

Physical Activity Levels and Demographic Characteristics in Individuals with Huntington's Disease: Insights from the ENROLL-HD Database in an Argentinian movement disorder center

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Introduction and Objectives

Neurological disorders have been recognized by the World Health Organization (WHO) as the leading cause of disability and the second leading cause of death globally in 2022. Daily physical activity (PA) has been recommended by the WHO as a means to mitigate cognitive decline and mortality, particularly in neurodegenerative disorders. Recent estimates suggest a PA prevalence of 52% in the Argentinean population. Huntington's disease (HD) is characterized by neuropsychiatric, cognitive, and motor symptoms and is influenced by genetic, epigenetic, and environmental factors. Studies indicate a potential positive effect of physical exercise (PE) on delaying HD onset and reducing its severity, with higher PA levels correlating with better cognitive performance.

Despite evidence supporting the benefits of PE, its prescription as a complementary treatment for HD patients faces limitations, especially in earlier disease stages and low-income populations. (Fig 1)

Our primary objective was to assess PA levels in individuals enrolled in the ENROLL-HD database and to compare demographic characteristics between PE practitioners (Y-PE) and non-practitioners (N-PE)

Results

The sample comprised 122 individuals, 60% (N=74) were female (Fig 2); the mean age was 45.1 ± 14.63 years, and mean years of education (YOE) 15.85 ± 3.85 .

8.1% (N=10) were non-HD, 15.6% (N=16) were at risk for HD, 21.3% (N=26) had premanifest HD (p-HD), and 55% (N=67) had symptomatic HD (s-HD) (Fig 3). Among HD carriers, p-HD were 65.38% (n=17) females, with a mean age of 44.73 ± 14.43 years and mean YOE 15.88 ± 3.11 ; s-HD group comprised 58.21% (n=39) females, with a mean age of 45.25 ± 14.69 years and mean YOE 15.82 ± 3.11 .

Regarding PA, 20% of non-HD individuals (n=2, p:0.42, 95% CI), 15.9% of those at risk for HD (n=3, p:0.11, 95% CI), 26.9% of premanifest HD individuals (n=7, p:0.6, 95% CI), and 38.7% of symptomatic HD individuals (n=26, p:0.04, 95% CI) reported engaging in PA (Fig 4). In a subgroup analysis, 42.37% of s-HD patients (n=25, p:0.1; 95% CI) undergoing pharmacological treatment also engaged in PA, while 57.7% (n=15, p:0.01, 95% CI) under supplemental treatment did so.

Materials and Methods

A cross-sectional retrospective analysis was conducted from June 2020 to March 2024, utilizing PE data from the ENROLL-HD database. Descriptive statistics were employed.

Conclusions

Although benefits of PA in HD prevention and progression are well known, our study reveals low PA levels among HD individuals, even lower than the general Argentinean population. This underutilization may stem from various factors, including limited access, lack of social insurance, costs and inadequate medical prescription. Despite study limitations, these findings underscore the importance of educating patients, families, clinicians, and neurologists about the multifaceted benefits of PA in HD, emphasizing the need for improved access and implementation of physical therapy interventions.

