

Exploring the factors which influence medication reminder technology preferences in people with Parkinson's Disease

Introduction



Parkinson's disease (PD) is a progressive, neurodegenerative disorder, characterized by loss of dopaminergic neurones, which causes impaired motor function and motor symptoms. To improve this, individuals typically take dopaminergic medication [1]



Individuals with Parkinson's disease (PD) often require multiple daily medications administered at specific times; however suboptimal adherence is common and can exacerbate symptoms while diminishing quality of life.



Digital health technologies, such as smartwatches, offer potential support through medication reminders and continuous symptoms monitoring.

Objective

To explore factors which influence medication reminder technology preferences in people with Parkinson's disease

Methods

Anonymous, cross sectional online survey conducted between 7th February and 30th September 2023

Inclusion Criteria

Over 18 years

PD diagnosis

PD medications

Included 51 questions (open/closed), covering demographics, clinical features, comorbidities, digital device use, and validated scales (MARS-5 for medication adherence, PDQ-8 for quality of life score)

- Participants number: 283 (UK-Based)
- Data analysed using SPSS
- Shapiro-Wilk used for normality tests
- Distribution via Parkinson's UK, NEC-RIG, Twitter, BAM platform, Email

Data normality was assessed using the Shapiro-Wilk test.

- Normally distributed data were presented as mean \pm SD.
- Non-normally distributed data were presented as median (IQR).
- Statistical differences were analyzed using ANOVA or Kruskal-Wallis tests as appropriate.

Four key survey questions were analysed to explore factors influencing device use and preferences:



- 1) Do you already use digital device to remind you take your medications?
- 2) Which digital device do you currently use?
- 3) Do you currently use a smartwatch?
- 4) Which digital device would you most likely use?

Variables analysed:

Age (years)



Comorbidities number



Disease duration (years)



