

Assessing Physical Activity Levels in Patients Diagnosed with Human Immunodeficiency Virus

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Introduction

- HIV patients continue to be at an increased risk for chronic diseases such as cardiovascular disease (CVD) despite advancements in disease treatment¹
- Regular physical activity (PA) is a non-pharmacological approach to managing the long-term complications of HIV²
- Despite benefits, a negative association exists between patients' HIV positive status and levels of PA³
- Study objectives:
 - To assess the current levels of PA among HIV patients at the University of Connecticut Health Center
 - To identify patient attributes that impact PA levels
 - To assist in the development of patient centered programs promoting PA among HIV patients

How much activity do I need?

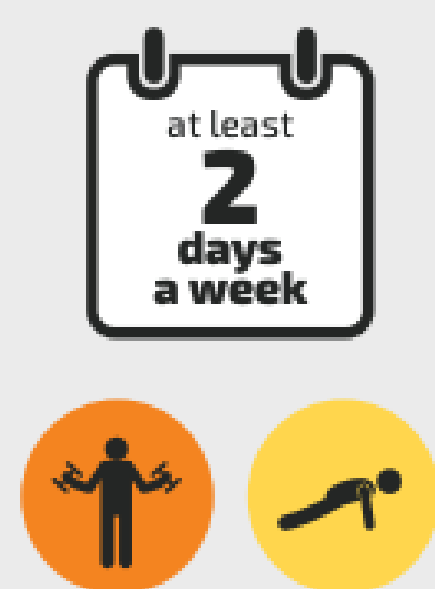
Moderate-intensity aerobic activity

Anything that gets your heart beating faster counts.



Muscle-strengthening activity

Do activities that make your muscles work harder than usual.



Tight on time this week? Start with just 5 minutes. It all adds up!

Fig 1. CDC exercise guidelines. <https://www.cdc.gov/physicalactivity/basics/adults/index.html>

Methods

- The study gathered information utilizing three different methods of data collection:

- 1) Questionnaire assessing self-reported PA levels⁴, patient demographics of interest, and attitudes towards exercise⁵
- 2) Health record review assessing HIV severity and cardiovascular risk markers
- 3) Pedometer tracking daily step counts.

- The study was conducted at the UConn Health Infectious Disease Clinic from June to August of 2019
- Patients were enrolled via convenience sampling and 60 patients completed the questionnaire
- Of these participants 59 also consented to a chart review and 36 wore pedometers to track daily step counts over a period of up to 4 weeks

Results

- Based on self-report measures 51.7% of the population met the CDC PA guidelines, below the national average of 53.3%⁶
- Pedometer data: 63% of patients considered to be “sedentary” based upon step count derived classifications⁷
- Patient attributes significantly associated with decreased levels of PA: female gender, decreased functional status, history of hypertension, and increased body mass index ($p < 0.05$)
- 41% of patients in the below poverty group met PA guidelines compared to 62% of those in the above poverty group, however no statistical significance observed
- No difference in PA levels observed based on patients' CD4+ T-cell count
- Questions investigating patient's attitudes regarding PA demonstrated: 72% believed they need more PA, 50% would like advice from their physician, and 67% plan to change their PA amount

