

SUMMARY

Background: Results from several clinical trials show that comprehensive behavioral intervention programs improve lifestyle behaviors and lower blood pressure. The study was undertaken to determine the effect of structured lifestyle modification on the management of hypertension among adults presenting in the GOPD of JUTH.

Study Design/Setting: The study was a randomized controlled trial involving hypertensive adults aged 20 years and above presenting in GOPD of JUTH.

Methods: Participants were consecutively selected and randomized to a control and an intervention group. The intervention group was offered a structured lifestyle modification counseling while routine advice only was offered to the control group. Data was collected about patients’ socio-demographic, medical and lifestyle habits that included dietary and exercise history. Physical examination was done to include height, weight, BMI and blood pressure. Participants were followed up monthly for twelve weeks during which physical examination was routinely carried out and changes in their lifestyle habits reported. The primary outcome was reduction in BP. The means at 95% confidence intervals of the continuous variables were determined using the independent and paired t-test. Data was analyzed on an intention to treat basis. A p-value of <0.05 was considered significant in all analysis.

Results: The mean systolic blood pressure reduction in the control group after 12 weeks was 6.67 mmHg (0.47, 12.87, 95% CI) versus 17 mmHg (8.7, 25.3; 95% CI) in the intervention group. The mean diastolic pressure reduction after the same period was 5.33 mmHg (1.5, 9.1; 95% CI) in the control group and 8 mmHg (3.5, 12.5; 95% CI) in the intervention group. Paired t-test analyses revealed that these reductions were statistically significant.
Independent t-test analysis showed a greater reduction in the average blood pressure values of the intervention group compared to the control group after twelve weeks and the differences were statistically significant. The mean SBP difference was 5.5 mmHg (0.43, 10.5; 95% CI) and the mean DBP difference was 2.76 mmHg (-1.32, 5.66, 95% CI).

Significant improvement in healthy lifestyle habits were notably more in the intervention group. Desirable changes in the mean weight and BMI were more evident among participants of the intervention group after the 12 weeks study, although there were no statistically significant differences in the two groups. Participants in the intervention group who fully adhered to the instruction sheets had a better outcome in terms of reduction in blood pressure values than those who only partially adhered to the instruction sheet (Odds ratio was 4.9, p=0.05).

**Conclusion:** Findings from the study show that individuals with hypertension can make and sustain, during a period of 12 weeks, multiple lifestyle modifications which can control or reduce blood pressure. There is therefore a need for improved lifestyle intervention programs, including those appropriate for delivery in the clinical setting, that enable individuals with or at risk for hypertension to adopt long-term healthier lifestyles.