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Association Between Working Hours, Length of Employment, and Repetitive Movements with Carpal Tunnel Syndrome Complaints Among Grinding Workers at Company X, Batam City, Indonesia, in 2024

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Keyword: Work Duration; Work Period; Repetitive Motion; Carpal Tunnel Syndrome;

Abstract
Introduction: *The prevalence of MSDs disorders out of the average occupational disease is nearly 50%. MSDs include several types, one of which is carpal tunnel syndrome.* ***Objective:*** *The purpose of the study was to determine the frequency distribution of work duration, work period and repetitive movements in grinding workers at PT X Batam City in 2024 and to determine the relationship between work duration, work period and repetitive movements with the occurrence of carpal tunnel syndrome complaints in grinding workers at PT X Batam City in 2024.* ***Method:*** *Research methodology This type of research is quantitative research with a cross sectional study design. Data collection was carried out by distributing questionnaires and observing repetitive movements of grinding work.* ***Result and Discussion:*** *The results of the study showed that the majority of workers with work duration ≥ 8 hours per day (64.2%), work period ≥ 2 years (89.8%) and repetitive movements ≥ 20 times per minute (66%), showed a significant relationship between work duration, work period and repetitive motion with P_value = 0.000, p < α (α = 0.05) to complaints of carpal tunnel syndrome.* ***Conclusion:*** *Suggestions for setting working hours and providing additional breaks for workers with a long work period to reduce tension on the wrist*

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Introduction

Carpal Tunnel Syndrome (CTS) is a disorder characterized by the narrowing of the carpal tunnel—a passageway from the forearm to the wrist (Rahmanndani, 2020). This condition arises when the median nerve, located between the forearm and the wrist, is compressed due to deformities in the small bones of the hand. Common symptoms of CTS include numbness, tingling sensations, difficulty in finger movement, and swelling in both hands (Olimvia, 2024)

According to the World Health Organization (WHO, 2021), the prevalence of musculoskeletal disorders (MSDs) accounts for nearly 50% of all occupational diseases. Among various types of MSDs, CTS is one of the most frequently reported. In Indonesia, the exact number of individuals suffering from CTS remains unclear due to underreporting and diagnostic challenges (Sariana & Laksono, 2023). However, several studies have indicated a high incidence of CTS among workers. For instance, a study by Febriani (2023) on production workers at PT Sewangi Sawit Sejahtera found that among 65 respondents, 49 (75.4%) had risky working durations, 52 (80%) had high-risk work tenure, 53 (81.5%) performed repetitive movements, and 49 (75.4%) were diagnosed with CTS. Similarly, a study by Wulantika et al. (2021) on sculpting and grinding workers reported that 73.1% experienced CTS, while only 26.9% did not.

Several risk factors contribute to CTS complaints, including the duration of daily work activities. Extending working hours beyond an individual's capacity is generally not associated with increased efficiency and may instead lead to decreased productivity, fatigue, occupational illnesses, and accidents (GIGI, n.d.). The minimum work tenure associated with the onset of CTS is approximately 1–4 years, with an average of 2 years. Furthermore, repetitive movements—particularly those involving the hands, wrists, or fingers—are recognized as significant risk factors for CTS, especially when they contribute to increased physical workload (Basuki, Jenie, & Fikri, 2015)

Method

This study employed a quantitative research design with a cross-sectional approach. The research timeline included several stages: initial observation, preliminary data collection, proposal preparation, proposal seminar, and implementation phases encompassing data collection, data processing, and the preparation of research findings. The study was conducted from February to June 2024.

Setting and Population

The research took place at PT. X, located at Jl. Patimura, Sei Kasam–Telaga Punggur, Batam City, Indonesia. The study population consisted of grinding workers employed at PT. X in the year 2024. A total sampling technique was applied, resulting in a final sample of 53 grinding workers.