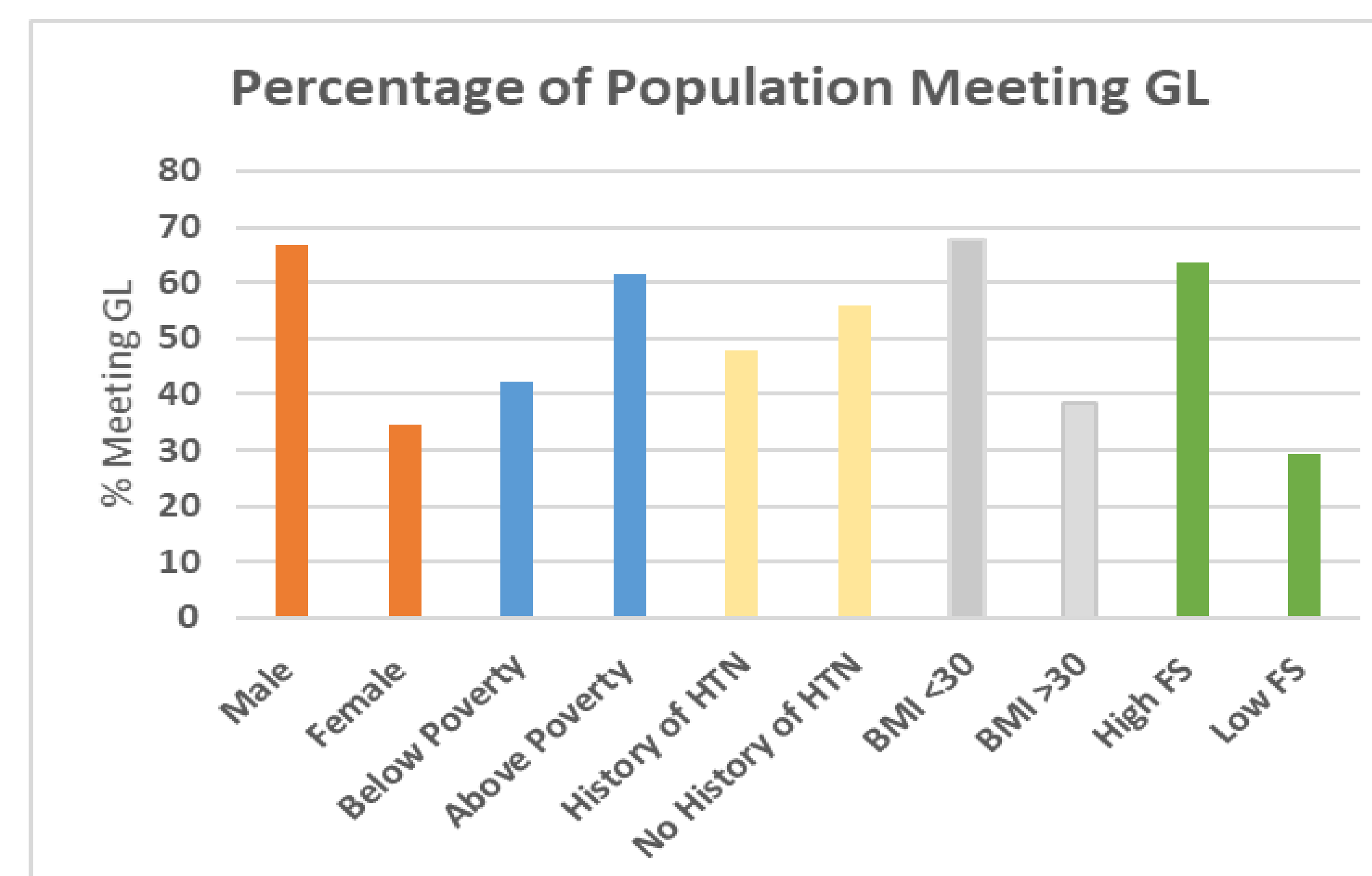


Fig 2. Impact of patient attributes of interest on adherence to PA guidelines.

Discussion

- Demonstrated decreased levels of PA among HIV patients at UConn Health suggesting a need for interventions to increase PA
- The study successfully identified several patient attributes linked to decreased PA inclusive of female gender, history of hypertension, increased BMI, low functional status, and low income
- Future interventions should focus on providing education to patients on the benefits of PA in relation to managing HIV and also in controlling risk factors for chronic disease such as hypertension and obesity
- Interventions should also focus on increasing access to PA for women, those with low income, and decreased functional status
- The study was also successful in demonstrating a positive attitude towards PA among patients
- Study limitations include small sample size
- Future research utilizing larger sample sizes can potentially elucidate additional factors related to PA levels among patients with HIV

