

# Effects of a Renal Nordic Walking Program on Quality of Life and Fitness in Renal Outpatients at St. Paul's Hospital: A Randomized Controlled Trial

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## Why did we do the study?

Many persons with kidney disease do not meet physical activity guidelines. Hospital-affiliated group exercise programs for outpatients can potentially reduce fears and increase exercise self-efficacy. This study investigated the effects of a 3-month supervised Renal Nordic walking (NW) program on fitness and quality of life.

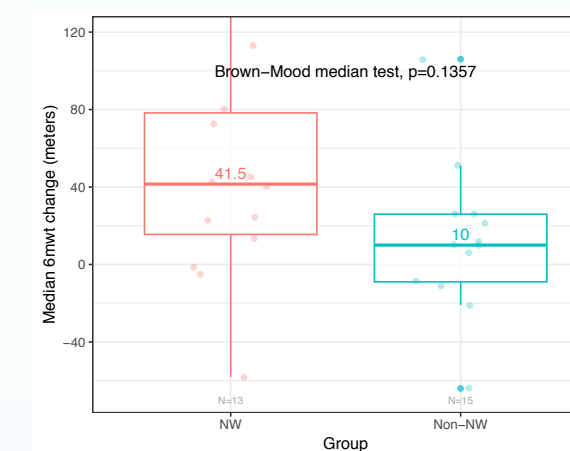


## Methods and data handling

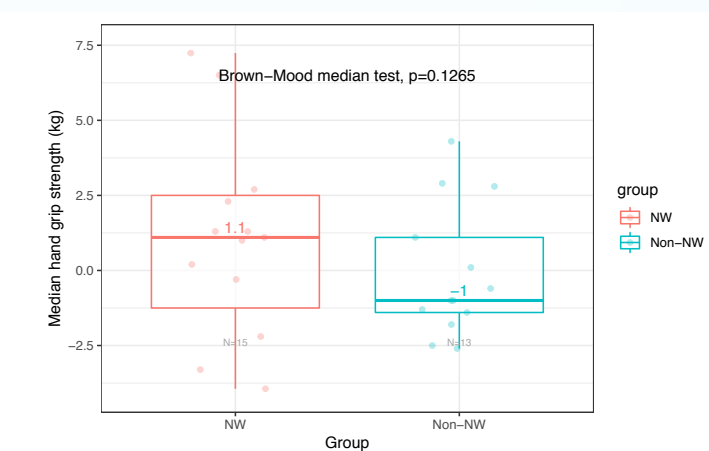
Thirty participants, aged 45-84 were randomized to NW (n=15) or non-NW (n=15) groups. The NW group was offered 2 supervised NW sessions per week; the non-NW group continued their own activities. No blinding of intervention or outcome assessment was possible. Outcome measurements at baseline and 3-month included weight, handgrip strength (HGS), 30-sec sit-to-stand-test, 6-min-walk-test (6MWT), and Kidney Disease and Quality of Life questionnaire (KDQOL-36). Daily steps were recorded using Fitbit Flex2 tracker during the 3-month study. Using the intention-to-treat principle, changes in outcomes for each participant from baseline to 3-months were calculated and median changes between NW and non-NW group were tested with a Brown-Mood median test.

## What did we find?

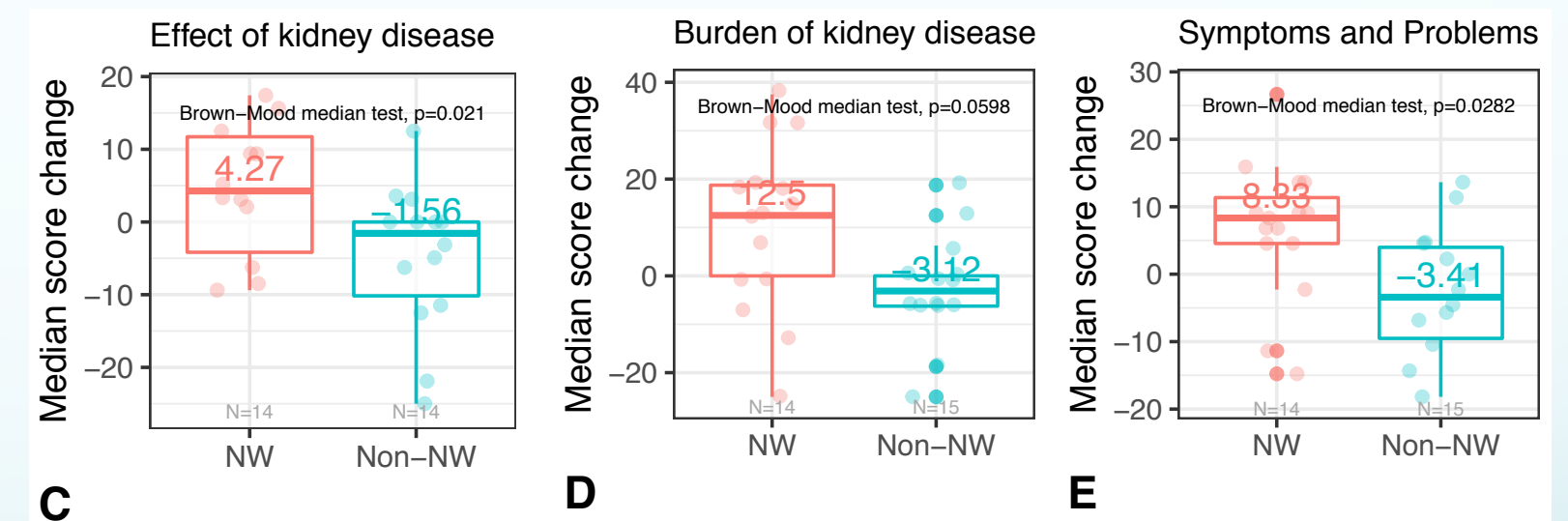
Participants included renal transplant [n=10], pre-dialysis [n=14], hemodialysis [n=3], and peritoneal dialysis [n=3] patients. Two participants in the non-NW group were lost to follow-up and missing data was minimal. The NW group appeared less healthy compared to the non-NW group at baseline. However, the NW group had greater improvements in 6MWT distance (41.5m), HGS (1.1kg), and KDQOL-36 (Effect of kidney disease; p=0.021) at 3-month.



**Figure 1. 6-min-walk-test (6MWT) change from pre to post between groups.**



**Figure 2. Handgrip strength change from pre to post between groups.**



**Figures C-E. Change in Quality of Life Domains of KDQOL-36 questionnaire from pre to post between groups.**

## Conclusion

A 41.5m improvement in 6MWT achieved in the NW group exceeded the Minimal Clinically Important Difference of 14.0–30.5m. Although a larger number of participants are needed to confirm these findings more confidently, these encouraging results indicate that a group-based supervised Renal NW program may provide benefits meaningful to renal patients as part of their clinical care. This study has led to new funding for a physiotherapist to lead the Renal NW program at St. Paul's Hospital.