Instruments and Data Collection

The primary instrument consisted of a structured questionnaire comprising 11 items across 5 indicators. These questions addressed both factual and perceptual responses related to symptoms of Carpal Tunnel Syndrome (CTS) experienced by the workers. To complement the questionnaire and observation methods, interviews were conducted. In addition, physical examination using Phalen’s Test was employed. Phalen’s Test involved instructing the participants to flex and hyperflex both wrists

against each other for 60 seconds. The appearance of CTS-like symptoms (e.g., tingling or numbness) within one minute was considered indicative of a positive test result, supporting the diagnosis of CTS. A stopwatch was used to measure the duration of the test, strictly set to one minute.

Data Sources

Primary data were obtained from employee records of grinding workers, direct observation, and documentation. Secondary data were gathered from company incident reports, relevant academic literature, and credible online sources aligned with the research topic.

Data Analysis

Univariate analysis was conducted on the variables of working duration, work tenure, repetitive motion, and CTS complaints. Bivariate analysis was used to assess the relationships between working duration and CTS complaints, work tenure and CTS complaints, and repetitive motion and CTS complaints.

Result and Discussion

Univariate Analysis Results

Based on Duration of Work

Table 1

Distribution of Frequency of Working Duration in Grinding Workers

Duration of Work	Frequency	Percentage (%)
≥ 8 hours per day	34	64.2
< 8 hours per day	19	35.8
Total	**53**	**100**

Source: *Primary data processing, 2024*

Based on Table 1, among the 53 grinding workers, 34 respondents (64.2%) worked ≥8 hours per day, while 19 respondents (35.8%) worked <8 hours per day. Working duration refers to the length of time a person engages in occupational activities per day to earn income (Sutami & Laksmi, 2021). The risk of Carpal Tunnel Syndrome (CTS) increases with prolonged working hours, as repetitive movements of the hands and wrists over extended periods impose stress on the tissues surrounding the carpal tunnel (Wahyuni, Sultan, & Baharuddin, 2023). According to Sekarsari et al. (2017), wrist positioning and pressure experienced during work or equipment use are contributing factors to the development of CTS. The longer the wrist is held in an awkward or constrained position, the greater the risk of CTS onset (Sekarsari & Farzan, 2017). These findings are consistent with a study conducted by Sariana and Laksono (2023), titled "The Relationship Between Individual Characteristics, Medical History, and Obesity with Carpal Tunnel Syndrome (CTS) Complaints Among Online Motorcycle Taxi Drivers in Ciracas District, East Jakarta, 2022." In a sample of 107 respondents, 64 respondents (59.8%) worked ≥8 hours per day, while 43 respondents (40.2%) worked <8 hours per day.

Based on these observations, the researcher assumes that longer working durations may increase the risk of CTS complaints, as prolonged use of the hands and wrists through repetitive motion may lead to increased compression of the median nerve within the carpal tunnel, thereby elevating the likelihood of developing CTS symptoms.

Based on Tenure

Table 2

Distribution of Working Period Frequency in Grinding Workers

Tenure	Frequency	Percentage (%)
≥ 2 Years	37	69.8
< 2 Years	16	30.2
Total	**53**	**100**

Source: *Primary data processing, 2024*

Work tenure refers to the length of time an individual has been employed, from the moment they began working until the present (MUHAMMAD, 2023, citing Suma'mur). It can be understood as a prolonged period during which a worker remains affiliated with a particular company or workplace until a specified point in time (MUHAMMAD, 2023)

Work tenure is considered a risk factor for Carpal Tunnel Syndrome (CTS), particularly in occupations that demand intensive manual activities. The longer the work tenure, the greater the exposure to occupational hazards (Langi, Joseph, & Pangaribuan, 2023). A study by Bugajska et al. at (Nafasa, Yuniarti, Nurimaba, Tresnasari, & Wagiono, 2019) noted that the incidence of CTS tends to increase with the number of years spent working. Both the workplace environment and individual risk factors contribute to CTS development. The risk escalates with increased time spent performing repetitive wrist flexion movements.

These results align with a study conducted by Ken et al. at (Ghaisani, Jayanti, & Ekawati, 2021) titled "The Relationship Between Work Duration and Musculoskeletal Complaints Among Typists in Malalayang District, Manado City, 2019." Among a sample of 30 respondents, 18 respondents (60%) had worked ≥3 years, while 12 respondents (40%) had worked <3 years. Based on these findings, the researcher assumes that CTS complaints are more likely to occur among workers with longer work tenure, as prolonged pressure on the median nerve may lead to inflammation over time, ultimately manifesting as CTS-related symptoms.

