

# Double burden of neglected tropical diseases and non-communicable diseases: A prospective case-cohort study in coastal Kenya

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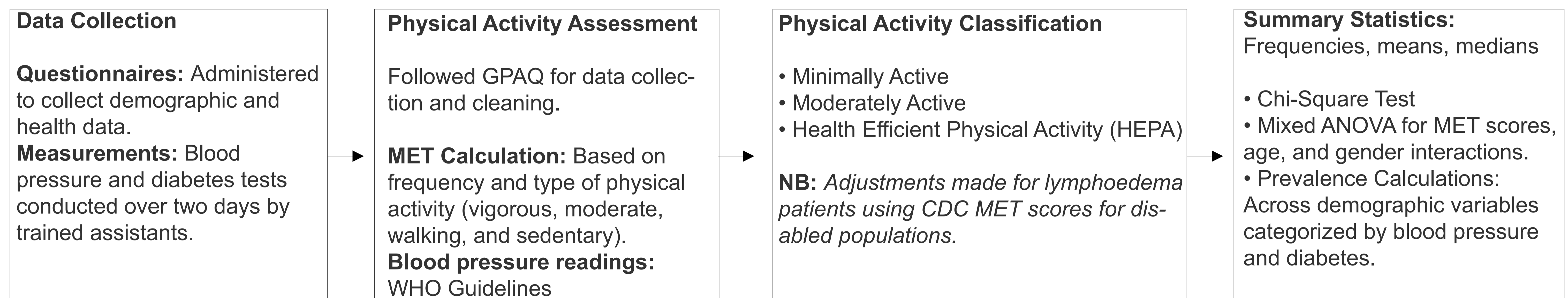
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All study participants were either minimally active, 19.5% (95% CI: 13.1 - 27.8), or moderately active, 80.5% (95% CI: 72.2% - 86.9%), with none classified as health-efficient physically active. The prevalence of hypertension was 79.7% (95% CI: 71.3 – 86.2), while 17.1% (95% CI: 11.1% – 25.1%) were diabetic, with hypertension higher among women and diabetes higher among men.