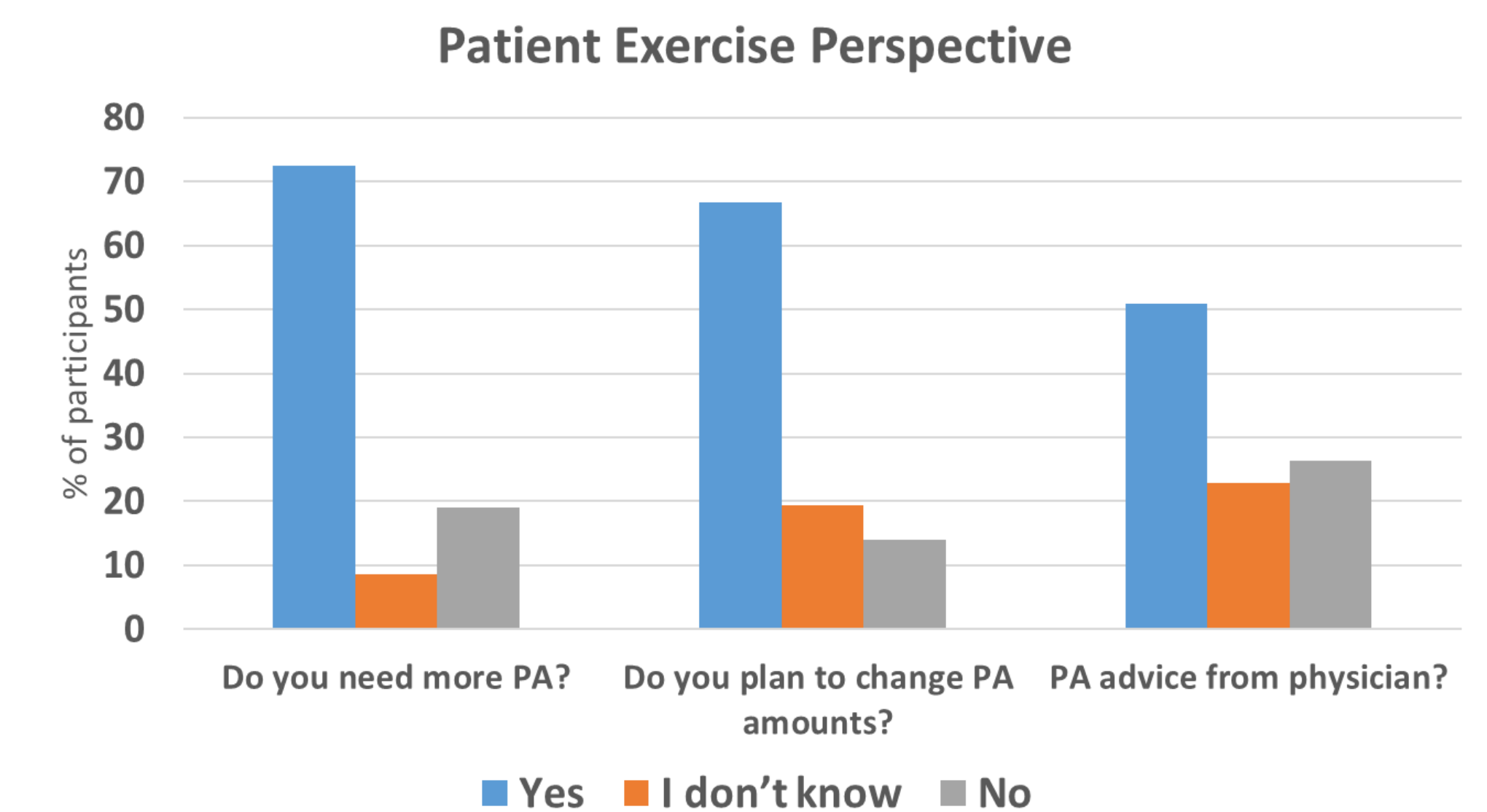


Fig 3. Assessment of patient's attitudes towards PA.