Based on Repetitive Movements

Table 3

Distribution of Repetitive Movement Frequencies in Grinding Workers

Repetitive Motion	Frequency	Percentage (%)
≥ 20 times per minute	35	66
< 20 times per minute	18	3 4
Total	**53**	**100**

Source: *Primary data processing, 2024*

Based on Table 3, among the 53 grinding workers, 35 respondents (66%) performed repetitive movements ≥20 times per minute, while 18 respondents (34%) performed repetitive movements <20 times per minute. Repetitive motion is recognized as a major contributing factor to Repetitive Strain Injury (RSI), a condition characterized

by discomfort or pain that may extend from the upper arm to the fingertips. RSI poses a significant occupational health risk, especially for workers engaged in repetitive movements over extended periods (Saputra, 2024). According to Farahdhiya et al. (2020), repetitive hand and wrist movements, including motions involving the fingers, are well-established risk factors for Carpal Tunnel Syndrome (CTS). The higher the frequency of repetitive motion, the greater the likelihood of developing CTS symptoms (Farahdhiya, Jayanti, & Ekawati, 2020).

These findings are consistent with a study conducted by Aswin et al. (2022), titled "The Relationship Between Repetitive Motion and the Incidence of Carpal Tunnel Syndrome Among Fish Packaging Workers in 2022". In a sample of 32 workers, 20 respondents (62.5%) were identified as engaging in high-risk repetitive movements, whereas 12 respondents (37.5%) were classified as low-risk (Aswin & Halim, 2022).

Based on these observations, the researcher assumes that grinding work involves repetitive hand and wrist movements, often accompanied by bending and straightening actions. These movements may exert pressure on the median nerve, potentially causing inflammation within the carpal tunnel and leading to CTS complaints.

Based on Carpal Tunnel Syndrome Complaints

Table 4

Distribution of Carpal Tunnel Syndrome Complaint Frequency in Grinding Workers

CTS Complaints	Frequency	Percentage (%)
With CTS Complaints	39	73.6
Without CTS Complaints	14	26.4
Total	**53**	**100**

Source: *Primary data processing, 2024*

Based on Table 4, among the 53 grinding workers, 39 respondents (73.6%) reported experiencing Carpal Tunnel Syndrome (CTS) symptoms, while 14 respondents (26.4%) did not report any CTS-related complaints. Carpal Tunnel Syndrome (CTS) is a condition resulting from repeated wrist flexion and extension movements, which lead to compression of the median nerve by the transverse carpal ligament. This compression causes discomfort such as pain, tingling, or numbness during work activities (Kirom & Ardi, 2019)

The findings of this study are consistent with those of Nafasa et al. (2019), titled "The Relationship Between Work Tenure and Carpal Tunnel Syndrome Complaints Among Computer-Using Employees at Bank BJB, Subang Branch, in 2019." In that study, among 54 respondents, 38 individuals (70%) experienced positive CTS symptoms, while 16 individuals (30%) did not (Nafasa et al., 2019).

Based on these results, the researcher assumes that CTS complaints are associated with prolonged repetitive movements involving wrist flexion and extension, as typically found in grinding tasks. Repetitive strain over an extended duration may gradually lead to inflammation in the carpal tunnel, causing symptoms such as pain, tingling, and needle-like sensations in the wrist area.

Univariate Analysis Results

Tabel 5

The relationship between work duration and the occurrence of CTS complaints in grinding workers

Duration of Work	CTS Complaints				Total		*P-Value*
	With CTS Complaints		Without CTS Complaints				
	n	%	n	%	N	%	
≥ 8 hours per day	32	94.1	2	5.9	34	100	
< 8 hours per day	7	36.8	12	63.2	19	100	**0.000**
Total	**39**	**73.6**	**14**	**26.4**	**53**	**100**	

Source: *Primary data processing, 2024*

Based on the results of the chi-square statistical test, the relationship between working duration and the incidence of Carpal Tunnel Syndrome (CTS) complaints yielded a p-value = 0.000, which is ≤ α = 0.05. This result indicates that the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_a) is accepted, meaning there is a statistically significant association between working duration and the occurrence of CTS complaints.