## INTRODUCTION

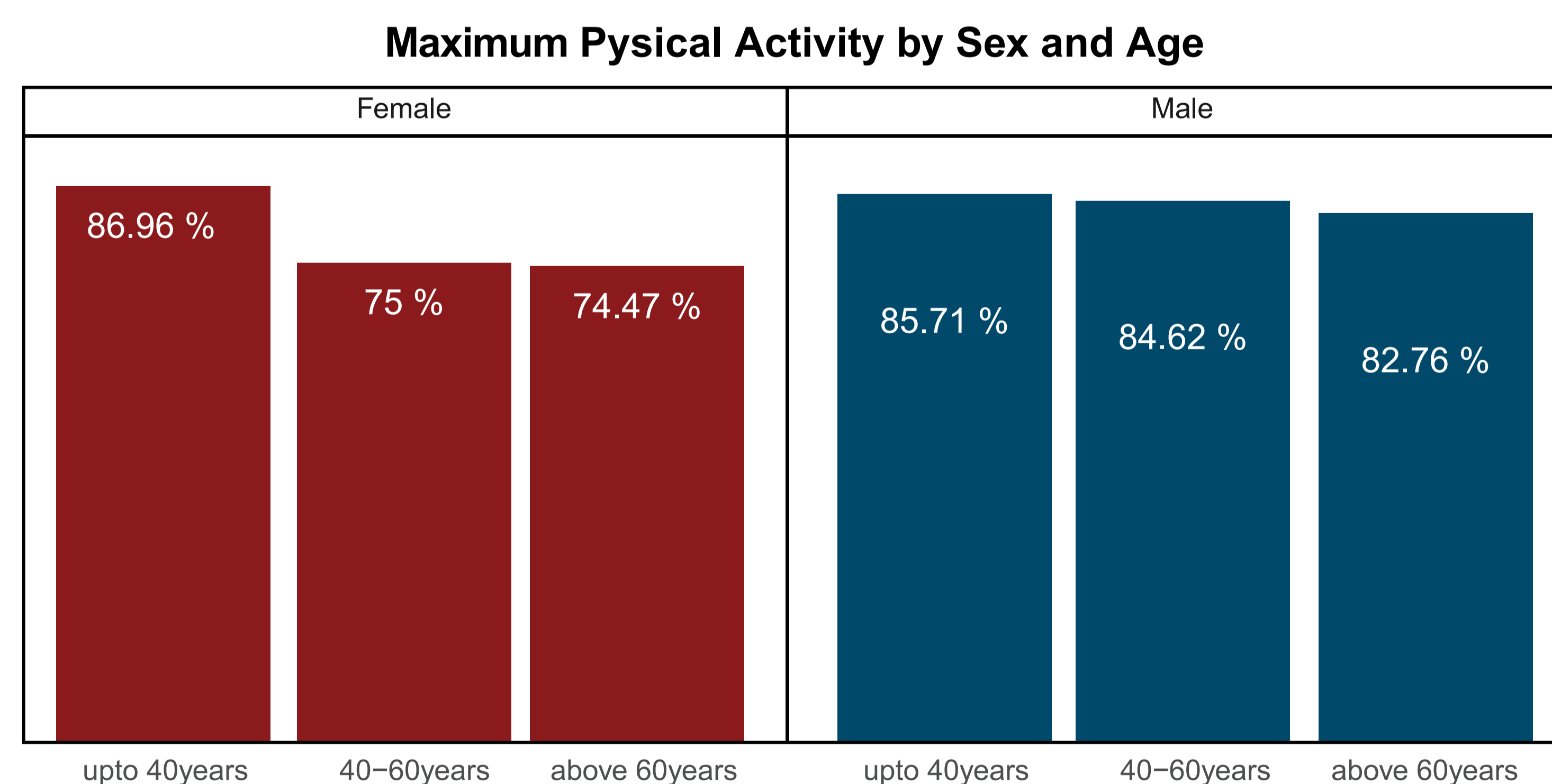
Lymphatic Filariasis (LF) can cause lymphoedema, leading to elephantiasis, a significant cause of permanent disability. The disfiguring nature of LF affects mobility, often resulting in a sedentary lifestyle that increases the risk of non-communicable diseases like Type 2 diabetes and hypertension. Understanding physical activity (PA) patterns is crucial for lymphoedema patients, as PA plays a vital role in health and may contribute to minimizing risk of Type 2 diabetes and hypertension. However, research on PA and its impact on this population is limited. This study aims to assess PA levels among lymphoedema patients and its impact on hypertension and Type 2 diabetes.

## METHODS



## RESULTS

A total of 123 lymphoedema patients participated in the study, with a predominance of females (60.16%) and individuals over 60 years old (61.8%). Mean metabolic equivalent (MET) scores were highest among those engaging in vigorous exercise, followed by walking, with male respondents exhibiting higher average MET scores. The prevalence of minimal physical activity (PA) was 19.5% (95% CI: 13.1% - 27.8%), with women experiencing higher rates (21.6%, 95% CI: 13.2% - 33.0%). No individual was recorded in the health-efficient physically active (HEPA) category.



