 Medical Laboratory Technology, Bhakti Wiyata Institute of Health Sciences Kediri, Indonesia

ARTICLEINFO

Article history:

Received December 17, 2023
Revised December 27, 2023
Accepted Jan 11, 2024

Keywords:

Laundry Worker;
Musculoskeletal Complaints;
Work attitude.

ABSTRACT

Laundry work carries a health risk of muscle problems. Especially in work attitudes, many cases experience musculoskeletal complaints if left unchecked, causing injury, disrupting productivity and even increasing work accidents. The household laundry industry is currently growing rapidly in line with the increasing level of activity in society. The aim of this research is to analyze work attitudes with musculoskeletal complaints in laundry workers in Bandar Kediri. The population and sample are all laundry workers in Bandar Kediri totaling 47 people. The design of this research is cross sectional and uses the Pearson correlation test. The research results showed that there was a significant relationship of 0.027 between work attitudes and musculoskeletal complaints. There is a relationship between work attitudes and musculoskeletal complaints, improving work attitudes will have an impact on changes in musculoskeletal complaints. Ergonomic work attitudes are important to apply in home industry laundry services to avoid musculoskeletal injuries, supported by adequate facilities such as ergonomic ironing tables and performing muscle relaxation movements such as simple twisting exercise 2-3 minutes.

Corresponding Author:

Ningsih Dewi Sumaningrum,
Hospital Administration,
Bhakti Wiyata Institute of Health Sciences Kediri, Indonesia,
Jl. KH Wachid Hasyim No.65, Bandar Lor, Kediri City, 64114, Indonesia
E-mail: ningsih.sumaningrum@iik.ac.id

1. Introduction

Musculoskeletal complaints are complaints that are felt when muscles receive static loads repeatedly for a long time, causing complaints in the form of damage to joints, ligaments and tendons (Artha, 2017). Complaints of musculoskeletal pain are caused by activities with a high level of repetition with non-ergonomic working methods (Dewi et al., 2023).

Musculoskeletal complaints that are left untreated and untreated result in impaired concentration at work, fatigue and ultimately decreased productivity(Tafana R, 2021). In terms of production, it results in reduced output, damage to product materials which ultimately results in not meeting production targets and unsatisfactory service(Lestari.S, Ita PL, 2023). In addition, costs due to workers not coming to work will cause a decrease in profits(Ramadani & Sunaryo, 2022). This is caused by expenses for training new employees to replace old employees who are sick as well as costs for hiring the services of consultants and other agents(Evadarianto & Dwiyanti, 2017).

Based on data from the European Agency for Safety and Health at Work (EASHW), it is stated that many workers experience musculoskeletal complaints. In 27 countries in the European Union, around 25% of workers complained of back pain, 23% reported muscle pain.(Tampubolon et al., 2014). WHO states that MSDs or musculoskeletal complaints are the largest occupational disease and are suffered by millions of workers and are experiencing an increase in incidence in various countries.(Sophia et al., 2022).

The home laundry industry is a service business for washing various types of cloth, carpets and other clothes (Zuliani, 2020). The laundry process begins with sorting, weighing, washing, drying, finishing and finally distribution (Handoko, 2013). Laundry workers' activities are generally pulling, pushing, lifting, folding and carrying items and are carried out repeatedly, thereby increasing the risk of musculoskeletal complaints (Fuadah et al., 2022).

Laundry work is one of the jobs that is prone to musculoskeletal complaints. The work attitudes carried out by laundry workers are generally carried out with unnatural attitudes such as sitting for too long, standing for too long and other movements that are done repeatedly (Purwati et al., 2023).

Work attitude is an attitude during work that has an impact on the position of the body area moving away from its natural position which results in musculoskeletal complaints. Complaints of muscle pain often occur and it is not realized that this is the impact of unergonomic work attitudes, correlated with the habit of sitting, bending and standing working positions (Saingo et al., 2022).