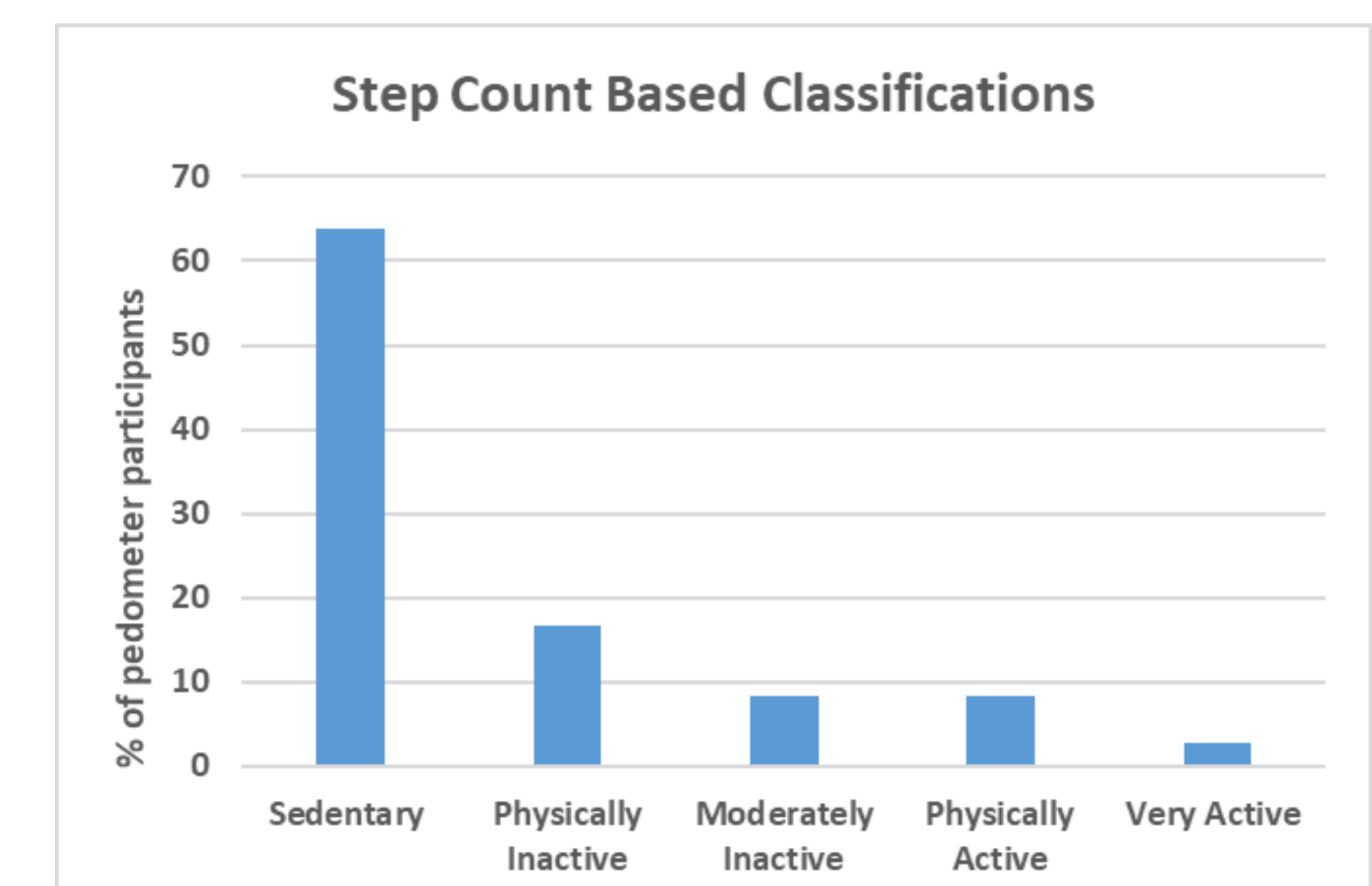


Fig 4. Pedometer based classification of PA levels.

Conclusions

The results indicate low levels of PA among HIV patients at UConn Health and identify attributes that place patients at an increased risk of decreased PA. Future interventions should focus on promoting PA among HIV patients with special attention paid to educating patients on its role in reducing cardiovascular risk factors. Additionally, interventions should focus on increasing opportunities for PA in women, those with limited income, and impaired functional status.

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Acknowledgments

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