These findings are consistent with a study by Puspita et al. (2022), titled "Carpal Tunnel Syndrome Complaints Among Purun Handicraft Artisans in 2022". With a sample size of 53 respondents, the study revealed that 30 respondents (56.6%) tested positive for CTS, of whom 18 respondents (81.8%) reported working ≥8 hours per day, while 12 respondents (38.7%) reported working <8 hours per day. The study concluded that inadequate work duration management was associated with positive CTS symptoms, supported by a p-value = 0.002, which is also less than α = 0.05, indicating a significant relationship between working hours and CTS occurrence (Puspita, Arifin, & Pahruddin, 2022).

Similarly, a study by Putra et al. (MUHAMMAD, 2023) titled "Factors Associated with Carpal Tunnel Syndrome Symptoms Among Computer Editing Workers at PT. X in 2021", found that among 75 respondents, 64 individuals (85.3%) worked ≥8 hours per day, while 11 individuals (14.7%) worked <8 hours per day. The bivariate analysis using the Chi-square test showed a significant association between working duration and CTS symptoms with a p-value = 0.025, confirming a meaningful relationship.

Table 6

The relationship between the working period and the occurrence of CTS complaints in grinding workers

Tenure	CTS Complaints						*P-Value*
	With Complaints		Without Complaints				
	n	%	n	%	N	%	
≥ 2 Years	33	89.2	4	10.8	37	100	
< 2 Years	6	37.5	10	62.5	16	100	**0.000**
Total	**39**	**73.6**	**14**	**26.4**	**53**	**100**	

Source: *Primary data processing, 2024*

Based on the results of the chi-square statistical test, the relationship between work tenure and the incidence of Carpal Tunnel Syndrome (CTS) complaints yielded a p-value

= 0.000, which is ≤ α = 0.05. This indicates that the null hypothesis (H_0) is rejected, and the alternative hypothesis (H_a) is accepted, suggesting a statistically significant relationship between work tenure and the occurrence of CTS complaints

These findings are in line with a study by Asfian et al. (2021), titled "Factors Associated with Carpal Tunnel Syndrome Complaints Among Couriers in Samarinda City, 2020." The study found a significant association between work tenure and CTS complaints. The longer the tenure, the more frequently the hands and fingers were used to press the nozzle, leading to repetitive motions over extended periods. As a result, prolonged work duration increases the risk of developing CTS symptoms (Asfian, Akifah, & Jayandi, 2021).

Consistent results were also reported by Hartanti et al. (2018) in their study titled "Risk Factors Associated with Carpal Tunnel Syndrome Complaints Among Computer Operators in the Editorial Department of Harian Metropolitan Bogor in 2018." Among 40 respondents, 26 workers (78.8%) who had worked ≥2 years experienced CTS symptoms. The study reported a p-value = 0.029, which is less than α = 0.05, confirming a significant relationship between work tenure and the incidence of CTS complaints.

Table 7
The Relationship of Repetitive Motion with the Occurrence of CTS Complaints in Grinding Workers

Repetitive Motion	**CTS Complaints**						***P-Value***
	With Complaints		**Without Complaints**				
	n	**%**	**n**	**%**	**N**	**%**	
≥ 20 times per minute	31	88.6	4	11.4	35	100	**0.001**
< 20 times per minute	8	44.4	10	55.6	18	100	
Total	**39**	**73.6**	**14**	**26.4**	**53**	**100**	

Source: *Primary data processing, 2024*

Based on the results of the chi-square statistical test, the relationship between repetitive motion and the incidence of Carpal Tunnel Syndrome (CTS) complaints yielded a p-value = 0.001, which is ≤ α = 0.05. This indicates that the null hypothesis (H_0) is rejected and the alternative hypothesis (H_a) is accepted, meaning there is a statistically significant relationship between repetitive motion and the occurrence of CTS complaints.

