

Perbandingan gangguan fungsi paru akibat pajanan debu hyget®poliester di dalam dan di luar ruangan pada pengrajin wanita sektor informal di Purbalingga = Comparison of pulmonary function disorders caused by exposure to hyget®poliester dust between craftswomen working indoors and outdoors amongst informal sector workers in Purbalingga / Anton Sunaryo

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Abstrak

<b>ABSTRAK</b>

Latar Belakang. Gangguan Fungsi paru dapat disebabkan oleh beberapa penyakit atau benda ndash;benda asing yang masuk ke dalam saluran napas, diantaranya debu. Penelitian ini bertujuan mengetahui perbedaan proporsi gangguan fungsi paru dan gejala klinis akibat pajanan debu hyget poliester di dalam dan di luar ruangan serta faktor-faktor risiko yang berhubungan pada pengrajin kasur lantai. Metode. Penelitian ini menggunakan Desain Comparative Cross Sectional untuk melihat proporsi penurunan fungsi paru para pengrajin yang terpajan debu hyget poliester di dalam dan di luar ruangan. Pengumpulan data dilakukan dengan menggunakan kuesioner, pengamatan langsung, pemeriksaan fisik, pemeriksaan spirometri menggunakan alat spirometri dan pengukuran kadar debu total dengan menggunakan Low Volume Dust Sampler LVS di lapangan. Data yang diperoleh dianalisis dengan menggunakan SPSS 20. Terhadap semua variabel dilakukan uji bivariat, kemudian variabel yang mempunyai nilai  $p < 0.25$  dilakukan uji multivariat. Hasil. Karakteristik pengrajin kasur lantai di wilayah desa X Kabupaten Purbalingga didominasi oleh pengrajin dengan usia  $<44,4$  tahun (52%), IMT tidak normal (51%), berpendidikan sekolah dasar (96%), masa kerja  $>11$  tahun (56%), lama kerja  $<7,8$  jam (73%), menggunakan APD (69%), kebiasaan berolah raga yang tidak baik (82%), tidak memiliki gangguan fungsi paru (81%), memiliki tekanan darah tidak normal (71%) serta mayoritas tidak memiliki riwayat sesak napas dan bronkitis kronik (99%). Berdasarkan uji kesetaraan didapatkan hasil bahwa IMT ( $\#961;=0,065$ ), umur ( $\#961;=0.689$ ). Kadar debu di dalam dan di luar ruangan dibawah nilai ambang batas 10 mg/m<sup>3</sup>.. Sedangkan untuk umur, masa kerja, lama kerja, penggunaan APD dan gangguan fungsi paru, tidak ada hubungannya dengan tempat kerja baik di dalam maupun di luar ruangan. Faktor yang paling dominan yang memiliki hubungan dengan gangguan fungsi paru obstruksi adalah pendidikan, sedangkan faktor lain (umur, IMT, penggunaan APD, masa kerja, lama kerja, kebiasaan berolahraga) tidak memiliki hubungan dengan gangguan fungsi paru baik di dalam maupun di luar ruangan.

Kesimpulan. Proporsi gangguan fungsi paru 18 (18%) orang. Restriksi 16 orang; 6 orang pengrajin di dalam ruangan (restriksi ringan), 10 orang pengrajin di luar ruangan ( 7 orang restriksi ringan dan 3 orang restriksi sedang). Gangguan fungsi paru obstruksi 1 orang di luar ruangan. Serta campuran (restriksi ringan dan obstruksi ringan) berjumlah 1 orang yang bekerja di dalam ruangan. Tidak terdapat hubungan yang bermakna antara pajanan debu hyget di dalam dan di luar dengan faktor risiko sosiodemografi (umur, IMT dan pendidikan) dan faktor risiko okupasi (masa, lama kerja dan APD). Faktor yang paling dominan yang memiliki hubungan dengan obstruksi saluran napas adalah pendidikan.

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## **ABSTRACT**

**Background.** Pulmonary function disorder may be caused by several diseases or foreign materials entering the respiratory tract, including dust. This study is aimed at identifying the difference in proportion of pulmonary function disorder and clinical symptoms caused by exposure to hyget polyester dust between craftswomen working indoors and outdoors, as well as risk factors associated with floor mattress workers. **Method.** This study uses Comparative Cross Sectional design to see the proportion of decrease in pulmonary function disorders in craftswomen exposed to hyget polyester dust working indoors and outdoors. Data collection was conducted using questionnaires, direct observations, physical examinations, spirometry tests, and measuring total dust levels using Low Volume Dust Sampler LVS in the field. The collected data was then analyzed using SPSS version 20. All variables were tested for bivariat analysis, and those with p value <0.25 were tested for multivariate analysis.

**Result.** The characteristics of floor mattress craftswomen in X village of Purbalingga distric are dominated by craftswomen of age <44,4 years (52%), abnormal IMT (51%), education level of primary school (96%), employment length >11 years (56%), work duration <7,8 hours (73%), using Personal Protective Equipment (PPE) (69%), non-optimal exercise habits (82%), no pre- existing pulmonary function disorders (81%), abnormal blood pressure (71%), and no history of breathing difficulties and chronic bronkitis (99%). Based on homogeneity test, age ( p = 0.689) and BMI (p=0.065) in found to be homogenous. Indoor and outdoor dust level is above recommended limit ( < 10 mg/m<sup>3</sup>). However for age, education, employment length, work duration, PPE usage and pulmonary function disorder , there were no associations with working place both indoors and outdoors. The most dominant factor which had an association with pulmonary function disorder was education, while other factors (age, IMT, PPE usage, employment length, work duration, exercise habits) did not show associations with pulmonary function disorders for craftswomen both indoors and outdoors.

**Conclusion.** Proportion of pulmonary function disorder was discovered in 18 people (18%). Restriction of 16 craftswomen; 6 craftswomen working indoors (mild restrictions), 10 craftswomen working outdoors (7 mild restrictions and 3 medium restrictions). Impaired lung function obstruction 1 craftswomen working outdoors. As well as the mixture (mild restriction and mild obstruction) amounted to 1 craftswomen working indoors. There was no significant association between hyget®polyester dust exposure (both indoors and outdoors) with the sociodemographic risk factors (age, BMI, and education) as well as occupational risk factors (work duration, employment length, PPE). The most dominant factor which had an association with airway obstruction was education.