

# Physical Activity Levels of Adults with Epilepsy in the United Kingdom

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## Introduction

More than 30% of people with epilepsy (PWE) have uncontrolled seizures with traditional pharmacological methods (1). In the ever-growing desire to find a method to decrease the negative impact of uncontrolled seizures, exercise or physical activity has now heightened as a successful non-pharmacological complementary method to traditional treatment to aid overall quality of life (2, 3).

Thirty-five percent of PWE meet the general physical activity guidelines, and only 40% of PWE with uncontrolled seizures reported taking a walk within the last 10 days (4). A few studies on PWE have quantified levels of physical activity in certain countries (5,6,7). Qualitative research based in the United Kingdom (UK) shows common barriers to exercise and physical activity (8), but it is of interest to quantify the levels of physical activity in the UK to investigate this further.

**Research aims** investigating physical activity in PWE in the UK:

1. Establish self-reported physical activity and levels of sedentary behaviour.
2. Obtain epilepsy-related factors and socio-demographic information.

## Methods

**Participants:** A total of 189 participants completed the survey.

Upon cleaning the data for lack of consent and completion of the survey, 95 participants were included in the analysis.

**Recruitment:** Purposive and snowball sampling through aid of Epilepsy Action UK, social media, Epilepsy Action support networks, and personal connections. There were five £50 Amazon vouchers advertised as part of a prize draw to participants for completing the questionnaire.

**Inclusion criteria:**

- At least 18 years of age
- Diagnosed with epilepsy
- No separate chronic condition that prevents physical activity
- Live in the United Kingdom (UK)

**Procedure:** The Recent Physical Activity Questionnaire (RPAQ) was used to gather four weeks of self-reported leisure and recreational physical activity. The online questionnaire was live for three months (April-July 2022).

**Analysis:** Descriptive with no formal hypothesis testing. We used a cut-off of at least 5 participants to create the activity groups that are presented in the graphs and tables. All activity groups with <5 participants were merged together in "other activities" group. Analyses were carried out in R (4.2.3) and RStudio (2023.03.0 Build 386). Work and transport were not included in the analysis.

### References

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## Results

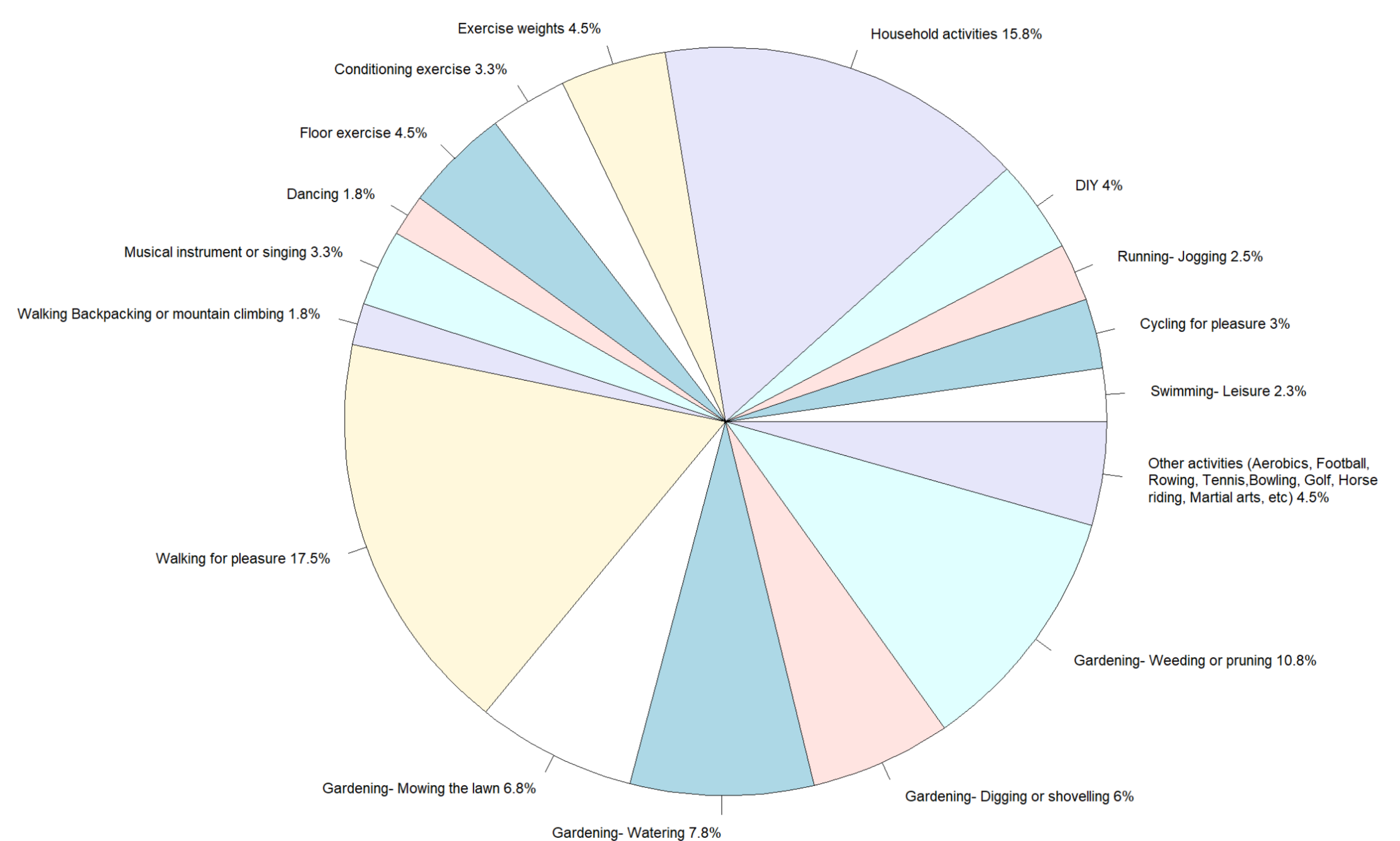
In the past year, 31 (32.6%) participants reported not having a seizure compared to 64 (67.4%) who reported having a seizure. The most common activities were walking, household activities, and gardening. Vigorous intensity of activities was lower and infrequent. The most common physical activity was walking for pleasure every day for around 1.5 hours.