Bandar in Kediri City is a strategic area, surrounded by markets, agencies, schools, hospitals, universities, institutes and Islamic boarding schools, as well as ikat weaving. Several universities in Bandar include Tribakti Islamic University, Bhakti Wiyata Institute of Health Sciences, Ministry of Health Polytechnic, Pondok. The Islamic boarding schools in Bandar are the Lirboyo Islamic boarding school which is the largest, Kedunglo Almunadhdhorah Islamic boarding school, Al Ma'ruf Islamic boarding school, Al Ishlah Bandar Kidul Islamic boarding school. The hospital in Bandar is RSUD Kilisuci, RSGM IIK Bhakta. The dense activity has resulted in various services, such as laundry, which are widely available in Bandar Kota Kediri.

Based on preliminary data using the Nordic Body Map (NBM) questionnaire, 3 laundry workers in Bandar Kediri were found to have complained of pain in the back and legs and during observations they found an acward attitude, namely bending when moving laundry.

2. Methods

The research design used was analytical observational with a cross sectional approach. This research was conducted in Bandar Kota Kediri at 17 home laundry service industries with a total of 47 workers, and was conducted in October 2023. The population of this research was 17 home laundry industries, using saturated sampling, namely 47 people. Saturated sampling is a sample determination technique when all members of the population are used as samples (Priambodo et al., 2022). The independent variable in this study is work attitude and the dependent variable is musculoskeletal complaints. The instruments used are observation and the NBM questionnaire which consists of 27 statements that refer to parts or areas of the body that experience musculoskeletal complaints (Jannah & Sunaryo, 2021). The research began by asking permission from home industry owners, preliminary interviews, obtaining permits, conducting interviews and distributing questionnaires and documentation. Then the data obtained was tested using Pearson Correlation to determine the relationship between the variable length of work activity and the variable musculoskeletal complaints in laundry workers (Hardisman, 2020). Data was obtained using the Nordic Body Map questionnaire data sheet for musculoskeletal complaints, and the Rapid Entire Body Assessment (REBA) for work attitudes, namely evaluating body posture such as the neck, back, arms, wrists and feet, as well as repetitive work movements and coupling. (Sulaiman & Sari, 2018).

3. Results and Discussion

The results of the research on the distribution of respondents' characteristics among laundry workers in Bandar Kota Kediri were obtained as follows: General data from the research results, namely age, gender,

education, length of service and length of work activity. Specific data from the research results are work attitudes and musculoskeletal complaints. The descriptive statistical analysis table is as follows, which in this study was applied to provide a representation of the characteristics of respondents. The total number of respondents in this study was 47 respondents. The youngest respondent in this study was 20 years old, and the oldest respondent was 55 years old. The most common gender is female, namely 40 people, the most work period is 6-10 years, there are 27 respondents, the most education is high school, namely 36 respondents, the most work activity time is more than 7 hours, namely 27 respondents, the most work attitude is in the category moderate, namely 44 respondents and the most complaints were in the medium category, namely 44 respondents. The research results can be seen in the following table:

Results

Table 1.
Frequency distribution by age

Age	Amount	%
20-30	2	4.3
31-40	32	68.0
45-50	11	23.4
51-55	2	4.3
Total	47	100

Based on table 1. It is known that the highest age is 31-40 years 68%, then 45-50 years old 23.4%, 20-30 years old and 51-55 years old each at 4.3%.

Table 2.
Frequency distribution by gender

Gender	Amount	%
Man	7	14.9
Woman	40	85.1
Total	47	100

Based on table 2, it is known that gender is dominated by women at 85.1%, followed by men at 14.9%.

Table 3.
Frequency distribution based on length of service

Years of service	Amount	%
New work period (<6 years)	4	8.5
Medium working period (6-10 years)	27	57.4
Long service life (>10 years)	16	34.1
Total	47	100

Based on table 3. It is known that the highest number is in the medium working period, namely 6-10 years, as much as 57.4%, and the lowest is in the new working period of less than 6 years, amounting to 8.5%.

Table 4.
Frequency distribution by education

Education	Amount	%
vocational school	11	23.4
SENIOR HIGH SCHOOL	36	76.6
Total	47	100

Based on table 4. It is known that the highest education is SMA 23%, while SMK is 23.4%.

