

Platform: Classic (PL)

Number: RR-PL-711

Sunday 2 July 2017 14:00

Auditorium 2

AFRICAN INFANT CARRYING TECHNIQUES: WHICH IS A PREFERRED MOTHER-FRIENDLY METHOD?

Mbada C.¹, Adebayo O.¹, Olaogun M.¹, Johnson O.¹, Ogundele A.¹, Ojukwu C.², Afolabi K.³ Obafemi Awolowo University, Medical Rehabilitation, College of Health Sciences, Ile-Ife, Nigeria, ²University of Nigeria, Medical Rehabilitation, College of Health Sciences, Enugu, Nigeria, ³Obafemi Awolowo University, Department of Nursing Science, College of Health Sciences, Obafemi Awolowo University, Ile-Ife, Nigeria **Background:** Infant carrying is still trendy among African mothers than in other climes, but carrying techniques vary mostly along cultural divides. However, there is a dearth of empirical data on the energy toll and health implications of infant carrying techniques on the mother, than its advantages for the infant.

Purpose: This study evaluated the effect of three types of African infant carrying techniques on cardiopulmonary function, metabolic expenditure, fatigue demand and locomotion.

Methods: Twenty five apparently healthy young females participated in this pretest-posttest quasi-experimental study. Back wrap, front wrap and hip sling infant carrying techniques were investigated using a 10kg teddy bear (simulating a 9-month old baby weight). The teddy bear was carried through a six-minute treadmill walk speed of 1.1m/s in the different infant carrying techniques in random order with a 3-5 minute rest intervals between each technique, in order to allow cardiopulmonary recovery to its resting values. Effects of the infant carrying techniques on cardiopulmonary functions was assessed in terms of Heart Rate (HR), Systolic Blood Pressure (SBP) and Diastolic Blood Pressure (DBP). Metabolic expenditure was assessed using Saturated Oxygen Level (SPO₂) and Metabolic Equivalent (METS), while Rate of Perceived Exertion (RPE) was used to assess fatigue toll. Locomotion was assessed in terms of walking speed, number of steps, cadence, stride length and step length. An automated blood pressure monitor, pulse oximeter and BTS G-Walk gait analyzer were used to measure cardiopulmonary parameters, SPO₂ and locomotory parameters respectively. Data was analyzed using descriptive and inferential statistics at p < 0.05 Alpha level.

Results: The mean age of the participants was 23.2±2.81 years. Front wrap led to higher mean change in HR (18.0±13.9 vs. 15.7±14.3 (back wrap) and 16.9±11.0 (hip sling)); and SBP (5.80±7.88 vs. 3.72±8.93 (back wrap) vs. 5.20±9.33 (hip sling)). Hip sling led to higher mean change in SPO₂ (0.28±3.10 vs. 0.20±2.50 (back wrap) vs. 0.20±1.75 (front wrap)); but comparable METS mean change value with back wrap (2.39±0.13 vs. 2.38±0.18). However, these changes across the different techniques were not statistically significant (p>0.05). There was significant difference in RPE scores across the techniques (F=13.052; p=0.001) with the hip infant carrying technique having higher RPE value (12.3±3.13). Stride length (1.03±0.14 vs. 0.95±0.12 vs. 0.97±0.12; p=0.050) and step length (0.51±0.07 vs. 0.47±0.06

vs. 0.49 ± 0.06 ; $p=0.049$) were significantly different ($p < 0.05$) across the various carrying techniques with higher values observed for back wrap technique.

Conclusion(s): Front wrap infant carrying technique evoked a marginally higher cardiopulmonary demand. Hip sling technique led to greater metabolic expenditure and oxygen consumption with high rate of perceived exertion, while back wrap technique did not significantly reduce locomotion.

Implications: Back wrap infant carrying technique is recommended based on its slightly lower effects on cardiopulmonary function, metabolic expenditure, fatigue demand and locomotion.

Key-words: 1. Infant Carrying 2. Mother-friendly 3. African

Funding acknowledgements: This presentation is funded by the African Population and Health Research Centre (APHRC), Nairobi, Kenya

Ethics approval: Back wrap infant carrying technique is recommended based on its slightly lower effects on cardiopulmonary function, metabolic expenditure, fatigue demand and locomotion.

All authors, affiliations and abstracts have been published as submitted.