

## Physical Activity (PA) of People Living with Post-Tuberculosis Lung Disease (pTBLD) in Uganda

M. Orme<sup>1</sup>, I. Pina<sup>1</sup>, P. Ndagire<sup>2</sup>, L. Latimer<sup>1</sup>, J. Zatloukal<sup>3</sup>, B. Kirenga<sup>2</sup>, S. J. Singh<sup>1</sup>, W. Katagira<sup>2</sup>; <sup>1</sup>University of Leicester, Leicester, United Kingdom, <sup>2</sup>Makerere University Lung Institute, Kampala, Uganda, <sup>3</sup>University Hospitals of Leicester NHS Trust, Leicester, United Kingdom.

**Corresponding author's email: mwo4@leicester.ac.uk**

**RATIONALE:** Africa accounts for the majority of the global burden of TB, with a significant proportion of survivors reporting poor health-related quality of life. This leads to long-term impairments and development of pTBLD. Close attention has been paid to describing the PA of people living with chronic obstructive pulmonary disease in high-income countries. There is a paucity of data from Sub-Saharan African and in pTBLD populations. We aimed to describe the PA of people living with pTBLD in Uganda using PA thresholds based on the incremental shuttle walking test (ISWT), endurance shuttle walk test (ESWT) and commonly used thresholds. **METHODS:** Data from the first 10 participants of an ongoing randomized controlled trial were analysed. Stationary time was classified as <100 counts per minute (cpm), light PA as 100-2019cpm and moderate-to-vigorous PA (MVPA) as  $\geq 2020$ cpm using waist-worn ActiGraph wGT3X-BT accelerometer. MVPA was also defined as  $\geq 100$ steps/min. During ISWTs and ESWT, participants wore the accelerometer to calculate PA intensity thresholds according to each level of the ISWT and what would be their personalised walking exercise prescription during pulmonary rehabilitation (ESWT speed). Free-living PA was measured for seven consecutive days. Participants with  $\geq 4$  days of  $\geq 8$  hours of waking wear time were included in analysis. **RESULTS:** On average, participants spent 67% of their waking day sedentary, 32% in light PA and 1% in MVPA, based on commonly used thresholds. When applying thresholds from the ESWT, participants spent 33% of their waking day in PA below their individual prescription and 0.2% above their individual prescription. When applying thresholds from the ISWT, participants spent 25% of their waking day in PA <Level 1 (<1.80 km/h) and 7% in PA  $\geq$ Level 1 speed (Figure). As the PA thresholds based the ISWT increased, time spent in each respective intensity decreased, with 4% of the waking day in PA  $\geq$ Level 2 ( $\geq 2.41$  km/h), 2%  $\geq$ Level 3 ( $\geq 3.03$  km/h) and 1%  $\geq$ Level 4 ( $\geq 3.63$  km/h). **CONCLUSIONS:** People living with pTBLD in Uganda are highly sedentary and spend very little time in MVPA. By deriving individualised thresholds from the ESWT, almost all PA was performed below what would be their walking exercise prescription during pulmonary rehabilitation. Furthermore, the vast majority of PA was performed at an intensity equivalent to <1.80 km/h, demonstrating the need to support people living with pTBLD in Uganda not only to spend more time in PA, but also in PA of a higher intensity.

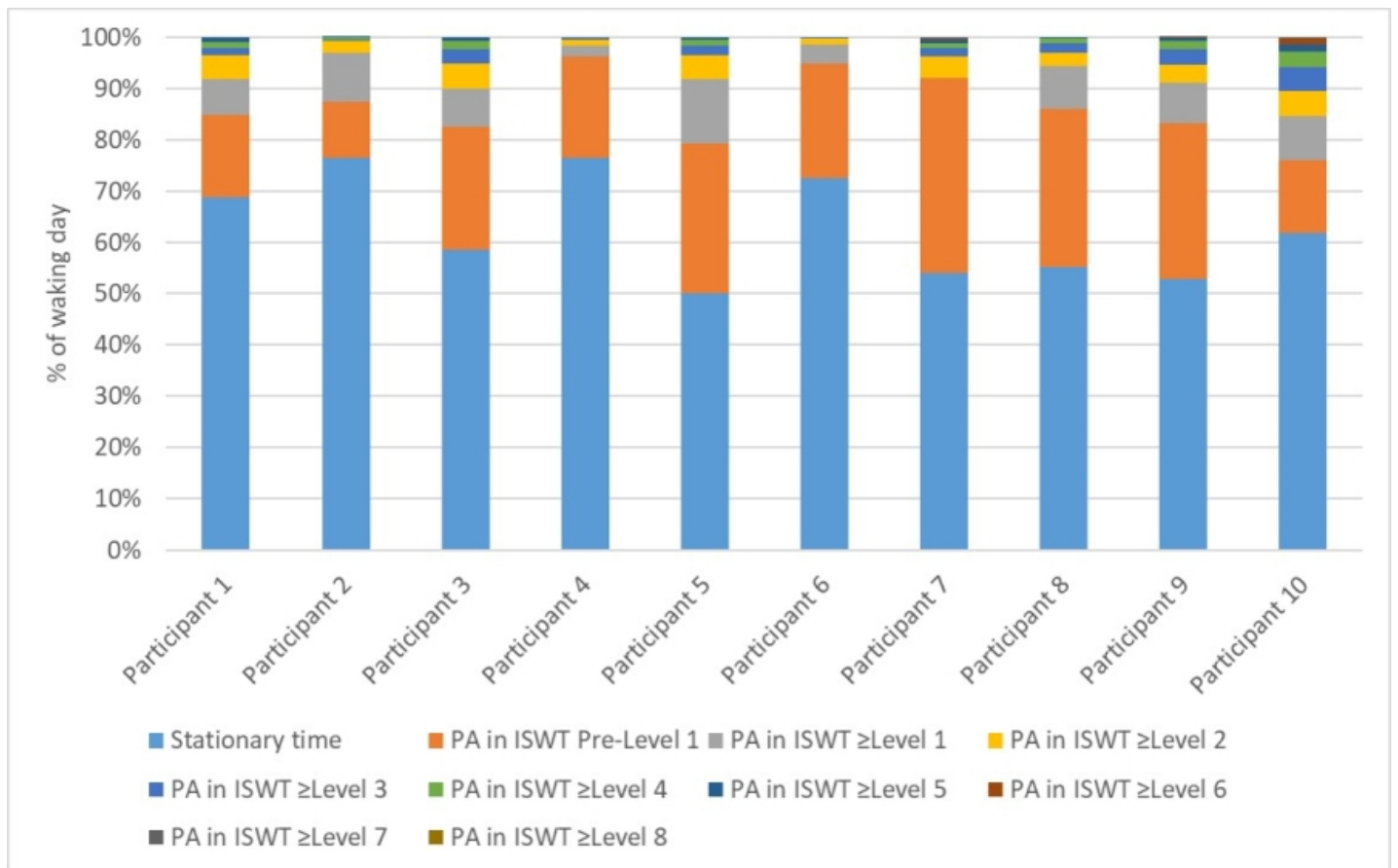


Figure: Individual physical activity according to Incremental Shuttle Walking Test levels: Level 1: 1.80 km/h; Level 2: 2.41 km/h; Level 3: 3.03 km/h; Level 4: 3.63 km/h; Level 5: 4.25 km/h; Level 6: 4.86 km/h; Level 7: 5.47 km/h; and Level 8: 6.08 km/h.

This abstract is funded by: National Institute for Health Research (NIHR)