Table 5.
Frequency distribution based on length of work activity

Length of work activity	Amount	%
≤7 hours	20	42.6
>hour	27	57.4
Total	47	100

Based on table 5. It is known that the dominant number of working more than 7 hours is 57.4%, while ≤7 hours is 42.6%.

Table 6.
Frequency distribution based on work attitudes

Work attitude risk level	Amount	%
Very low	0	0
Low	0	0
Currently	44	93.6
Tall	7	6.4
Very high	0	0
Total	47	100

Based on table 6, it is known that the highest level of work attitude risk is in the medium category, 57.4%, while the high category is 6.4%, and the low category is 17%.

Table 7.
Frequency distribution based on the level of musculoskeletal complaints

Rate of musculoskeletal complaints	Amount	%
Low	0	0
Currently	44	93.6
Tall	7	6.4
Very high	0	0
Total	47	100

Based on table 7, it is known that the most musculoskeletal complaints are in the moderate category, 57.4%, while in the high category, 42.6%.

Table 8.
Pearson's correlation between work attitudes and musculoskeletal complaints

		Musculoskeletal complaints
Work attitude	Pearson Correlation	,547*
	Sig. (2-tailed)	,027
	N	47

Based on table 8. It is known that the correlation test is 0.027, this value is smaller than 0.05 so the conclusion obtained is that there is a significant relationship between work attitude and musculoskeletal complaints. The correlation coefficient is 0.547, this value is in the medium category, and a positive value means that improving work attitudes will have an impact on changes in musculoskeletal complaints.

Discussion

Work attitude is an attitude during work that causes the position of the body area to move away from the natural position, thus having an impact on musculoskeletal complaints, for example, the back bends when lifting laundry, the shoulders rise when doing ironing (Ebu et al., 2020)

An unnatural work attitude is a work attitude where areas of the body move away from the

natural position, such as raised shoulder movements, arms raised above the head, bent legs (Oley et al., 2018). The further the position of a body part is from the body's center of gravity, the higher the risk of musculoskeletal system complaints (Pradana, 2020). Unnatural work attitudes generally occur due to task demands, work tools and work stations that do not match the abilities and limitations of workers (Saputra, 2020).

The results of this study show that there is a significant relationship between work attitudes and musculoskeletal complaints, this is due to the demands of tasks that must be completed on time, especially in serving customer orders for express laundry, sometimes to the point of taking up time, reducing rest time and requiring additional overtime work exceeding 7 O'clock. Apart from that, the increase in consumers and the large number of clothes that have to be washed, ironed, and the number of competing laundry services forces workers to work with high competitiveness, thereby increasing work demands and increasing musculoskeletal complaints. As well as the hot work climate, narrow work stations, work attitudes are mostly done in a standing position, especially when ironing, which takes a lot of time.

This is in accordance with Asteria's research which states that workers in a standing position while working cause fatigue quickly because the standing work position requires more energy and body weight supported by the legs can cause musculoskeletal fatigue in the back, waist and legs. There is a relationship between standing work attitudes and complaints (Pramana et al., 2021). Research shows that there is a relationship between work attitudes and musculoskeletal problems due to a good attitude (Wiranto et al., 2019). There is a relationship between work attitude and musculoskeletal complaints, namely working in a standing position for so long causes pressure and causes musculoskeletal complaints (Oktafiannisa et al., 2019). Kurnia's research shows that there is a relationship between work attitudes and musculoskeletal complaints due to long sitting work attitudes and repetitive movements (Putri & Ardi, 2020). Suwondo's research shows that there is a relationship between work attitudes and musculoskeletal complaints due to repetitive, awkward work attitudes and accumulative stress (Khofiyya et al., 2019).

