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The Relationship Between Work Posture and The Incidence of Myalgia Among Farmers

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Abstract

Myalgia or muscle pain is a common symptom experienced by individuals who perform work with improper body posture for prolonged periods, particularly in the agricultural sector. This study aims to determine the relationship between work posture and the incidence of myalgia among the community in Cisampih Village, Sumedang Regency, in 2023. The research employed an analytic descriptive design with a cross-sectional approach. The sample was selected using total sampling, consisting of 51 farmer respondents. Data were analyzed using the chi-square test with a significance level of α = 0.05. The results showed a significant relationship between work posture (p-value = 0.018), length of service (p-value = 0.018), and duration of work (p-value = 0.003) with the incidence of myalgia among farmers. The conclusion of this study is that work posture, length of service, and duration of work have a significant effect on the occurrence of myalgia. These findings highlight the importance of preventive efforts through the application of ergonomic work postures and balanced work schedules to reduce the risk of myalgia among farmers.

Keywords: Myalgia, Work Posture, Length of Service, Working Hours

INTRODUCTION

Occupational health is an essential discipline aimed at protecting workers from health risks arising from daily activities while ensuring optimal productivity. One of the most common occupational health complaints is musculoskeletal disorders, which are generally caused by excessive muscle strain, unnatural work posture, repetitive movements, and environmental factors such as vibration and microclimate (Bridger, 2003). In Indonesia, the informal sector still dominates and relies heavily on manual labor, particularly in agriculture. Farmers are among the most vulnerable groups to musculoskeletal disorders, one of which is myalgia or muscle pain. Myalgia is not a disease but rather a symptom characterized by pain, stiffness, or muscle fatigue caused by improper work posture or prolonged activity (World Health Organization, 2018).

According to WHO (2018), the global prevalence of myalgia ranges between 50–62%, while in Indonesia it is estimated at 45–59%. Local data from the Sumedang District Health Office (2022) shows that myalgia is among the top ten most common diseases in the area, ranking fifth overall and second in outpatient visits at Jatigede Public Health Center, particularly in Cisampih Village, with a total of 23 cases. Persistent myalgia not only reduces farmers' ability to work effectively but also impacts their quality of life and economic productivity.

The high prevalence of myalgia among farmers is strongly related to non-ergonomic work postures, long working hours, and extended years of service in agriculture (Pratama, 2013). These factors highlight the need for preventive approaches through the application of ergonomic principles in farming activities to minimize the risk of musculoskeletal complaints. Based on this background, the main research problem is whether work posture, working hours, and length of service have a significant relationship with the incidence of myalgia among farmers in Cisampih Village, Sumedang Regency.

Therefore, the objective of this study is to analyze the relationship between work posture, working hours, and length of service with the incidence of myalgia among farmers in Cisampih Village, Sumedang Regency in 2023.

RESEARCH METHODS

This study employed an analytic descriptive design with a cross-sectional approach to analyze the relationship between work posture and the incidence of myalgia. The research was conducted in Cisampih Village, Sumedang Regency, from November 21 to December 7, 2023. The study population consisted of farmers residing in the research area, with a total sample of 51 respondents determined using a total sampling technique based on inclusion and exclusion criteria. The independent variables in this study included work posture, length of service, and working hours, while the dependent variable was the incidence of myalgia. Work posture was measured using the Rapid Entire Body Assessment (REBA) method, while musculoskeletal complaints were assessed using the Nordic Body Map (NBM) questionnaire. Additional instruments included a protractor and a camera to support observations. Primary data were obtained through interviews and questionnaires, while secondary data were collected from health records and related documentation. Data collection followed structured procedures using instruments that had been tested for validity and reliability with SPSS. Data processing consisted of editing, coding, entry, and cleaning prior to analysis. Univariate analysis was applied to describe respondent characteristics and variable distribution, while bivariate analysis was performed using the chi-square test ($\alpha = 0.05$) to determine the relationship between independent and dependent variables.

RESULTS AND DISCUSSION

RESPONDENT CHARACTERISTICS BASED ON AGE

Table 1. Frequency Distribution of Respondents by Age Group

Criteria	Frequency (f)	Percentage (%)
15–31 years	12	23.5
32–48 years	26	51.0
49–64 years	13	25.5
Total	51	100.0

Based on the data, the majority of respondents were 32–48 years old (51%), followed by 49–64 years (25.5%), and 15–31 years (23.5%). Age influences the condition and ability of farmers, where younger farmers tend to be stronger and more dynamic in their work (Nadya, 2019). Observations showed a relationship between age and the incidence of myalgia, with the highest cases found in the 32–48 years age group.

