

**PENGARUH *SLOW DEEP BREATHING EXERCISE*  
TERHADAP NILAI UJI FUNGSI PARU PADA POPULASI HIPERTENSI  
DI KELURAHAN ARCAWINANGUN, KECAMATAN PURWOKERTO TIMUR,  
KABUPATEN BANYUMAS**

**ABSTRAK**

**Latar belakang:** Hipertensi adalah *noncommunicable disease* dengan prevalensi yang cukup tinggi dan peningkatan kejadian dari tahun ke tahun. *Slow deep breathing exercise* merupakan terapi komplementer yang dapat digunakan sebagai alternatif penyelesaian masalah ketidakefektifan pengobatan antihipertensi untuk mengontrol tekanan darah beserta komplikasinya, salah satunya penurunan fungsi paru. **Tujuan:** Penelitian ini bertujuan untuk mengetahui profil fungsi paru dan menganalisis pengaruh *slow deep breathing exercise* terhadap nilai uji fungsi paru ( $FEV_1$ , FVC dan  $FEV_1/FVC$ ) pada populasi hipertensi di Posyandu Lansia Waras Winangun. **Metodologi:** Penelitian ini merupakan penelitian eksperimental berupa desain *pre-experimental* dengan pendekatan *one group pretest posttest* dengan 26 subjek yang diberikan intervensi *slow deep breathing pranayama* dengan durasi 5 siklus (25 menit) selama 3 hari per minggu selama 6 minggu. Uji fungsi paru dengan spirometri untuk mengetahui nilai  $FEV_1$ , FVC,  $FEV_1/FVC$  diukur sebelum dan sesudah intervensi. Analisis bivariat menggunakan uji t berpasangan terhadap variabel  $FEV_1$  dan FVC dan uji wilcoxon terhadap variabel  $FEV_1/FVC$ . **Hasil:** Fungsi paru pasien hipertensi pada penelitian ini mayoritas normal (61,54%) diikuti gangguan paru restriksi (23,08%), gangguan paru obstruksi (7,69%) dan campuran (7,69%). Terdapat perbedaan rerata yang signifikan pada variabel  $FEV_1$  ( $p=0,016$ ) dan FVC ( $p=0,009$ ) sebelum dan setelah intervensi SDBE dengan arah perbedaan positif. Namun, tidak ada perbedaan rerata yang signifikan pada variabel  $FEV_1/FVC$  ( $p=0,989$ ). **Kesimpulan:** *Slow deep breathing exercise* meningkatkan nilai *forced expiratory volume in 1 second* ( $FEV_1$ ) dan *forced vital capacity* (FVC) pada populasi hipertensi di Posyandu Lansia Waras Winangun, Kelurahan Arcawinangun Kecamatan Purwokerto Timur, Kabupaten Banyumas.

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**Kata Kunci:**  $FEV_1$ ,  $FEV_1/FVC$ , FVC, *Slow deep breathing exercise*, Uji Fungsi Paru

**EFFECT OF SLOW DEEP BREATHING EXERCISE  
ON LUNG FUNCTION TESTS VALUE IN HYPERTENSIVE POPULATION  
AT ARCAWINANGUN VILLAGE, PURWOKERTO TIMUR DISTRICT,  
BANYUMAS REGENCY**

**ABSTRACT**

**Background:** Hypertension is a non-communicable disease with a quiet high prevalence and increasing incidence. Slow deep breathing exercise is a complementary therapy that can be used as an alternative solution to the problem of the ineffectiveness of antihypertensive treatment to control blood pressure and its complications, one of which is decreased lung function. **Objectives:** This study aimed to determine the lung function profile and analyzed the effect of slow deep breathing exercises on pulmonary function test values (FEV<sub>1</sub>, FVC and FEV<sub>1</sub>/FVC) in the hypertensive population. **Methodology:** This research was an experimental study in the form of a pre-experimental design with one group pretest posttest approach with 26 subjects who were given slow deep breath pranayama intervention with a duration of 5 cycles (25 minutes) for 3 days per week for 6 weeks. Lung function test with spirometer to determine FEV<sub>1</sub>, FVC, FEV<sub>1</sub>/FVC was measured before and after intervention. Bivariate analysis used paired t test on the FEV<sub>1</sub> and FVC variables and the Wilcoxon test on the FEV<sub>1</sub>/FVC variables. **Results:** The lung function of hypertensive patients in this study are normal (61.54%), restrictive pulmonary disorders (23.08%), obstructive pulmonary disorders (7.69%) and mixed (7.69%). There are significant mean difference in the variables FEV<sub>1</sub> (p=0.016) and FVC (p=0.009) before and after the SDBE intervention with a positive difference direction. However, there is no significant mean difference in the FEV<sub>1</sub>/FVC (p=0.989). **Conclusions:** Slow breathing exercise increases the value of forced expiratory volume in 1 second (FEV<sub>1</sub>) and forced vital capacity (FVC) in the hypertensive population at the Posyandu Waras Winangun, Arcawinangun Village, Purwokerto Timur District, Banyumas Regency.

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**Keywords:** FEV<sub>1</sub>, FEV<sub>1</sub>/FVC, FVC, Pulmonary Function Test, Slow Deep Breathing Exercise