4. Conclusion

There is a significant relationship of 0.027, this value is smaller than 0.05 so the conclusion obtained is that there is a significant relationship between work attitudes and musculoskeletal complaints. This is due to the demands of the task, especially express laundry, lack of rest, hot work climate and cramped work stations and ironing tables that lack ergonomics. The findings of this research are that express laundry increases after holidays and at certain events such as the commemoration of August 17th, so it must be completed more quickly and prioritized. This accelerates the occurrence of musculoskeletal complaints, increased repetitive movements and advanced positions when working because of the equipment used such as an ironing board. ergonomically unsupportive, too low or too high. It is hoped that there will be arrangements for working shifts, and that the ironing table should be arranged according to the height of the worker and that they will carry out muscle relaxation movements such as simple twisting exercises for 2 or 3 minutes in between while doing work.

References

Artha, PW (2017). Factors related to musculoskeletal complaints in Udayana University students in 2016. Journal of Industrial Hygiene and Occupational Health Vol, 1(2). https://d1wqtxts1xzle7.cloudfront.net/72367266/698-libre.pdf?1635061239=&response-content-disposition=inline%3B+filename%3DFactors_Related_Musculoskeletal_Disorder.pdf&Expires=1699206861&Signature=fPuwW8KckhIwDaX1tZ mOlpmEWOpEbbKVTLcdVVId-U9XK6Ijt6n0P2Sxk.

Dewi, PNY, Rakhmawati, NS, Kartika, E., & Saputro, DH (2023). Factors associated with complaints of musculoskeletal pain among scavengers in the RDF TPST Cilacap Regency environment. Sanitation: Journal of Environmental Health, 16(1), 29–35. https://www.e-journal.poltekkesjogja.ac.id/index.php/Sanitasi/article/download/1683/942.

Ebu, K., Berek, N.C., & Setyobudi, A. (2020). Relationship between Work Period, Gender and Work Attitudes with Musculoskeletal Complaints in Gas Station Operators in Kupang City. Public Health Media, 2(2), 42–49.