Fig. 1

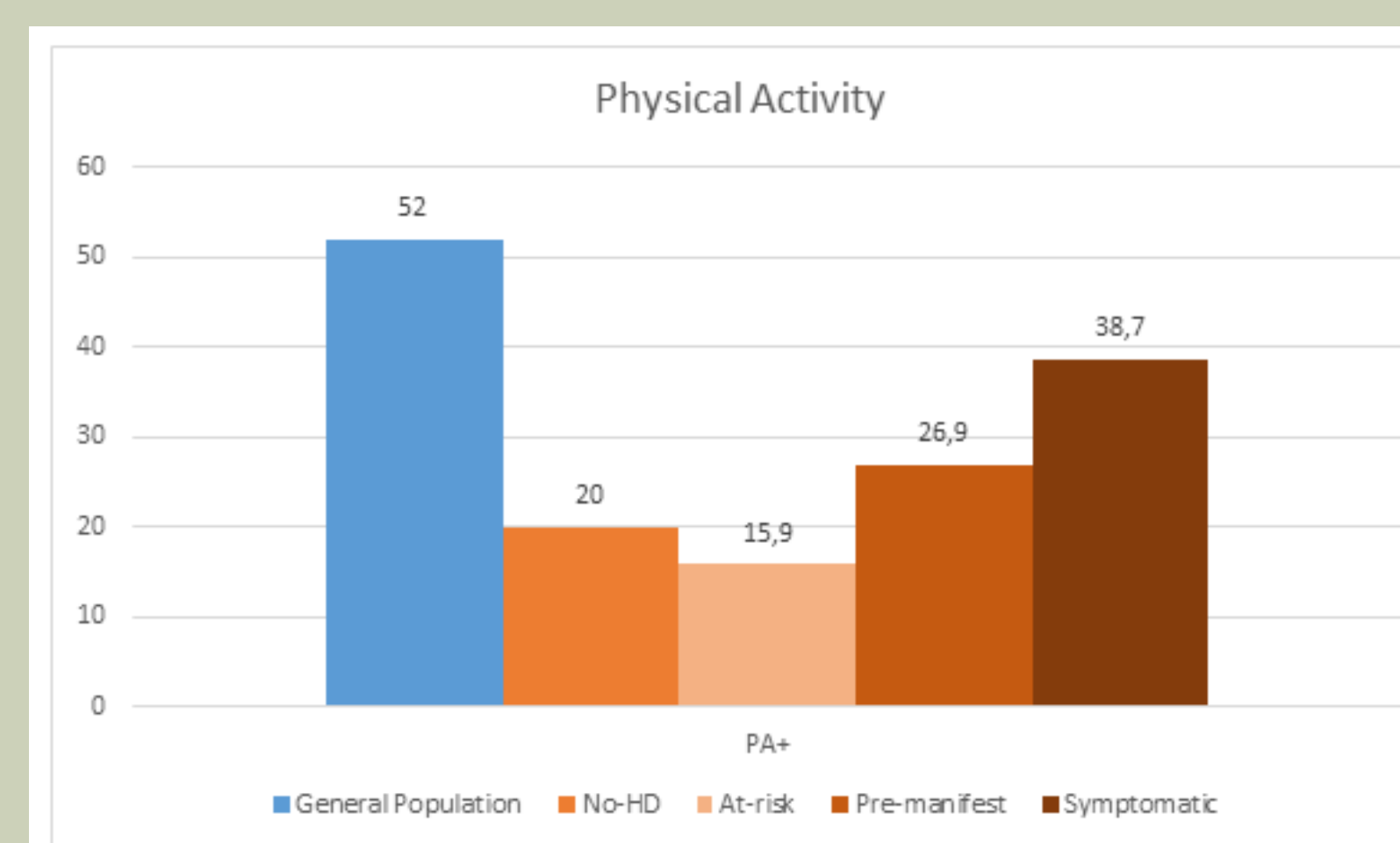


Fig. 2

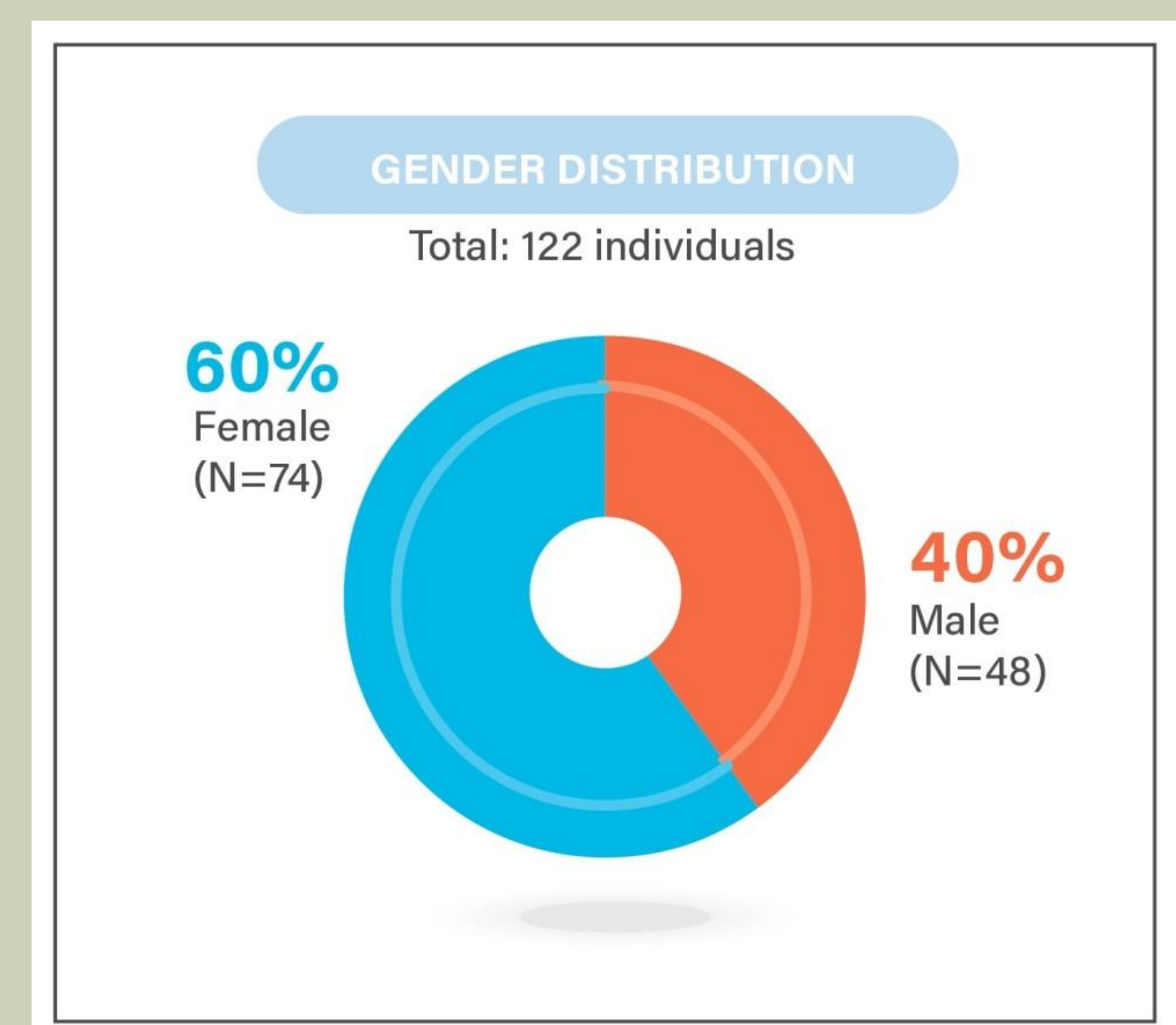


