

Title: Efficacy of clinic- and mobile phone-based walk-talk intervention on blood glucose level of pregnant women in Ibadan

Authors: *Akinwande Olabisi A., BMR, M.Ed. (University of Ibadan/University College Hospital), Mbada Chidozie E., PhD (Obafemi Awolowo University, Ile-Ife), Sanuade Comfort T., (University of Ibadan)

Background: Apathy for physical activity (PA) in pregnancy despite its potentials to limit adverse maternal and foetal morbidities and its long-term benefit invites concerns for innovative approaches that may alter behavioural change and promote physical activity.

Objective: To compare the efficacy of a structured 12-week Clinic-Based Six-minute Walk-Talk PA (CBSMWTPA) and Mobile Phone-Based Six-minute Walk-Talk PA (MBPSMWTPA) intervention on blood glucose level of pregnant women.

Methods: A Randomised Controlled Trial with a 3x2x2 factorial matrix design was implemented among 95 consenting pregnant women in 22 - 24-week gestational period who were attending the ante-natal clinic (ANC) of Adeoyo Maternity Teaching Hospital, Ibadan. The participants were assigned into CBSMWTPA plus ANC (n=36), MBPSMWTPA plus ANC group (n=31) or a Control group of ANC only (n=28) using permuted block randomization. Both CBSMWTPA and MPBSMWTPA groups received six-minute Walk-Talk PA plus usual ANC via traditional clinic-based administration and smartphone application respectively. Outcome was assessed in terms of metabolic demand (blood glucose) at 6th and 12th week. Data was summarized using descriptive statistics of mean and standard deviation. Within-group and Between-group effects were analysed using One-way ANOVA for the different groups. Alpha level was set at $p < 0.05$.

Results: There was significant differences in blood sugar level at both week 6 (CBSMWTPA=80.5±7.99, MBPSMWTPA=82.6±8.287 and Control=84.6±7.28; p=0.002) and at week 12(77.8±4.69, 79.9±5.53 and 84.8±5.91; p=0.001).

Conclusion: Both CBSMWTPA and MBPSMWTPA have considerable effects on both PA and health outcomes of pregnant women. However, CBSMWTPA has more superior outcomes.