Model Pajanan Panas Pekerjaan terhadap Indikasi Gangguan Fungsi Ginjal pada Pekerja di Sektor Perikanan Jawa Timur

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Abstrak

Pendahuluan: Pajanan panas pekerjaan sebagai salah satu faktor risiko indikasi gangguan fungsi ginjal di berbagai studi. Nelayan dan pekerja pemindang termasuk pekerja berisiko terpajan panas. Studi ini akan mengembangkan model kontribusi pajanan panas pekerjaan pada indikasi gangguan fungsi ginjal pada pekerja di sektor perikanan Jawa Timur. Metode: Desain penelitian ini adalah cross sectional pada pekerja sektor perikanan Kabupaten Lamongan di Desember 2022-Februari 2023. Besar sampel 150 nelayan dan pemindang yang didapat dengan rumus uji hipotesis untuk proporsi populasi tunggal. Variabel yang diteliti meliputi faktor personal (usia, jenis kelamin, penyakit komorbid, antropometri, konsumsi obat. waktu istirahat, konsumsi air putih, konsumsi minuman manis, konsumsi minuman bersoda, konsumsi minuman berenergi, konsumsi kopi, konsumsi teh, konsumsi legen, dan konsumsi tuak), faktor pekerjaan (jenis pekerjaaan, masa kerja, beban kerja, dan pakaian kerja), faktor iklim (temperatur, kelembaban, dan kecepatan angin), pajanan panas, tekanan panas, dan indikasi gangguan fungsi ginjal (eGFR CKD-EPI dan uKIM-1). Pengumpulan data menggunakan sampel urin, sampel darah, heat stress monitor, sphygmomanometer, oximeter, microtoise, timbangan badan, dan kuesioner. Analisis data bivariat menggunakan t-test sampel independen dan uji ChiSquare, sedangkan uji multivariat menggunakan cox regression. Hasil: Usia, konsumsi air putih, konsumsi teh, jenis pekerjaan, masa kerja, beban kerja (%CVL), pakaian kerja, tekanan panas, dan dehidrasi (BJU) berhubungan dengan indikasi gangguan fungsi ginjal eGFR (CKD-EPI). Konsumsi air putih, konsumsi minuman manis, dan beban kerja (observasi) berhubungan dengan indikasi gangguan fungsi ginjal uKIM-1 . Model yang terbentuk adalah HeGFR(t) = h0 (t) exp (0,393 pajanan panas pekerjaan + 0,551 konsumsi air putih + 0,339 konsumsi kopi + 1,446 beban kerja (%CVL) + 0,865 pakaian kerja) Kesimpulan: pajanan panas pekerjaan merupakan faktor risiko terjadinya indikasi gangguan fungsi ginjal eGFR (CKD-EPI), dengan turut mempertimbangkan faktor yang lain yaitu konsumsi air putih, konsumsi kopi, beban kerja (%CVL), dan pakaian kerja. Oleh karena itu, perlu aktivasi Pos UKK untuk memberdayakan pekerja dalam melakukan kegiatan keselamatan dan kesehatan kerja. <hr /> Introduction: Occupational heat exposure can pose a significant risk to workers' health, especially regarding their kidney function. Studies have shown fishermen and pemindang workers are particularly vulnerable to heat exposure. To address this issue, a study is being conducted to develop a model that examines the impact of occupational heat exposure on kidney function in workers within the East Java fisheries sector. Method: This research design is cross-sectional among fisheries sector workers in Lamongan District in December 2022 to February 2023. The sample size is 150 fishermen and pemindang was obtained using the hypothesis testing formula for a single population proportion. The variables studied included personal factors (age, gender, comorbid diseases, anthropometry, drug consumption, rest time, water consumption, consumption of sweet drinks, consumption of fizzy drinks, consumption of energy drinks, consumption of coffee, consumption of tea, consumption of legumes, and consumption of palm wine), work factors (type of work, length of work, workload, and work

clothing), climate factors (temperature, humidity, and wind speed), heat exposure, heat stress, and indications of impaired kidney function (eGFR CKD-EPI and uKIM-1). Data collection uses urine samples, blood samples, heat stress monitor, sphygmomanometer, oximeter, microtoise, body weighing, and questionnaires. Bivariate data analysis uses the independent samples t-test and Chi-Square test, while the multivariate test uses cox regression. Results: Age, water consumption, tea consumption, type of work, years of work, workload (%CVL), work clothing, heat stress, and dehydration (BJU) were associated with indications of impaired kidney function eGFR (CKD-EPI). Water consumption, consumption of sweet drinks, and workload (observation) are associated with indications of impaired uKIM-1 kidney function. The model formed is HeGFR(t) = h0 (t) exp (0.393 occupational heat exposure + 0.551 water consumption + 0.339 coffee consumption + 1.446 workload (%CVL) + 0.865 work clothes) Conclusion: occupational heat exposure is a risk factor for indications of impaired kidney function eGFR (CKD-EPI), taking into account other factors, namely water consumption, coffee consumption, workload (%CVL), and work clothing. Therefore, it is necessary to activate the Pos UKK to empower workers to carry out occupational safety and health activities.