These findings are consistent with a study conducted by Mariana et al. (2018), which found a significant association between repetitive movements and the incidence of Carpal Tunnel Syndrome among ironworkers employed on an apartment construction project by PT. X. The study revealed that 23 ironworkers (79.3%) who performed ≥30 repetitive movements per minute tested positive for CTS, while 6 workers (20.7%) who performed <30 repetitive movements per minute tested negative

A similar result was reported by Nurullita, *et al* (Nurullita, Wahyudi, & Meikawati, 2023) in their study titled "The Incidence of Carpal Tunnel Syndrome in Workers Performing Repetitive Pressing Movements". Among a sample of 34 respondents, 21 individuals (60%) were found to be at risk for CTS complaints due to repetitive movements. The chi-square test in this study yielded a p-value = 0.001, which is less than α = 0.05, confirming a significant relationship between repetitive motion and CTS complaints

Conclusion

Based on the frequency distribution, the majority of grinding workers in this study worked ≥8 hours per day (64.2%), had a work tenure of ≥2 years (69.8%), and performed repetitive movements ≥20 times per minute (66.0%). Furthermore, a substantial proportion of the respondents—73.6%—reported experiencing Carpal Tunnel Syndrome (CTS) symptoms.

Statistical analysis using the chi-square test demonstrated significant associations between all three independent variables—working duration (p-value = 0.000), work tenure (p-value = 0.000), and repetitive motion (p-value = 0.001)—and the incidence of CTS complaints among grinding workers (with all p-values < $\alpha = 0.05$).

These findings provide strong empirical support for the researcher's justification that prolonged working hours, extended work tenure, and frequent repetitive hand motions contribute significantly to the occurrence of CTS. The observed patterns affirm that the nature of grinding work, which demands continuous and repetitive hand and wrist movements over long durations, presents a substantial occupational risk for CTS. Therefore, it is imperative for workplace interventions and ergonomic improvements to be implemented as preventive measures.

Reference

Asfian, Pitrah, Akifah, Akifah, & Jayandi, Muh. (2021). Faktor-Faktor yang Berhubungan dengan Keluhan Carpal Tunnel Syndrome (CTS) pada Petugas Operator Pengisi BBM di SPBU Kota Kendari. *Jurnal Kesehatan Masyarakat*, *9*(5), 669–674.

Aswin, Budi, & Halim, Rd. (2022). ANALISIS GERAKAN REPETITIF PADA KEJADIAN KELUHAN CARPAL TUNNEL SYNDROME PADA PEKERJA PENGEMASAN IKAN. *Jurnal Ilmu Kesehatan*, *11*(1), 57–62.

Basuki, Rochman, Jenie, M. Naharuddin, & Fikri, Zimamul. (2015). Faktor prediktor carpal tunnel syndrome (CTS) pada pengrajin alat tenun bukan mesin (ATBM). *Jurnal Kedokteran Muhammadiyah*, *4*.

Farahdhiya, Fadhila Agung, Jayanti, Siswi, & Ekawati, Ekawati. (2020). Hubungan durasi, frekuensi, gerakan repetitif dan postur pergelangan tangan dengan carpal tunnel syndrome pada violinis chamberstring orkestra. *Jurnal Kesehatan Masyarakat*, *8*(5), 657–664.

Ghaisani, Dinda Adharia, Jayanti, Siswi, & Ekawati, Ekawati. (2021). Faktor risiko kejadian carpal tunnel syndrome (cts) pada pekerjaan pengguna komputer: literature review. *Jurnal Kesehatan Masyarakat*, *9*(1), 104–111.

GIGI, PADA DOKTER. (n.d.). *FAKTOR-FAKTOR RISIKO TERJADINYA CARPAL TUNNEL SYNDROME (CTS)*.

Kirom, D. S., & Ardi, S. Z. (2019). Hubungan Antara Usia, Durasi Kerja Dan Gerakan Repatitif Menekan Nozzle Dengan Keluhan Subyektif Carpal Tunnel Syndrome (CTS) Pada Petugas Operator Pengisi BBM Di Tiga SPBU Kota Yogyakarta Tahun 2019. *Naskah Publikasi. Universitas Ahmad Dahlan: Yogyakarta*.

