

## Effects of Aerobic Dance on Systolic Blood Pressure in Stage 1 Hypertensive Individuals in Uganda

**Authors :** Loyce Nahwera, Joy Wachira, Edwin Kiptolo, Constance Nsibambi, Mshilla Maghanga, Timothy Makubuya

**Abstract :** Introduction: Hypertension is one of the most prominent risk factors for cardiovascular diseases globally, and it can be modified through lifestyle interventions such as exercise. The objective of this study was to investigate the effects of a 12-week aerobic dance programme on systolic blood pressure (SBP) in stage 1 hypertensive individuals. Methods: This study employed an experimental research design. A total of 36 stage 1 hypertensive individuals who were randomly assigned into experimental and control groups completed the study. Systolic BP was measured using a mercury sphygmomanometer at baseline, mid-point and after the program. The experimental group participants trained 3 days a week, 45 minutes per session, at a moderate intensity of 40-60% of maximum oxygen consumption (VO<sub>2</sub>max) monitored by Garmin heart rate monitors. Data were analyzed using SPSS version 20. The significance level was set at  $p < 0.05$ . A paired sample t-test was used to compare mean differences within the groups. Results: Data from the 36 participants (22 males and 14 females) (experimental;  $n=18$ , control;  $n=18$ ) show that the experimental group had a mean SBP of  $143.83 \pm 6.382$  mmHg at baseline while the control had a mean of  $137.61 \pm 6.400$  mmHg. Following the end of a 6-week aerobic dance, the mean SBP of the experimental group reduced to  $138.06 \pm 9.539$  mmHg while that of the control marginally decreased to  $137.00 \pm 8.073$  mmHg. At the completion of a 12-week program, the mean SBP of the experimental group reduced to  $136.33 \pm 9.191$  mmHg, while that of the control marginally increased to  $139.56 \pm 9.954$  mmHg. This implies that both the 6-week and 12-week aerobic dance program reduced the SBP of the experimental group by  $5.77 \pm 7.133$  mmHg and  $7.50 \pm 8.487$  mmHg, respectively, while the control group fast reduced marginally by 0.61 before ultimately increasing by  $1.95 \pm 7.974$  mmHg at 12-weeks. The changes were statistically significant ( $p < 0.05$ ) at both 6 and 12 weeks of an aerobic dance program. Conclusion: The study concluded that aerobic dance is an effective non-pharmacological method for managing SBP of stage 1 hypertensive individuals both in the short-term (6 weeks) and long-term (12 weeks).

**Keywords :** aerobic dance, blood pressure, stage 1 hypertension, systolic blood pressure.

**Conference Title :** ICKESS 2024 : International Conference on Kinesiology, Exercise and Sport Sciences

**Conference Location :** London, United Kingdom

**Conference Dates :** June 27-28, 2024