



ANALISIS HUBUNGAN RITME SIRKADIAN TERHADAP PENYAKIT AKIBAT KERJA DALAM INDUSTRI MIGAS PADA PERSONIL DENGAN POLA KERJA *SHIFT* DI PERUSAHAAN XYZ

ANALYSIS OF THE ASSOCIATION BETWEEN CIRCADIAN RHYTHM AND WORK-RELATED DISEASES AMONG SHIFT WORKERS IN THE OIL AND GAS INDUSTRY

***Indra Firmanuddin¹, Roto²**

^{1,2}*Program Studi Magister Terapan Keselamatan Dan Kesehatan Kerja Departemen Layanan Dan Informasi Kesehatan Sekolah Vokasi Universitas Gadjah Mada Yogyakarta*

¹*indrafirmanuddin1979@mail.ugm.ac.id*, ²*roto05@ugm.ac.id*

Indra Firmanuddin

Magister Terapan Keselamatan dan Kesehatan Kerja, Universitas Gadjah Mada

Email: indrafirmanuddin1979@mail.ugm.ac.id

Abstrak

Penelitian ini bertujuan untuk menganalisis hubungan ritme sirkadian terhadap potensi penyakit akibat kerja (PAK) pada pekerja dengan pola kerja *shift* di industri minyak dan gas. Industri migas memiliki karakteristik operasi 24 jam yang menuntut sistem kerja *shift*, sehingga berpotensi menyebabkan disinkronisasi ritme sirkadian pekerja. Penelitian ini menggunakan pendekatan kuantitatif dengan desain deskriptif-korelasi. Pengumpulan data dilakukan melalui kuesioner terstruktur kepada pekerja *shift* di perusahaan migas XYZ dengan teknik *purposive sampling*. Variabel yang diteliti meliputi gangguan ritme sirkadian (by Cardian Type Inventory), tingkat kelelahan, kualitas tidur/kantuk dan keluhan penyakit akibat kerja. Analisis data dilakukan menggunakan uji statistik korelasi untuk mengetahui hubungan antar variabel. Hasil penelitian menunjukkan adanya hubungan signifikan antara gangguan ritme sirkadian dengan peningkatan risiko penyakit akibat kerja pada pekerja *shift*. Gangguan ritme sirkadian terbukti berkontribusi terhadap penurunan kewaspadaan, kinerja kognitif, serta peningkatan kesalahan kerja. Simpulan dari penelitian ini adalah bahwa disinkronisasi ritme sirkadian merupakan faktor risiko penting dalam keselamatan dan kesehatan kerja di industri migas. Penelitian ini merekomendasikan penerapan desain *shift* kerja yang ergonomis dan sirkadian-ramah sebagai upaya pencegahan penyakit akibat kerja dan kecelakaan kerja.

Kata kunci: Kesehatan dan Keselamatan Kerja, Mitigasi Risiko, Pekerjaan *Shift*, Penyakit Akibat Kerja, Ritme SIRKADIAN

Abstract

This study aims to analyze the association between circadian rhythm disruption and the occurrence of work-related diseases and occupational accidents among shift-working personnel in the oil and gas industry. The oil and gas sector is characterized by continuous 24-hour operations that require shift work systems, which may lead to circadian rhythm desynchronization among workers. This study employed a quantitative approach with a descriptive-correlational research design. Data were collected using structured questionnaires distributed to shift workers at XYZ Company through purposive sampling. The variables examined included circadian rhythm disruption, fatigue levels, and the incidence of work-related diseases and occupational accidents. Statistical correlation tests were used to analyze the relationships between variables. The results indicated a significant association between circadian rhythm disruption and an increased risk of work-related diseases and occupational accidents among shift workers. Circadian rhythm disruption was found to contribute to decreased alertness, impaired cognitive performance, and a higher likelihood of human error in the workplace. These findings suggest that circadian misalignment is a critical risk factor affecting occupational health and safety in the oil and gas industry. In conclusion, the study highlights the importance of managing circadian rhythm disruption to reduce work-related health risks and accidents. It is recommended that oil and gas companies implement circadian-friendly and ergonomically designed shift schedules, along with occupational health and safety policies, to enhance worker well-being, safety, and productivity.

Keywords: Circadian Rhythm, Occupational Health and Safety, Risk Mitigation, Shift Work, Work-Related Diseases