Medication Adherence



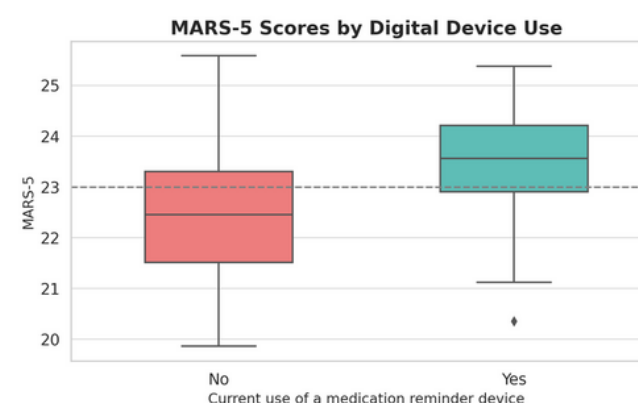
PD tablets /day



Quality of life score

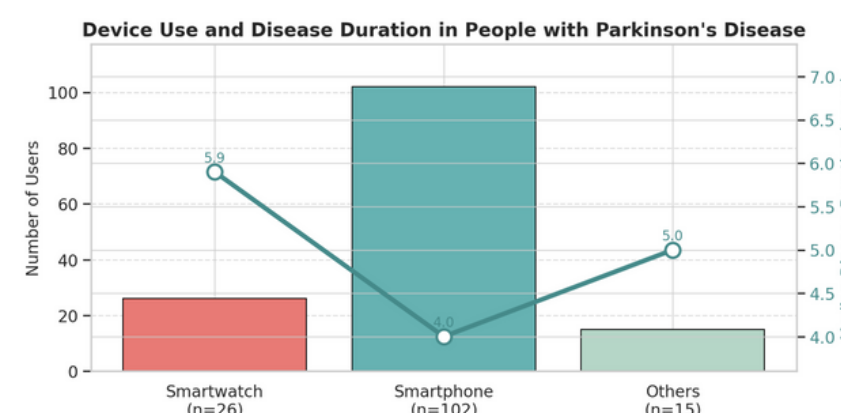


Results

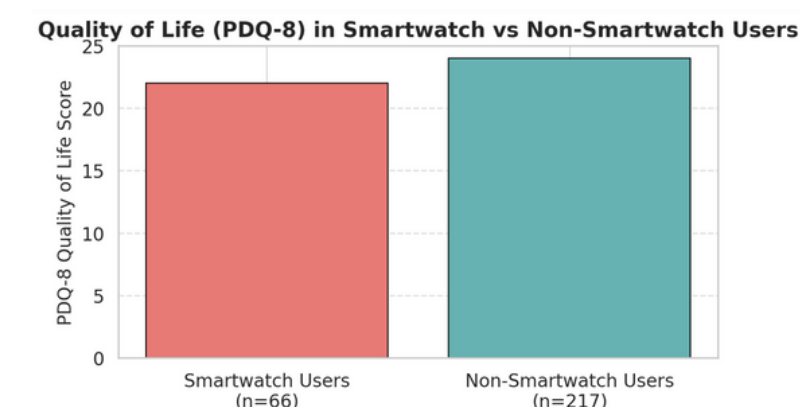
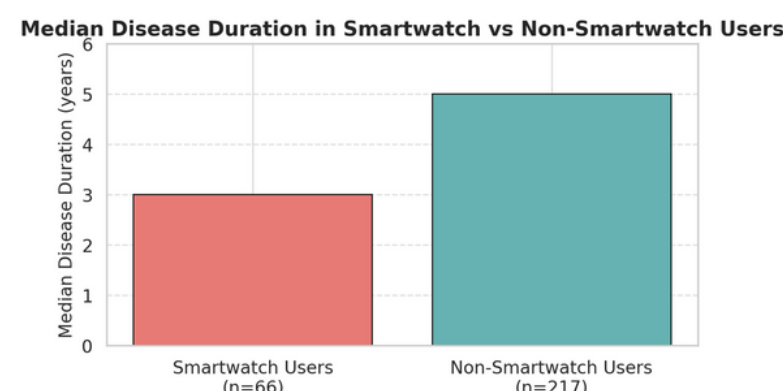
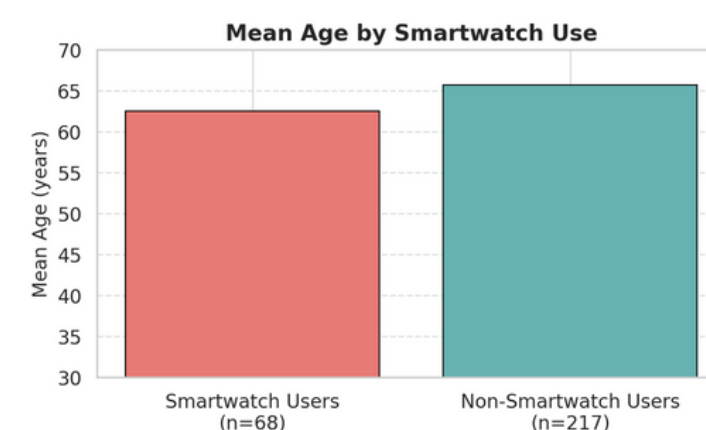


Participants who already used medication reminder device (n=142) were significantly more adherent to their medication routine than those who did not (n=141)

Device users have less variability in adherence scores, indicating more consistent medication-taking behaviour



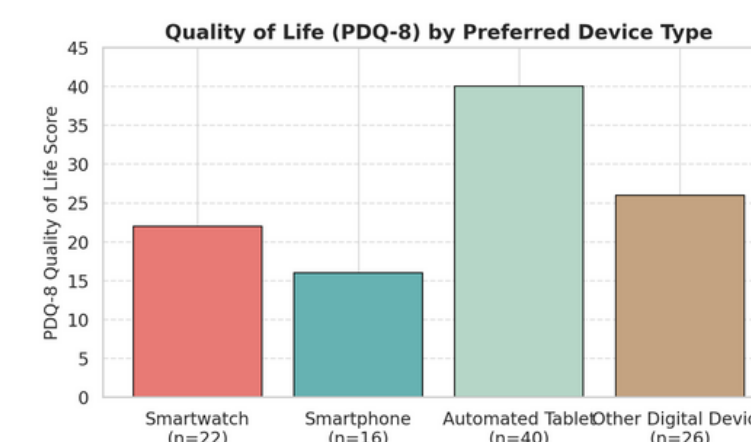
Participants with longer disease duration use smartwatches or other devices (Tablet, Alexa, or unspecified devices) more often



People with Parkinson's who use smartwatch are about 3 years younger compared to those who do not

Non- smartwatch users have longer disease duration (median 5 years); smartwatch users have shorter duration (median 3 years)

Smartwatch users have better quality of life (lower PDQ=22)



People with Parkinson's who are more willing to use smartphone and smartwatch reported the best quality of life (QOL)

Discussion

- Medication reminder technology preferences may be affected by various factors such as disease duration, Age, QOL score, no. of comorbidities
- Medication adherence is greater in people who use medication reminder technology
- Future direction: larger, more balanced samples are needed to strengthen the evidence

References

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