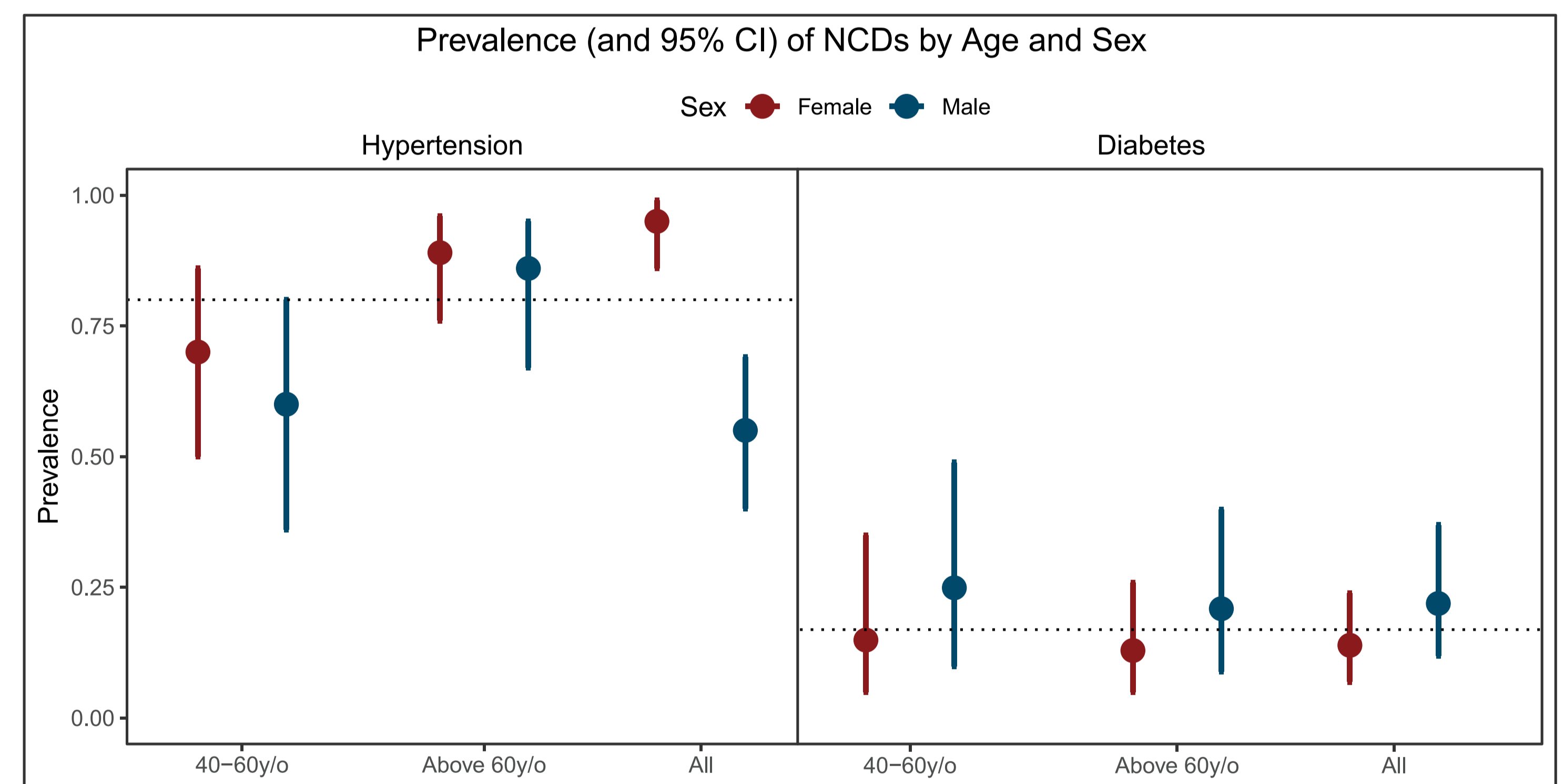
A statistically significant interaction was found between age and gender regarding moderate MET equivalents ( $F = 3.21$ ,  $p = 0.041$ ).

Variable/Factor	F <sub>age</sub>	F <sub>gender</sub>	F <sub>age * Fgender</sub>
Vigorous	0	0.12	1.49
Moderate	0.68	1.88	3.21*
Walking	2.14	1.3	0.02
Sitting time	4.36*	9.19**	0.16

Based on two - way ANOVA: \* $p < 0.01$ ; \*\* $p < 0.001$

## RESULTS CONTINUED

The prevalence of hypertension was 79.7% (95% CI: 71.3 – 86.2), while 17.1% (95% CI: 11.1% – 25.1%) were diabetic, with hypertension higher among women and diabetes higher among men. Linear model revealed a significant association between lower MET scores and the presence of hypertension or diabetes (Estimate: -264.4; 95% CI: -437.8 to -91.0;  $p = 0.003$ ).



## CONCLUSION

The study demonstrates that lymphoedema patients need to be enrolled in PA under the guidance of physiotherapists to improve their MET scores and prevent them from secondary diseases like type 2 diabetes and hypertension.



## ADDITIONAL KEY INFORMATION

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Funding Source: Royal Society of Tropical Medicine and Hygiene

Conflicts of Interest: None

Acknowledgements: RSTMH, Amref, END Fund, MOH