

Hubungan Kadar Asupan Triptofan dan Faktor Pekerjaan dengan Skor Stres Kerja pada Pekerja Perusahaan Minyak dan Gas = The relationship between levels of tryptophan intake and occupational factors with job stress scores on oil and gas industry workers

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Abstrak

Latar belakang: Pekerja perusahaan minyak dan gas berisiko mengalami stres akibat kerja. Sebanyak 15% pekerja minyak dan gas di Timur Tengah mengalami ansietas dan 18% pekerja mengalami depresi akibat pekerjaan. Triptofan merupakan asam amino esensial sebagai prekursor serotonin dan melatonin yang memiliki efek anti depresan berperan dalam manajemen stres psikososial individu.

Tujuan: Menguji hubungan antara kadar asupan triptofan harian dan faktor risiko stres di tempat kerja dengan skor stres kerja berdasarkan short version new brief job stress questionnaire (SV-NBJSQ) versi Bahasa Indonesia.

Metode: Penelitian potong lintang pada 14 orang pekerja offshore dan 20 orang pekerja onshore. Stres kerja, tuntutan pekerjaan dan sumber daya pekerjaan dinilai menggunakan SV-NBJSQ yang menghasilkan skor 1–4, nilai mendekati 4 menunjukkan status yang lebih baik. Data sosio-demografi dan asupan nutrisi pekerja diperoleh dari wawancara dan kuesioner. Pekerja diminta untuk mengingat kembali konsumsi pangan dalam 24 jam terakhir, pada hari berikutnya dilakukan penimbangan makanan yang dikonsumsi. Data asupan dianalisis menggunakan aplikasi NutriSurvey berdasarkan tabel komposisi pangan triptofan dari The USDA National Nutrient Database.

Hasil: Diperoleh nilai median (min-maks) 3.5(3-4) untuk variabel kemarahan/ iritabilitas, 3.3(2-4) untuk kelelahan, 3.3(3-4) untuk kecemasan, 3.8(3-4) untuk depresi dan 3.5(1.2-4) untuk stres reaksi fisik. Median (min-maks) kadar asupan triptofan adalah 4.8(1.4-9.9) mg/kg. Hubungan kadar asupan triptofan dan skor stres kerja untuk tiap dimensi tidak ditemukan korelasi yang signifikan (kemarahan/iritabilitas $p=0.286$; kelelahan $p=0.491$; kecemasan $p=0.891$; depresi $p=0.647$; stress physical reactions $p=0.769$). Ditemukan hubungan bermakna antara faktor pekerjaan dengan skor stres kerja, yaitu pada kelebihan beban kerja kuantitatif dan kelelahan ($r=0.35$, $p=0.04$), kelebihan beban kerja kuantitatif dan depresi ($r=0.4$, $p=0.02$), konflik interpersonal dan kecemasan ($r=0.47$, $p=0.005$), konflik peran dan kecemasan ($r=0.47$, $p=0.005$), serta masa kerja dan stres reaksi fisik ($r=-0.42$, $p=0.015$).

Kesimpulan: Tidak ditemukan hubungan kadar asupan triptofan dengan skor stres kerja pada pekerja perusahaan minyak dan gas. Faktor pekerjaan yang berhubungan dengan stres kerja adalah kelebihan beban kerja kuantitatif, konflik interpersonal, konflik peran dan masa kerja.

.....Background: Oil and gas industry workers have risk of psychological stress due to job related stressors. Fifteen percent oil and gas workers in the Middle East have anxiety and 18% of workers got depression due to work. Tryptophan is an essential amino acid as precursor of serotonin and melatonin which has an

antidepressant effect and plays a role in individual stress perception and psychosocial stress management.

Objective: Assessing the correlation of daily tryptophan intake and occupational factors with job stress scores based on the Indonesian short version new brief job stress questionnaire (SV-NBJSQ).

Method: A cross-sectional study was conducted on 14 offshore workers and 20 onshore workers. Interviews and questionnaire were conducted to obtain socio-demographic data, dietary intake, occupational factors and job stress. Job stress, job demands and job resources were assessed using the SV-NBJSQ which resulted in a score of 1 – 4, the value close to 4 indicates better status. Dietary intake was collected using a single 24-hour dietary recall and 1d-weighted food record, then the data were analyzed using NutriSurvey application by based on tryptophan food composition table from The USDA National Nutrient Database.

Results: Job stress median (min-max) scores were 3.5(3-4) for anger/irritability, 3.3(2-4) for fatigue, 3.3(3-4) for stress physical reactions. The median (min-max) daily tryptophan intake was 4.8(1.4-9.9) mg/kg. There was no significant correlation between tryptophan intake levels and each of the job stress scores (anger/ irritability $p=0.286$; fatigue $p=0.491$; anxiety $p=0.891$; depression $p=0.647$; stress physical reactions $p=0.769$). There was significant correlation between occupational factors and job stress scores, specifically between quantitative overload and fatigue ($r=0.35$, $p=0.04$), quantitative overload and depression ($r=0.4$, $p=0.02$), interpersonal conflict and anxiety ($r=0.47$, $p=0.005$), role conflict and anxiety ($r=0.47$, $p=0.005$), as well as between tenure and physical reaction stress ($r=-0.42$, $p=0.015$).

Conclusion: No correlation between tryptophan intake levels and job stress scores for oil and gas workers was found in this study. Occupational factors related to job stress are quantitative overload, interpersonal conflict, role conflict and tenure.