RESPONDENT CHARACTERISTICS BASED ON LENGTH OF SERVICE

Table 2. Frequency Distribution of Respondents by Length of Service

Criteria	Frequency (f)	Percentage (%)
< 5 years	14	27.5
> 5 years	37	72.5
Total	51	100.0

Based on the data, 14 respondents (27.5%) had less than 5 years of service, while 37 respondents (72.5%) had more than 5 years.

RESPONDENT CHARACTERISTICS BASED ON WORKING HOURS

Table 3. Frequency Distribution of Respondents by Working Hours

Criteria	Frequency (f)	Percentage (%)

< 8 hours	18	35.3
> 8 hours	33	64.7
Total	51	100.0

The data show that 33 respondents (64.7%) worked more than 8 hours a day, while 18 respondents (35.3%) worked less than 8 hours.

OVERVIEW OF RESPONDENTS' MYALGIA RISK BASED ON RAPID ENTIRE BODY ASSESSMENT (REBA)

Table 4. Frequency Distribution of Respondents' Myalgia Risk Based on REBA Questionnaire

Criteria	Frequency (f)	Percentage (%)
Low Risk	7	13.7
Medium Risk	4	7.8
High Risk	16	31.4
Very High Risk	24	47.1
Total	51	100.0

Out of 51 respondents, most farmers in Cisampih Village were at high to very high risk of developing myalgia due to work posture (31.4% and 47.1%, respectively), while 13.7% were at low risk and 7.8% at medium risk.

OVERVIEW OF RESPONDENTS' MYALGIA RISK BASED ON NORDIC BODY MAP (NBM)

Table 5. Frequency Distribution of Respondents' Myalgia Risk Based on NBM Questionnaire

Criteria	Frequency (f)	Percentage (%)
Mild	36	70.6
Moderate	11	21.6
Severe	4	7.8
Total	51	100.0

Based on the table, most respondents experienced mild myalgia (70.6%), followed by moderate (21.6%), and severe (7.8%).

RELATIONSHIP BETWEEN WORK POSTURE AND INCIDENCE OF MYALGIA

Table 6. Analysis of Relationship Between Work Posture and Myalgia (Chi-Square Test)

REBA Risk Level	Mild n (%)	Moderate n (%)	Severe n (%)	Total n (%)	p-value
Low Risk	6 (12)	1 (2)	0 (0)	7 (14)	
Medium Risk	3 (6)	1 (2)	0 (0)	4 (8)	0.018
High Risk	16 (31)	0 (0)	0 (0)	16 (31)	Sig.
Very High Risk	11 (22)	9 (18)	4 (7)	24 (47)	
Total	36 (71)	11 (22)	4 (7)	51 (100)	

The study showed a significant relationship between work posture and myalgia ($p = 0.018$). Most respondents with high to very high-risk postures reported muscle pain, particularly mild to moderate pain. Non-ergonomic static postures, such as bending, stooping, or excessive arm lifting for long durations, caused faster muscle fatigue due to impaired blood flow and lactic acid buildup.

This aligns with Tarwaka (2010), which emphasized that poor work posture and heavy workload increase musculoskeletal complaints.

RELATIONSHIP BETWEEN LENGTH OF SERVICE AND INCIDENCE OF MYALGIA

Table 7. Analysis of Relationship Between Length of Service and Myalgia

Length of Service	Mild n (%)	Moderate n (%)	Severe n (%)	Total n (%)	p-value
< 5 years	14 (27)	0 (0)	0 (0)	14 (27)	
> 5 years	22 (43)	11 (22)	4 (8)	37 (73)	0.018
Total	36 (70)	11 (22)	4 (8)	51 (100)	

The findings indicate a significant relationship between length of service and myalgia (p = 0.018). Longer years of farming increased the likelihood of moderate to severe myalgia.

RELATIONSHIP BETWEEN WORKING HOURS AND INCIDENCE OF MYALGIA

Table 8. Analysis of Relationship Between Working Hours and Myalgia

Working Hours	Mild n (%)	Moderate n (%)	Severe n (%)	Total n (%)	p-value
< 8 hours	18 (35)	0 (0)	0 (0)	18 (35)	
> 8 hours	18 (35)	11 (22)	4 (8)	33 (65)	0.003
Total	36 (70)	11 (22)	4 (8)	51 (100)	

There was a significant relationship between working hours and myalgia (p = 0.003). Respondents working more than 8 hours experienced mild (35%), moderate (22%), and severe (8%) myalgia. Extended working hours increase risk exposure, reduce productivity, and trigger fatigue, aligning with Suma'mur & Soedirman (2014) and Government Regulation No. 35/2021, which states the ideal duration of work is 7–8 hours.