Langi, Gledis Viranda, Joseph, Woodford B. S., & Pangaribuan, Mandroy. (2023). Gambaran Keluhan Carpal Tunnel Syndrome (CTS) dan Intensitas Getaran Mekanis pada Pemarut Kelapa di Pasar Wilken Kota Tomohon. *Indonesian Journal of Public Health and Preventive Medicine*, *2*(2).

MUHAMMAD, FERDIANSYAH PUTRA. (2023). *FAKTOR-FAKTOR YANG BERHUBUNGAN DENGAN KEJADIAN CARPAL TUNNEL SYNDROME (CTS) PADA PEKERJA PEMBUAT COBEK DI DESA JOJOG KECAMATAN PEKALONGAN KABUPATEN LAMPUNG TIMUR*.

Nafasa, Kintan, Yuniarti, Yuniarti, Nurimaba, Nurdjaman, Tresnasari, Cice, & Wagiono, Caecielia. (2019). Hubungan masa kerja dengan keluhan carpal tunnel syndrome pada karyawan pengguna komputer di Bank BJB Cabang Subang. *Jurnal Integrasi Kesehatan & Sains*, *1*(1), 39–43.

Nurullita, Ulfa, Wahyudi, Rizky, & Meikawati, Wulandari. (2023). Kejadian Carpal Tunnel Syndrome pada Pekerja dengan Gerakan Menekan dan Berulang. *Jurnal Kesehatan Vokasional*, *8*(1), 1.

Olimvia, Nadia. (2024). *Faktor-Faktor yang Berhubungan dengan Keluhan Carpal Tunnel Syndrome (CTS) pada Pekerja Belah dan Sortir Pinang di CV. Indokara Tahun 2024*. UNIVERSITAS JAMBI.

Puspita, Lucy, Arifin, Arifin, & Pahruddin, Muhammad. (2022). Complaints Of Carpal Tunnel Syndrome In Purun Craftsme. *JURNAL KESEHATAN LINGKUNGAN: Jurnal Dan Aplikasi Teknik Kesehatan Lingkungan*, *19*(2), 283–288.

Rahmanndani, Alia. (2020). RISK FACTORS ON CARPAL TUNNEL SYNDROME AMONG FURNITURE MAKERS AT HOME INDUSTRIES IN DUREN SAWIT, 2020. *Health Safety Environment Journal*, *1*(1).

Saputra, Nanda. (2024). *Hubungan Masa Kerja Dan Gerakan Repetitif Dengan Keluhan Carpal Tunnel Syndrome Pada Pekerja Pelinting Rokok PT Panen Di Boyolali*. Universitas Muhammadiyah Surakarta.

Sariana, Erna, & Laksono, Abdurrahman Berbudi Bowo. (2023). Hubungan Karakteristik, Riwayat Penyakit, dan Obesitas dengan Keluhan Carpal Tunnel Syndrom (CTS) Pada Komunitas Ojek Online Wilayah Kecamatan Ciracas Jakarta Timur Tahun 2022. *Jurnal Untuk Masyarakat Sehat (JUKMAS)*, *7*(2), 139–148.

Sekarsari, Dewi, & Farzan, Amrin. (2017). *Hubungan lama kerja, gerakan repetitif dan postur janggal pada tangan dengan keluhan carpal tunnel syndrome (cts) pada pekerja pemecah batu di kecamatan moramo utara kabupaten konawe selatan tahun 2016*. Haluoleo University.

Sutami, Ni Kadek Dian, & Laksmi, Ida Ayu Agung. (2021). Hubungan durasi kerja dan posisi kerja dengan kejadian nyeri punggung bawah pada petani. *Journal of Borneo Holistic Health*, *4*(2), 85–96.

Wahyuni, Faridah, Sultan, Muhammad, & Baharuddin, Irfansyah. (2023). Faktor-Faktor yang Berhubungan dengan Keluhan Carpal Tunnel Syndrome (CTS) pada Kurir di Kota Samarinda. *Wal'afiat Hospital Journal*, *4*(1), 1–12.