https://ejurnal.undana.ac.id/index.php/MKM/article/download/2853/2092
Evadarianto, N., & Dwiyanti, E. (2017). Working posture with complaints of musculoskeletal disorders in manual workers handling rolling mill parts. The Indonesian Journal of Occupational Safety and Health, 6(1), 97–106. https://e-journal.unair.ac.id/IJOSH/article/download/3309/3980
Fuadah, IW, Ekawati, E., & Wahyuni, I. (2022). The Relationship between Work Posture and Work Station Design in Drying Activities and Complaints of Musculoskeletal Disorders in Laundry Workers in Tembalang Village. Indonesian Public Health, 14(1), 59–74. jos.unsoed.ac.id/index.php/kesmasindo/article/download/4607/2796
Handoko, HB (2013). Successful Laundry Entrepreneurship at Home. Gramedia Pustaka Utama.
Hardisman. (2020). Easy, Practical, Free and Legal Analysis of Health Data and Statistics with the JASP Program. MEDIA SPACE. https://books.google.co.id/books?id=heL8DwAAQBAJ
Jannah, FR, & Sunaryo, M. (2021). Analysis of the Incidence of Musculoskeletal Disorders Using the Nordic Body Map in the Ikat Woven Sarong Industry in Parengan Village, Lamongan Regency. Public Health Student Scientific Journal, 6(4), 475–482.
Khofiyya, AN, Suwondo, A., & Jayanti, S. (2019). The Relationship between Workload, Work Climate, and Work Posture on Musculoskeletal Complaints in Airport Baggage Handling Service Workers (Case Study at Kokapura, Ahmad Yani International Airport, Semarang). Journal of Public Health (Undip), 7(4), 619–625.
Lestari.S, Ita PL, MA . (2023). Description of Musculoskeletal Disorder Complaints in Stone Breaking Workers in Leyangan, East Ungaran: Description of Musculoskeletal Disorder Complaints in Stone Breaking Workers in Leyangan, East Ungaran. Pro Health Health Scientific Journal, 5(2), 373–379.
Oktafiannisa, I., Sumini, S., & Mushidah, M. (2019). The Relationship Between Standing Work Attitude and Musculoskeletal Complaints in Plywood Manufacturing Workers. Permas Scientific Journal: STIKES Kendal Scientific Journal, 9(1), 42–45.
Oley, RA, Suoth, LF, & Asrifuddin, A. (2018). The Relationship Between Work Attitudes and Years of Work and Musculoskeletal Complaints in Fishermen in Batukota Village, North Lembeh District, Bitung City, 2018. KESMAS: Public Health Journal, Sam Ratulangi University, 7(5).
Pradana, RJ (2020). The Relationship between Work Attitudes and "LBP" Complaints among Nurses in the Emergency Installation at Haji General Hospital Surabaya in 2020. STIKES Dr. Hospital Foundation. Soetomo Surabaya.
Pramana, AN, Kurniawan, B., & Ekawati, E. (2021). Analysis of Work Posture Using the Rapid Upper Limb Assessment (Rula) Method for Laundry Workers X Artha, PW (2017). Factors related to musculoskeletal complaints in Udayana University students in 2016. Journal of Industrial Hygiene and Occupational Health Vol, 1(2). https://d1wqtxts1xzle7.cloudfront.net/72367266/698-libre.pdf?1635061239=&response-content-disposition=inline%3B+filename%3DFactors_Related_Musculoskeletal_Disorder.pdf&Expires=1699206861&Signature=fPuwW8KckhIwDaX1tZ mOlpmEWOpEbbKVTLcdVVId-U9XK6Ijt6noP2Sxkb
Dewi, PNY, Rakhmawati, NS, Kartika, E., & Saputro, DH (2023). Factors associated with complaints of musculoskeletal pain among scavengers in the RDF TPST Cilacap Regency environment. Sanitation: Journal of Environmental Health, 16(1), 29–35. https://www.e-journal.poltekkesjogja.ac.id/index.php/Sanitasi/article/download/1683/942
Ebu, K., Berek, N.C., & Setyobudi, A. (2020). Relationship between Work Period, Gender and Work Attitudes with Musculoskeletal Complaints in Gas Station Operators in Kupang City. Public Health Media, 2(2), 42–49. https://ejurnal.undana.ac.id/index.php/MKM/article/download/2853/2092
Evadarianto, N., & Dwiyanti, E. (2017). Working posture with complaints of musculoskeletal disorders in manual workers handling rolling mill parts. The Indonesian Journal of Occupational Safety and Health, 6(1), 97–106. https://e-journal.unair.ac.id/IJOSH/article/download/3309/3980
Fuadah, IW, Ekawati, E., & Wahyuni, I. (2022). The Relationship between Work Posture and Work Station Design in Drying Activities and Complaints of Musculoskeletal Disorders in Laundry Workers in Tembalang Village. Indonesian Public Health, 14(1), 59–74. jos.unsoed.ac.id/index.php/kesmasindo/article/download/4607/2796
Handoko, HB (2013). Successful Laundry Entrepreneurship at Home. Gramedia Pustaka Utama.
Hardisman. (2020). Easy, Practical, Free and Legal Analysis of Health Data and Statistics with the JASP Program. MEDIA SPACE. https://books.google.co.id/books?id=heL8DwAAQBAJ
Jannah, FR, & Sunaryo, M. (2021). Analysis of the Incidence of Musculoskeletal Disorders Using the Nordic Body Map in the Ikat Woven Sarong Industry in Parengan Village, Lamongan Regency. Public Health Student Scientific Journal, 6(4), 475–482.
Khofiyya, AN, Suwondo, A., & Jayanti, S. (2019). The Relationship between Workload, Work Climate, and Work Posture on Musculoskeletal Complaints in Airport Baggage Handling Service Workers (Case Study at Kokapura, Ahmad Yani International Airport, Semarang). Journal of Public Health (Undip), 7(4), 619–625.
Lestari.S, Ita PL, MA . (2023). Description of Musculoskeletal Disorder Complaints in Stone Breaking Workers in Leyangan, East Ungaran: Description of Musculoskeletal Disorder Complaints in Stone Breaking Workers in Leyangan, East Ungaran. Pro Health Health Scientific Journal, 5(2), 373–379.

Oktafiannisa, I., Sumini, S., & Mushidah, M. (2019). The Relationship Between Standing Work Attitude and Musculoskeletal Complaints in Plywood Manufacturing Workers. Permas Scientific Journal: STIKES Kendal Scientific Journal, 9(1), 42–45.