CONCLUSION

This study shows that the majority of farmers in Cisampih Village, Sumedang Regency, in 2023 experienced myalgia complaints, with most cases categorized as mild. The analysis revealed that most farmers had a very high-risk work posture, which contributed to the occurrence of myalgia. In addition, both length of service and working hours were found to influence the incidence of myalgia, where the longer a person works, the higher the risk of experiencing muscle pain. Thus, it can be concluded that work posture, length of service, and working hours play a significant role in the occurrence of myalgia among farmers in Cisampih Village. Therefore, special attention to ergonomic factors and work time management is necessary to reduce the risk of such health problems. For further research, it is recommended to conduct longitudinal studies to better capture the long-term effects of work posture and workload on musculoskeletal health. In addition, intervention-based studies, such as ergonomic training programs, tool modification, or the introduction of scheduled work breaks, could provide practical solutions and measurable improvements. Expanding future studies to include larger populations or comparative analyses across different farming communities would also strengthen the evidence base and inform effective, context-specific ergonomic policies.

REFERENCES

Agustina, F., & Maulana, A. (2012). Analisis postur kerja dengan tinjauan ergonomi di industri batik madura. AJIE (Asian Journal of Innovation and Entrepreneurship), 1(03), 167-171.

AISYA, M. A., Asyifiradayati, R., & KM, S. (2022). Pengaruh Postur Kerja Terhadap Keluhan Muskuloskeletal Pada Pemetik Teh Di PT Pagilaran Kecamatan Blado Kabupaten Batang (Doctoral dissertation, Universitas Muhammadiyah Surakarta).

Artawan, I. W. R., & Saiful, A. (2021). Pengetahuan Dan Sikap Kepala Keluarga Tentang Penyakit Myalgia Di Desa Balinggi Induk Kecamatan Balinggi Kabupaten Parigi Moutong. Jurnal Ilmiah Kesmas-IJ, 21(1), 24-30.

Atthariq, Putri M,E. Faktor – Faktor yang Berhubungan dengan Kejadian Myalgia pada Nelayan di Desa Batukaras Pangandaran Jawa Barat. Jurnal Kedokteran Dan Kesehatan. 2018. Vol. 14(1)

Azis P, Juhanto A, Rahmawati. Hubungan Postur Kerja dengan Kejadian Myalgia pada Petani di Kecamatan Bungaya Kabupaten Gowa. UNM Environmental Journals. 2022. 5(2) : 1-6.

Bernadeta, A. (2023). Hubungan Faktor Risiko Nyeri Punggung Bawah pada Petugas Keamanan di Lingkungan Universitas Kristen Indonesia Cawang (Doctoral dissertation, Universitas Kristen Indonesia).

Carolia, N. (2017). Obat anti-inflamasi non-steroid (OAINS): gastroprotektif vs kardiotoksik. Majority, 6(3), 153-158.

Dewi, A. R., & Darnoto, S. (2023). Hubungan Postur Kerja dan Masa Kerja dengan Keluhan Myalgia Upper Trapezius pada Perawat Rawat Inap Puskesmas di Kabupaten Ngawi. Health Information: Jurnal Penelitian.

Dewi, A. R., & Darnoto, S. (2023). Hubungan Postur Kerja dan Masa Kerja dengan Keluhan Myalgia Upper Trapezius pada Perawat Rawat Inap Puskesmas di Kabupaten Ngawi. Health Information: Jurnal Penelitian.

Dewi, N. F. (2020). Identifikasi risiko ergonomi dengan metode nordic body map terhadap perawat poli RS X. Jurnal Sosial Humaniora Terapan, 2(2), 15.

Evadarianto, Nurdian Dan Dwiyanti, Endang. Postur Kerja Dengan Keluhan Musculoskeletal Disorders Pada Pekerja Manual Handling Bagian Rolling Mill. The Indonesian Journal Of Occupational Safety And Health. 2017;6(1): 97-106.

Fatejarum, A., & Susianti, S. (2018). Hubungan Postur Kerja dan Repetisi terhadap Kejadian Keluhan Muskuloskeletal pada Petani. J Agromedicine Unila, 5(1), 518-523.

Gultom C,C. Hubungan Durasi dan Beban Kerja dengan Kejadian Stress Kerja pada Karyawan Bank Papua Cabang Waisai Periode 2022. 2022

Hasibuan, S. M. (2020). Hubungan Beban Kerja Dengan Keluhan Musculoskeletal Disorders Pada Petugas Kebersihan Di RSUD Sibuhuan Kabupaten Padang Lawas (Doctoral dissertation, Universitas Islam Negeri Sumatera Utara).

Mager, D. R. (2020). Interpreting Vitamin D Levels. Home Healthcare Now, 38(6), 341-342.

Mazaleuskaya, L. L., Theken, K. N., Gong, L., Thorn, C. F., FitzGerald, G. A., Altman, R. B., & Klein, T. E. (2015). PharmGKB summary: ibuprofen pathways. Pharmacogenetics and genomics, 25(2), 96-106.