Fig. 3

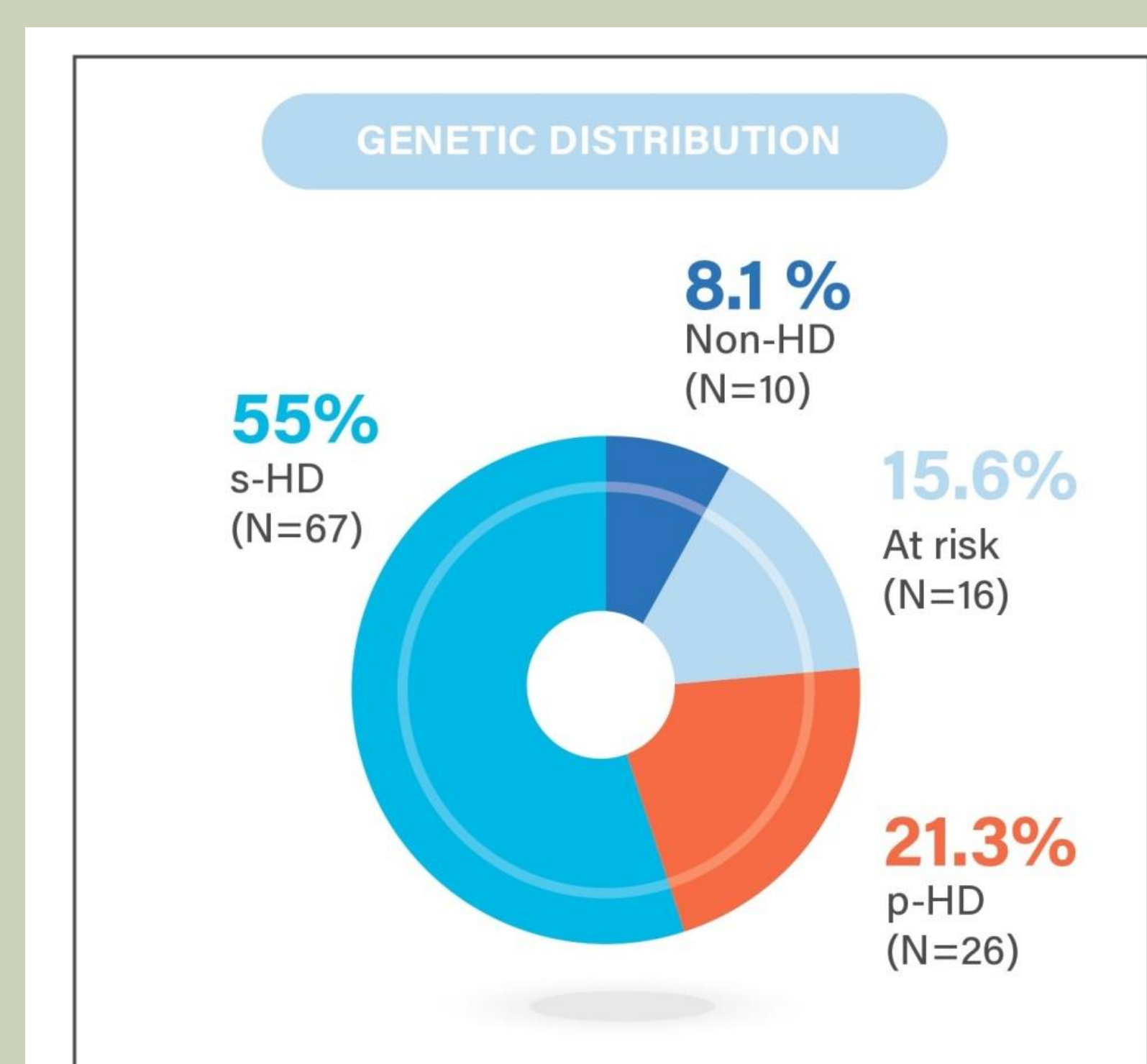


Fig. 4

