

STUDI PERBEDAAN NILAI KAPASITAS FUNGSI PARU PEKERJA PADA PENELITIAN
TAHUN 1999 DAN 2006 DI INDUSTRI PENGASAPAN IKAN KELURAHAN
BANDARHARJO, KECAMATAN SEMARANG UTARA

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Potensi bahaya yang ada di lingkungan kerja yang melebihi nilai ambang batas dapat mengakibatkan penyakit akibat kerja. Salah satu penyakit akibat kerja adalah pneumokoniosis, yang mengakibatkan gangguan fungsi paru dengan penurunan nilai *Force Expiratori Volume (FEV₁)* dan *Force Vital Capacity (FVC)*. Pada penelitian tahun 1999 rerata *FVC* sebesar 2.17 L dan rerata *FEV₁* sebesar 1.37 L, sedangkan pada penelitian tahun 2006 rerata *FVC* 1.78 L dan rerata *FEV₁* sebesar 1.65 L. Faktor-faktor yang mempengaruhi perbedaan nilai kapasitas fungsi paru adalah lama kerja, umur, status gizi, pemakaian APD, riwayat penyakit, keluhan-keluhan subjektif gangguan fungsi paru, riwayat pekerjaan, jenis pekerjaan dan lingkungan kerja (ventilasi). Penelitian ini bertujuan untuk mengetahui perbedaan nilai kapasitas fungsi paru pekerja pada penelitian tahun 1999 dan 2006 di industri pengasapan ikan Kelurahan Bandarharjo, Kecamatan Semarang Utara. Penelitian ini merupakan studi analitik dengan pendekatan retrospektif dengan menggunakan studi historis. Sampel penelitian ini sebanyak 25 responden.

Uji beda dilakukan dengan menggunakan uji *t-paired test* ($\alpha=0.05$), diperoleh hasil bahwa nilai *FVC* dan *FEV₁* pada penelitian tahun 1999 dan 2006 memiliki perbedaan ($p\text{-value}(FVC)=0.004$ dan $p\text{-value}(FEV_1)=0.049$). Dan perbedaan nilai tersebut berhubungan dengan keluhan-keluhan subjektif gangguan fungsi paru ($p\text{-value}(FVC)=0.022$ dan $p\text{-value}(FEV_1)=0.008$) dan jenis pekerjaan ($p\text{-value}(FVC)=0.022$). Sedangkan lama kerja ($p\text{-value}(FVC)=0.830$ dan $p\text{-value}(FEV_1)=0.136$), umur ($p\text{-value}(FVC)=0.589$ dan $p\text{-value}(FEV_1)=0.250$), status gizi ($p\text{-value}(FVC)=0.725$ dan $p\text{-value}(FEV_1)=0.409$), jenis pekerjaan ($p\text{-value}(FEV_1)=0.088$) dan lingkungan kerja (ventilasi) ($p\text{-value}(FVC \text{ dan } FEV_1)=1.000$) tidak memiliki hubungan dengan perbedaan nilai kapasitas fungsi paru tersebut. Untuk mengurangi paparan asap dapat dilakukan dengan cara menggunakan *exhaust fan* untuk pergantian sirkulasi udara dan melakukan rotasi kerja antar pekerja.

Kata Kunci: kapasitas fungsi paru, *FVC*, *FEV₁*, pengasapan ikan

COMPARATIVE STUDY OF LUNG VITAL CAPACITY VALUE TO THE WORKERS IN
1999 AND 2006 RESEARCHS IN SMOKED FISH PROCESSING INDUSTRY ON
BANDARHARJO VILLAGE, NORTH SEMARANG DISTRICT

The hazard in the workplace which exceed the limit is able to cause occupational diseases. One of the occupational disease is pneumokoniosis, which cause the lung vital disorder that is able to decrease the Force Expiratory Volume (FEV1) and Force Vital Capacity (FVC) value. In the 1999 research, mean of FVC and FEV1 were 2.17 L and 1.37 L, meanwhile in the 2006 research, mean of FVC dan FEV1 were 1.78 L and 1.65 L. The factors which affect lung vital capacity value were years on work, age, nutritional status, using Personal Protection Equipment(PPE), historical health, subjective sign of lung function, historical occupation, variaty of occupation and workplace (ventillation). The aim of the research was to knor lung vital capacity value comparition in 1999 and 2006 researchs in smoked fish processing industry on Bandarharjo Village, North Semarang District. This research was analitic study with retrospective approach using historical study. The sample of this research was 25 respondents. Comparative study of this research using t-paired test ($\alpha=0.05$), this research showed that FVC and FEV1 value in 1999 and 2006 researchs had different value ($p\text{-value}(FVC)=0.004$ and $p\text{-value}(FEV1)=0.049$). Both of value comparison were affected by subjective sign of lung fuction disorder ($p\text{-value}(FVC)=0.022$ and $p\text{-value}(FEV1)=0.008$)and variaty of occupation ($p\text{-value}(FVC)=0.022$). Meanwhile years on work ($p\text{-value}(FVC)=0.830$ and $p\text{-value}(FEV1)=0.136$), age ($p\text{-value}(FVC)=0.589$ and $p\text{-value}(FEV1)=0.250$), nutritional status ($p\text{-value}(FVC)=0.725$ and $p\text{-value}(FEV1)=0.409$), variaty of occupation ($p\text{-value}(FEV1)=0.088$) and workplace (ventillation)($p\text{-value}(FVC\text{ and }FEV1)=1.000$)weren't affected lung vital capacity value comparison. Spreading smoke in the workplace can be reduced by using exhaust fan to exchange the air circulation and rotating job among the workers.

Keyword: lung vital capacity, FVC, FEV1, smoked fish processing