Oley, RA, Suoth, LF, & Asrifuddin, A. (2018). The Relationship Between Work Attitudes and Years of Work and Musculoskeletal Complaints in Fishermen in Batukota Village, North Lembeh District, Bitung City, 2018. KESMAS: Public Health Journal, Sam Ratulangi University, 7(5).

Pradana, RJ (2020). The Relationship between Work Attitudes and "LBP" Complaints among Nurses in the Emergency Installation at Haji General Hospital Surabaya in 2020. STIKES Dr. Hospital Foundation. Soetomo Surabaya.

Pramana, AN, Kurniawan, B., & Ekawati, E. (2021). Analysis of Work Posture Using the Rapid Upper Limb Assessment (Rula) Method for Workers at Laundry X, Semarang City. Indonesian Journal of Health Community, 2(2), 57–66. https://e-journal.ivet.ac.id/index.php/ijheco/article/download/1825/1329

Priambodo, Y., Vikaliana, R., & Purnaya, IN (2022). The Influence of Service Quality and Timeliness of Freight Forwarding Services on Customer Satisfaction at PT Hopefully Sukses Logistik. Ikra-Ith Humaniora: Journal of Social and Humanities, 6(1), 57–66. http://journals.upi-yai.ac.id/index.php/ikraith-humaniora/article/download/1485/1211

Purwati, K., Saputra, AI, & Taolin, A. (2023). The Relationship Between Work Posture and Musculoskeletal Disorders Complaints in Lundry Workers in Batam District, Batam City 2023. Medical Zone: Batam University Medical Education Study Program, 13(2), 392–401. ejurnal.univbatam.ac.id/index.php/zonadokter/article/download/1180/962

Putri, KE, & Ardi, SZ (2020). The Relationship Between Working Posture, Working Period and Smoking Habits with Complaints of Musculoskeletal Disorders (MSDs) in "Kumia" Krapyak Wetan Striated Weaving Workers, Sewon, Bantul. Ahmad Dahlan University. https://core.ac.uk/download/pdf/287729474.pdf

Ramadani, MN, & Sunaryo, M. (2022). Identification of Ergonomic Risks for UD Workers. Knight. Journal of Public Health, 10(1), 50–57.

Saingo, RR, Ruliati, LP, & Takaeb, AEL (2022). Ergonomic Risk of Musculoskeletal Disorders in Laundry Workers of Public Hospital in Kupang City. Public Health Media, 4(2), 235–244. https://ejurnal.undana.ac.id/index.php/MKM/article/download/4092/2949

Saputra, A. (2020). Work Attitude, Work Period, and Age on Low Back Pain Complaints in Batik Craftsmen. HIGEIA (Journal of Public Health Research and Development), 4(Special 1), 147–157. https://journal.unnes.ac.id/sju/index.php/higeia/article/download/36828/17024

Sophia, F., Cahyati, WH, & Koesyanto, H. (2022). Relationship between Age, BMI, and Years of Work with Complaints of Musculoskeletal Disorders (MSDS) in Sales Promotion Girls (SPG). Indonesian Public Health Research and Development Journal, 3(1).

Sulaiman, F., & Sari, YP (2018). Analysis of the working posture of workers in the agate grinding process using the REBA method. Journal of Optimization, 1(1).

Tafana R, A. (2021). Nursing Care for Elderly People with Musculoskeletal Disorders with Nursing Problems at Risk of Injury at the Tresna Werdha Social Home, Magetan. Muhammadiyah University of Ponorogo.

Tampubolon, JS, Adiatmika, IPG, Dokter, P., Medicine, F., & Udayana, U. (2014). Musculoskeletal complaints in laundry workers in South Denpasar District, Bali. Udayana Medical E-Journal, 3(5), 592–601.

Wiranto, A., Ramdan, IM, & Lusiana, D. (2019). Factors Influencing Musculoskeletal Disorder Complaints in Rice Mill Workers in North Penajam Paser Regency. Husada Mahakam: Health Journal, 9(1), 439–452.