**Frequency over the last 4 weeks:** 2-3 times a week in the last 4 weeks was most common for those taking part in exercise-related activities.

**Duration of activity:** The most commonly reported was at least 30 minutes a session.

	All PWE		All PWE
N	95	N	95
Sex		Known cause of epilepsy (no; yes)	63 (66.3%); 32 (33.7%)
Female	52 (54.7%)	Taking anti-seizure medications (no; yes)	2 (2.1%); 93 (97.9%)
Male	42 (44.2%)	Seizure types	
Prefer not to say	1 (1.1%)	Tonic-clonic only	26 (27.4%)
Age, years	Mean=50 (range=23-75)	Absence only	2 (2.1%)
23-39	24 (25.3%)	Focal aware only	6 (6.3%)
40-49	21 (22.1%)	Focal with impaired awareness only	3 (3.2%)
50-59	29 (30.5%)	Myoclonic only	3 (3.2%)
60-75	21 (22.1%)	Other only	10 (10.5%)
Race/Ethnicity (Non-White; White)	6 (6.3%); 89 (93.7%)	Multiple types including:	
Age of diagnosis, years		Tonic-clonic	40 (42.1%)
18 or younger	41 (43.2%)	Absence	27 (28.4%)
19 or older	52 (54.7%)	Focal aware	14 (14.7%)
No response	2 (2.1%)	Focal with impaired awareness	13 (13.7%)
Other chronic conditions (no; yes)	64 (67.4%); 31 (32.6%)	Myoclonic	12 (12.6%)
		Other	6 (6.3%)

Pie Chart of the Most Popular Activities (with more than 5 participants)



## Discussion

Although there was a low sample size (95 participants), these results do show that the general physical activity levels of the participants in this study do meet standards of at least 150 minutes of activity a week. This compares to what has been shown with the general public in the UK. However, engagement in more vigorous intensity activity was lower than recommended (9).

Another interesting find was that there were some participants who were competitive with their physical exercise. Although it was only 4 out of 95 (.04%), it would be interesting to explore this further.

**Limitations:** This study was limited in how the questionnaire and demographic questions were structured and displayed. There was a dual consent from the consent form and then another on the questionnaire, and the analysis is limited to the number of participants who consented to both. In addition, choosing the RPAQ for this study may not have been the best choice as it was long and some participants commented it was too long for them.

**Future research:** Further analysis using a different questionnaire and allowing a clearer link to participants' demographics (e.g., age, seizure frequency and type, medication) will be of interest to examine physical activity in the UK epilepsy population.