

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

<sup>1,2</sup>Akinwande Olabisi A., <sup>3</sup>Mbada Chidozie E., PhD, <sup>4</sup>Sanuade Comfort T., <sup>1</sup>Babalola Joseph.F

1. Department of Human Kinetics and Health Ed., University of Ibadan, Nigeria;
2. Physiotherapy Department, University College Hospital, Nigeria;
3. Department of Medical Rehabilitation, Obafemi Awolowo University, Nigeria;
4. Department of Physiotherapy, University of Ibadan, Nigeria.

## 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. This study compared 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.

## 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).

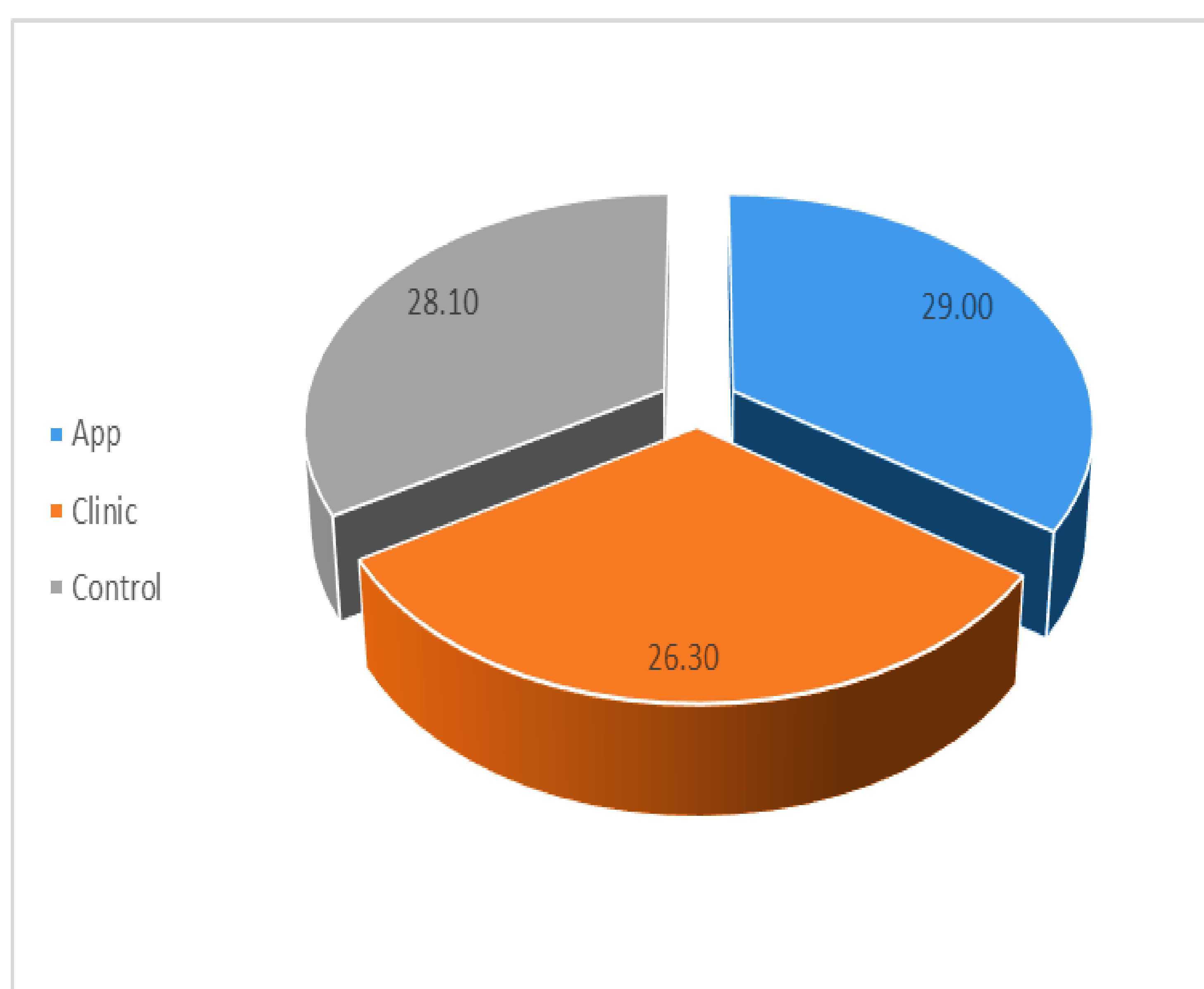


Figure 2: Pie chart showing mean age distribution across groups

## Method

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 6<sup>th</sup> and 12<sup>th</sup> 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.

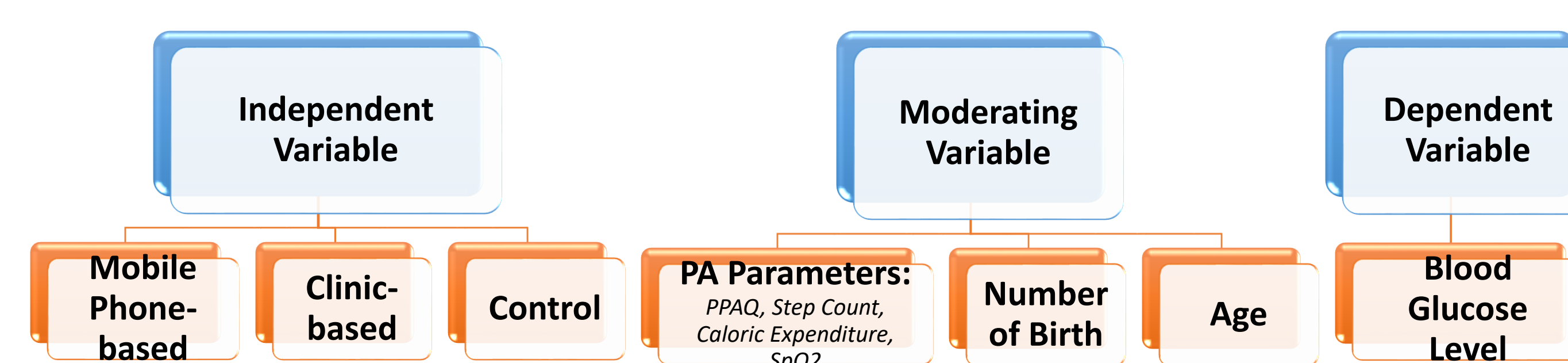


Figure 1: Conceptual framework for the study (Source: Self-developed)

Table 1: Comparison of the Effect of 12-Week CBSMWTPA and MBPSMWTPA Intervention on selected Maternal and Child Health outcomes

Variable	Mobile phone-based Group (n=31)	Clinic-based Group (n=36)	t-cal	p-value
	$\bar{x} \pm SD$	$\bar{x} \pm SD$		
Blood sugar	80.1±5.55	78.1 ± 4.76	2.569	0.106

### Key:

$\bar{x}$  = Mean;  
SD = Standard deviation

## Conclusion

Both CBSMWTPA and MBPSMWTPA have considerable effects on blood glucose level of pregnant women. However, CBSMWTPA has superior outcome.



Olabisi A. Akinwande (BMR (PT); MED)  
[Olabisiakinwande@yahoo.com](mailto:Olabisiakinwande@yahoo.com);  
[olabisi.akinwande@uch-ibadan.org.ng](mailto:olabisi.akinwande@uch-ibadan.org.ng)  
 +2348034550562

