

FAKTOR-FAKTOR YANG BERHUBUNGAN DENGAN KONJUNGTIVITIS PADA PEKERJA PENGELASAN LISTRIK DI BENGKEL RADAS JAYA SEMARANG

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(2004 - Skripsi)

Pengelasan listrik memiliki potensi bahaya radiasi sinar ultra violet terbesar pada elektrodanya, dibandingkan dengan pengelasan gas asetilen atau wolfram. Paparan sinar ultra violet dari cahaya elektroda pengelasan listrik dapat menimbulkan gangguan kesehatan terhadap mata, yaitu timbulnya konjungtivitis. Tanda dan gejala seperti mata merah, rasa pedih, rasa seperti ada pasir di mata, rasa panas, dan lakrimasi akan timbul 4-6 jam setelah paparan. Beberapa faktor seperti tipe elektroda, pemakaian kacamata pelindung, dan lama paparan mempengaruhi terjadinya konjungtivitis tersebut. Jenis penelitian adalah *Explanatory research*. Metode yang digunakan adalah metode survei dengan pendekatan *Cross sectional*. Variabel terikat adalah konjungtivitis, sedangkan variabel bebasnya adalah tipe elektroda las, lama paparan, riwayat alergi, pemakaian kacamata pelindung, nomor kacamata pelindung, umur dan masa kerja. Subyek penelitian adalah total populasi di Bengkel Radas Jaya Semarang (30 orang). Analisis bivariat dilakukan dengan uji *Chi square* dan uji *Fisher's exact*. Penelitian menunjukkan bahwa konjungtivitis pada pekerja Bengkel Radas Jaya Semarang adalah 60%. Paparan radiasi ultraviolet pada elektroda las di Bengkel Radas Jaya Semarang telah melebihi nilai ambang batas yaitu sebesar $17,3 \pm 53,3$ (W/cm^2). Lama paparan radiasi ultra violet pada pekerja adalah 4-8 jam (70%) dan kurang dari 4 jam (30%). Ada hubungan antara tingkat energi radiasi ultra violet berdasarkan tipe elektroda dengan konjungtivitis pada pekerja pengelasan di Bengkel Las Radas Jaya Semarang (nilai $p = 0,038$). Ada hubungan antara lama paparan dengan konjungtivitis (nilai $p = 0,01$). Riwayat alergi konstan. Tidak ada hubungan antara pemakaian kacamata pelindung dengan konjungtivitis (nilai $p = 0,004$), tidak ada hubungan antara umur dengan konjungtivitis, tidak ada hubungan antara masa kerja dengan konjungtivitis. Saran yang diberikan bagi pemilik usaha pengelasan merekomendasikan pengaturan jarak busur api antara 5-10 cm kepada pekerja dan pengurangan frekuensi paparan. Untuk pekerja disarankan agar mengatur jarak busur api 5-10 cm dan selalu memakai kacamata pelindung yang aman.

Kata Kunci: *Ultra violet, konjungtivitis, las listrik* Ultra violet, Conjunctivitis

FACTORS ASSOCIATED WITH CONJUNCTIVITIS AMONG ELECTRIC WELDERS AT RADAS JAYA SERVICE STATION SEMARANG

electric welding have a danger potential of ultra violet ray radiation at its electrode than of welding with acetylene gases or wolfram. Affecting of ultra violet ray from electrode lights of electric welding can generate the health obstruction to eye, that is conjunctivitis incidence. The signs in symptom as like red-eyed, feel the pain, feeling like there is sand in eye, feel the heat of like burned, and lacrimation will arise 4-6 hours after affected. Some factors like electrode type, usage of safety glasses and long of affection influence the happening of conjunctivitis. This studi was an explanatory research. The method used was cross sectional. The dependent variable was conjunctivitis, while the independent variable was electrode type of welding, long of ultra violet affection, allergic history, usage of safety glasses, the number of safety glasses, age and year of service. Research subject was total population in Radas Jaya Service Station Semarang (30 workers). Statistical analysis to testing the association of intervariables was done with chi square test and Fisher's Exact test. The research indicated that the proportion of conjunctivitis at Radas Jaya Service Station Semarang was 60 %. Affecting on ultra violet radiations at electrode welding in Radas Jaya Service Station Semarang had exceeded the threshold value that was equal to 17,3-53,3 (W/cm². The long of ultra violet radiation affection at electric welders in Radas Jaya Service Station Semarang was 4-8 hours (70%) and less than 4 hours (30%). There was an association between energy rate of ultra violet radiation pursuant to type with the conjungtivitis among electric welders in Radas Jaya Service Station Semarang (p value=0,038). There was an association between the long of affection with conjunctivitis (p value=0,001). Allergic history is constant. There was association between usage of safety glasses with conjunctivitis. There was no association between year of service with conjunctivitis. The advice for the welding's owner are make a recommendation for the worker related with fire length of arc (5-10 cm) and reduce influence frequency. For welding workers, they are being suggested to work with fire length of arc (5-10 cm) and always wearing safety glasses.

Keyword: Conjunctivitis, Electric weldings