Zuliani, R. (2020). The Impact of Sharia Labels on Income in Service Businesses in the City Langsa (Case Study on Amanah Wash Laundry Syariah). AT-TASYRI': SCIENTIFIC JOURNAL OF MUAMALAH PRODUCT, 1–15.

Analysis of work attitudes and musculoskeletal complaints in laundry workers in bandar kediri

ORIGINALITY REPORT

19%	11%	16%	%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	Auliya Vanissa, Y. Denny A. Wahyudiono, Nungki Marlian Yuliadarwati, Tri Martiana, Gandhi Hartoyo. "The Correlation of Working Posture toward Complaints of Musculoskeletal Disorders on Pipeline Installation Workers", The Indonesian Journal of Occupational Safety and Health, 2022 Publication	4%
2	Made Handy Chandrayana, Made Widnyana, Ni Komang Ayu Juni Antari, Ni Luh Putu Gita Karunia Saraswati. "The Relationship between Work Attitudes and Complaints of Musculoskeletal Pain in Laundry Workers", FISIO MU: Physiotherapy Evidences, 2024 Publication	2%
3	jurnal.globalhealthsciencegroup.com Internet Source	2%
4	jurnal.pdgimakassar.org Internet Source	1%
5	www.bircu-journal.com Internet Source	1%
6	Ade Gafar Abdullah, Vina Adriany, Cep Ubad Abdullah. "Borderless Education as a Challenge in the 5.0 Society", CRC Press, 2020 Publication	1%

7	Bagus Putro Pamungkas, Noerma Shovie Rizqiea, Erlina Windyastuti. "Description of The Level of Knowledge About Covid-19 Vaccines Among Adolescents In Public Junior High Schools", Adi Husada Nursing Journal, 2023 Publication	1 %
8	F Ayu, R A Ratriwardhani. "Relationship of work position with complaints of musculoskeletal disoeders (MSDs) in cracker industrial worker at Kedungdoro village, Sidoarjo", IOP Conference Series: Earth and Environmental Science, 2021 Publication	1 %
9	digilib.unimus.ac.id Internet Source	1 %
10	Melda Yenni. "FACTORS RELATED TO MUSCULOSKELETAL DISORDER COMPLAINTS IN HIFTING WORKERSIN THE BULOG WAREHOUSE JAMBI", Jurnal Aisyah : Jurnal Ilmu Kesehatan, 2023 Publication	1 %
11	journal.poltekkesaceh.ac.id Internet Source	1 %
12	ojs.sbbwu.edu.pk Internet Source	1 %
13	MM. Riyaniarti Estri Wuryandari, Ninis Yuliati, Ekawati Sutikno, Saad A Mohamed. "Interaction Affinity Between Flavonoids Against Cytokines Interleukin 12 in Diabetes Mellitus", MEDIA ILMU KESEHATAN, 2023 Publication	1 %

14	Refaldi Saptiansyah, Dani Nasirul Haqi, Kholifah Firsayanti Juwono. "Proposed Workstation Design in Laboratory for Musculoskeletal Disorder Complaints", The Indonesian Journal of Occupational Safety and Health, 2023 Publication	1 %
15	Muhammad Nagib, Eliana Wulandari, Hepi Hapsari. "Implementation of The Chili Commodity Agricultural Financing Program at Islamic Boarding Schools", Jurnal Agrinika: Jurnal Agroteknologi dan Agribisnis, 2023 Publication	<1 %
16	www.researchgate.net Internet Source	<1 %
17	assets.ebsco.com Internet Source	<1 %
18	ejurnal.undana.ac.id Internet Source	<1 %
19	journal.walisongo.ac.id Internet Source	<1 %
20	I Wayan Gede Suarjana, Ni Luh Gede Aris Maytadewi Negara. "Prevalence of Work-Related Musculoskeletal Disorders among Laundry Workers in North Sulawesi Province, Indonesia", International Journal of Occupational Safety and Health, 2024 Publication	<1 %
21	acikerisim.agu.edu.tr:8080 Internet Source	<1 %

Exclude quotes	On	Exclude matches	Off
Exclude bibliography	On		