

# Analisis Faktor Risiko Yang Mempengaruhi Keluhan Gangguan Otot Rangka Akibat Kerja (GOTRAK) di PT X Tahun 2023 = Risk Analysis of Railway Maintenance Work Factors Affecting Complaints of Musculoskeletal Disorders (MSDs) at PT X in 2023

Kartika Dani Lestari, author

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## Abstrak

Gangguan otot rangka akibat kerja (gotrak) menjadi salah satu masalah kesehatan serius di berbagai industri yang diderita oleh pekerja. Walau tidak fatal gotrak cenderung mengurangi efisiensi kerja dan kualitas hidup. Keluhan gotrak yang dialami pekerja railway maintenance umumnya dirasakan pada bagian leher, punggung dan lutut, dimana keluhan tersebut disebabkan oleh postur janggal, bekerja di tempat yang sempit, berat beban dll. Pekerjaan railway maintenance memiliki faktor risiko yang dapat berpengaruh terhadap keluhan gotrak yaitu faktor risiko individu, fisik, psikososial, lingkungan dan organisasi. PT X merupakan BUMD di bidang perkeretaapian yang diantaranya mencakup pekerjaan railway maintenance. Penelitian ini bertujuan untuk mengetahui faktor risiko dari pekerjaan railway maintenance yang berpengaruh terhadap keluhan gotrak pekerja. Penelitian ini berjenis kuantitatif menggunakan desain cross sectional. Jumlah sampel menggunakan total populasi pada pekerja railway maintenance khususnya pada departemen yang menangani rolling stock maintenance (Departemen RSM dan Departemen RSIT) berjumlah 109. Departemen RSM mencakup light maintenance, sedangkan Departemen RSIT mencakup heavy maintenance. Manajemen data menggunakan SPSS 25, analisa data menggunakan analisa deskriptif, bivariat (uji chi square dan uji regresi logistik sederhana) dan multivariat menggunakan metode enter (uji regresi logistik ganda). Instrumen yang digunakan dalam penelitian ini adalah lembar kuesioner yang sudah diuji validitas dan reliabilitas dan lembar Rapid Entire Body Assesment (REBA). Hasil menunjukkan gambaran aktivitas pekerjaan di Departemen RSM terdiri dari pekerjaan di bagian rooftop, carbody, interior, underfloor dan di dalam kantor. Sedang pada Departemen RSIT terdiri dari pekerjaan di bagian carbody, pantograf, valve, brake, air compressor, motor traksi, bogie, elektrik, AC, dan didalam kantor. Keluhan gotrak dirasakan oleh 62 pekerja railway maintenance di PT X (63.9%), dimana keluhan yang paling banyak dirasakan pada bagian leher, punggung bawah, kedua bahu, pergelangan tangan kanan dan punggung atas. Tingkat risiko ergonomi dari pekerjaan railway maintenance pada 2 departemen tersebut bervariasi mulai dari diabaikan hingga sangat tinggi, dimana penyumbang skor disebabkan oleh adanya postur janggal pada bagian leher, punggung, lengan atas, kedua kaki, dan berat objek. Faktor risiko yang berpengaruh terhadap keluhan gotrak yaitu dukungan sosial (OR 3.39, 95% CI 1,29-8.88). Intervensi yang dilakukan untuk mengurangi tingkat risiko ergonomi dari pekerjaan tersebut menggunakan hierarki pengendalian, sedangkan untuk mencegah keluhan gotrak yang berasal dari faktor risiko psikososial Upaya berfokus pada pengurangan tenaga manusia saat bekerja, peningkatan reward, peningkatan kepuasan kerja dan pengelolaan distres di tempat kerja.

.....Musculoskeletal Disorders (MSDs) are one of the serious health problems in various industries suffered by workers. Although not fatal, MSDs tends to reduce work efficiency and quality of life. Complaints experienced by railway maintenance workers are generally felt in the neck, back and knees, where the complaints are caused by awkward posture, working in narrow places, heavy loads etc. Railway

maintenance work has risk factors that can affect MSDs complaints, namely individual, physical, psychosocial, environmental and organizational risk factors. PT X is a BUMD in the field of railway which includes railway maintenance work. This study aims to determine the risk factors of railway maintenance work that affect MSDs workers complaints. This study was quantitative using a cross sectional design. The number of samples using the total population of railway maintenance workers, especially in departments that handle rolling stock maintenance (RSM Department and RSIT Department) amounted to 109. The RSM Department covers light maintenance, while the RSIT Department covers heavy maintenance. Data management using SPSS 25, data analysis using descriptive analysis, bivariate (chi square test and simple logistic regression test) and multivariate using enter method (multiple logistic regression test). The instruments used in this study were questionnaire sheets that had been tested for validity and reliability and Rapid Entire Body Assessment (REBA) sheets. The results show a picture of work activities in the RSM Department consisting of work on the rooftop, carbody, interior, underfloor and inside the office. While in the RSIT Department consists of work in the carbody, pantograph, valve, brake, air compressor, traction motor, bogie, electrical, air conditioning, and in the office. MSDs complaints were felt by 62 railway maintenance workers at PT X (63.9%), where the most complaints were felt in the neck, lower back, both shoulders, right wrist and upper back. The level of ergonomic risk of railway maintenance work in the 2 departments varies from negligible to very high, where the contributor to the score is caused by awkward posture on the neck, back, upper arms, both legs, and the weight of the object. Risk factors that influence gotrak complaints are social support (OR 3.39, 95% CI 1.29-8.88). Interventions carried out to reduce the level of ergonomic risk of the work use a hierarchy of control, while to prevent complaints of fatigue derived from psychosocial risk factors Efforts focus on reducing human labor while working, increasing rewards, increasing job satisfaction and managing stress at work.