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COMPARISON OF BLOOD PRESSURE REDUCTION EFFECT OF COMBINATION VERSUS SINGLE ANTIHYPERTENSIVE THERAPY ON PROLANIS PARTICIPANTS IN KEDUNGADEM PUBLIC HEALTH CENTER, INDONESIA

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Objectives: PROLANIS is a health service system for patients with chronic diseases. Activities consist in this system are medical education, health status monitoring and treatment, home visit, and group activity. The aim of our study is to compare systolic (SBP) and diastolic (DBP) blood pressure reduction in PROLANIS participants who received combination vs single antihypertensive drug and educated to modify their lifestyle in Kedungadem Public Health Center, Indonesia.

Methods: We conducted a 3-months (July – October 2019) prospective study on PROLANIS participants who diagnosed with hypertension. We divided participants into two group based on drugs they previously received (combination or single). Demographic data, SBP and DBP were recorded. Statistical analyses were performed to measure mean reduction blood pressure for each group and to compare the mean reduction of blood pressure between the two groups.

Results: Total 44 patients proceed to statistical analysis. We got 22 patients have used combination therapy, and others single therapy. Our analysis revealed that combination therapy significantly reduced SBP (159 to 139 mmHg) and DBP (90 mmHg to 81 mmHg) ($p < 0.000$ and < 0.001, respectively). Single therapy was also found significantly reduced SBP (149 to 140 mmHg) and DBP (88 to 82 mmHg) (p = 0.003 and p = 0.005, respectively). Further analysis between two groups showed that combination therapy is significantly better in reducing SBP than single therapy (20 mmHg vs 9 mmHg, p = 0.025) but not significantly different in reducing DBP (9 vs 6 mmHg, p = 0.381).

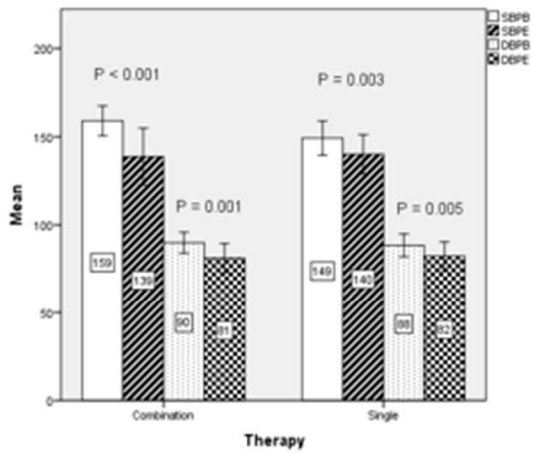
Conclusions: Combination therapy is more effective in reducing SBP but not DBP on PROLANIS participants in Kedungadem Public Health Center, Indonesia.

Table 1. Baseline Demographic Data

	Single (n = 22)	Combination (n = 22)	Total (n = 44)
Age (*mean* ± SD)	56.6 ± 8.6	60.4 ± 9.3	58.5 ± 9.1
Sex [Male] (%)	31.8	31.8	31.8
Diabetes present (%)	68.2	40.9	54.5
Drugs Adverse effect (%)	4.55	13.64	9.09
Drugs used (n)	A (15) C(7)	C+A(15) C+N(7)	
Smoking history (n)	Active (1) ETS (7)	Active (1) ETS (5)	Active (2) ETS (12)
Systolic blood pressure (mean ± SD)	149.1 ± 9.7	158.9 ± 8.5	154.0 ± 10.2
Diastolic blood pressure (mean ± SD)	88.4 ± 6.4	89.7 ± 5.9	89.1 ± 6.2

Figure 1. Result

Figure 1. Mean reduction of SBP and DBP at baseline vs end of study



Sistolic and diastolic blood pressure at baseline and at the end of study. Wilcoxon test was performed to determine the significancy of blood pressure reduction. SBPB = Systolic blood pressure at baseline, DBPB = Diastolic blood pressure at baseline, SBPE = Sistolic blood pressure at the end of study, DBPE = Diastolic blood pressure at the end of study

Figure 2. Comparisons of blood pressure reduction between the two groups.