Megawati, E. (2021). Edukasi pengurangan resiko terjadinya Musculoskeletal Disorders (MSDs) dini, pada penjahit keliling di Ngaliyan Semarang. Budimas: Jurnal Pengabdian Masyarakat, 3(2), 450-456.

Megawati, E. (2021). Edukasi pengurangan resiko terjadinya Musculoskeletal Disorders (MSDs) dini, pada penjahit keliling di Ngaliyan Semarang. Budimas: Jurnal Pengabdian Masyarakat, 3(2), 450-456.

Prabarukmi, G. S., & Widajati, N. (2020). The correlation of ergonomic risk factor with musculoskeletal complaints in Batik Workers Hubungan Faktor Risiko Ergonomi dengan Keluhan Muskuloskeletal pada Pembatik. Indonesian J. Occup. Saf. Health, 9(3), 269-278.

Prasetya, N. R., & Putro, S. (2019). Hubungan tingkat pendidikan dan umur petani dengan penurunan jumlah rumah tangga usaha pertanian sub sektor tanaman pangan di Desa Meteseh Kecamatan Boja Kabupaten Kendal. Edu geography, 7(1), 47-56.

Pratama, G. R., Kumalasari, D. R., & Rahayu, U. B. (2013). Pengaruh latihan contract relax stretching terhadap penurunan nyeri myofascial trigger point syndrome otot upper trapezius pada pembatik tulis halus Laweyan (Doctoral dissertation, Universitas Muhammadiyah Surakarta).

Punusingon, A. B., Sumampouw, O. J., & Boky, H. (2017). Keluhan musculoskeletal pada petani di kelurahan tosuraya selatan kabupaten minahasa tenggara. KESMAS: Jurnal Kesehatan Masyarakat Universitas Sam Ratulangi, 6(3).

Putri, R. O., Jayanti, S., & Kurniawan, B. (2021). Hubungan postur kerja dan durasi kerja dengan keluhan nyeri otot pada pekerja pabrik tahu X di Kota Semarang. Jurnal Kesehatan Masyarakat, 9(6), 733-740.

Rahman, A. (2017). Analisis postur kerja dan faktor yang berhubungan dengan keluhan musculoskeletal disorder (MSDs) pada pekerja beton sektor informal di Kelurahan Samata Kecamatan Somba Opu Kabupaten Gowa Tahun 2017. Universitas Islam Negeri Alauddin Makassar.

Sabrina, R. N. (2021). Hubungan aktivitas fisik dengan tingkat nyeri otot pada usia produktif di puskesmas banguntapan ii bantul. Jurnal Riset Daerah Kabupaten Bantul, 21(4), 4099-4114.

Sirisawasd, S., Taptagaporn, S., Boonshuyar, C., & Earde, P. (2022). Comparison of musculoskeletal load using two devices for manual height adjustment of the hospital bed. International Journal of Occupational Safety and Ergonomics, 28(1), 519-527.

Sukmawardani, S., Winarko, W., & Suprijandani, S. (2022). Postur Kerja, Umur, Lama Kerja, Masa Kerja dan Keluhan Muskuloskeletal (Studi pada Pekerja Pembuat Triplek Bagian Repair UD. Tunas Subur, Pacitan). Jurnal Penelitian Kesehatan" SUARA FORIKES"(Journal of Health Research" Forikes Voice"), 13, 156-161.

Sulaiman, F., & Sari, Y. P. (2018). Analisis postur kerja pekerja proses pengeasahan batu akik dengan menggunakan metode REBA. Jurnal Optimalisasi, 1(1).

Sumigar, C. K., Kawatu, P. A., & Warouw, F. (2022). Hubungan antara umur dan masa kerja dengan keluhan muskuloskeletal pada petani di desa tambelang minahasa selatan. KESMAS: Jurnal Kesehatan Masyarakat Universitas Sam Ratulangi, 11(2).

Susanti, F. A. (2024). Hubungan Durasi Duduk Dan Posisi Duduk Dengan Resiko Low Back Pain (Miogenic) Pada Supir Travel Madura Jakarta (Doctoral dissertation, Universitas Muhammadiyah Malang).

Tiogana, V., & Hartono, N. (2020). Analisis postur kerja dengan menggunakan REBA dan RULA di PT X. Journal of Integrated System, 3(1), 9-25.

Utami, U., Karimuna, S. R., & Jufri, N. N. (2017). Hubungan lama kerja, sikap kerja dan beban kerja dengan muskuloskeletal disorders (Msds) pada petani padi di Desa Ahuhu Kecamatan Meluhu Kabupaten Konawe Tahun 2017 (Doctoral dissertation, Haluoleo University).

Wijaya, I. S. A., & Muhsin, A. (2018). Analisa Postur Kerja Dengan Metode Rapid Upper Limb Assessment (Rula) Pada Oparator Mesin Extruder Di Stasiun Kerja Extruding Pada Pt Xyz. Opsi, 11(1), 49-57.