

Internet-Based Dementia Risk Reduction Education: Results from a Randomized Controlled Trial

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Background

Dementia is a major global health challenge, with prevention strategies increasingly focusing on modifiable risk factors. Despite evidence that lifestyle changes can reduce dementia risk by up to 45%, public awareness remains low. Web-based platforms offer scalable solutions to bridge this knowledge gap.

Our objective was to evaluate the effectiveness of DementiaRisk.ca in increasing knowledge of dementia risk factors, intentions to engage in risk reducing behaviours, and changes in health behaviours.

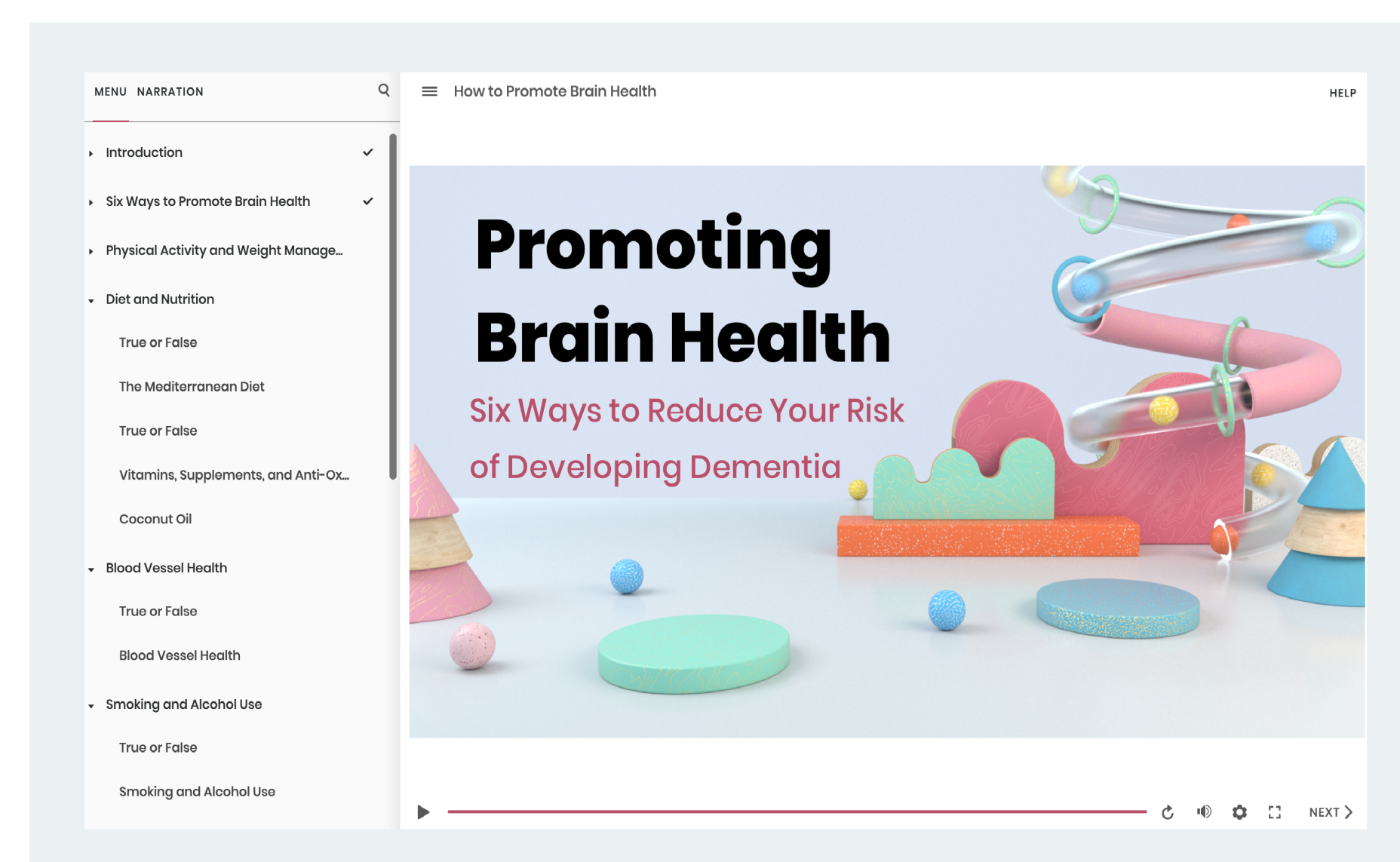
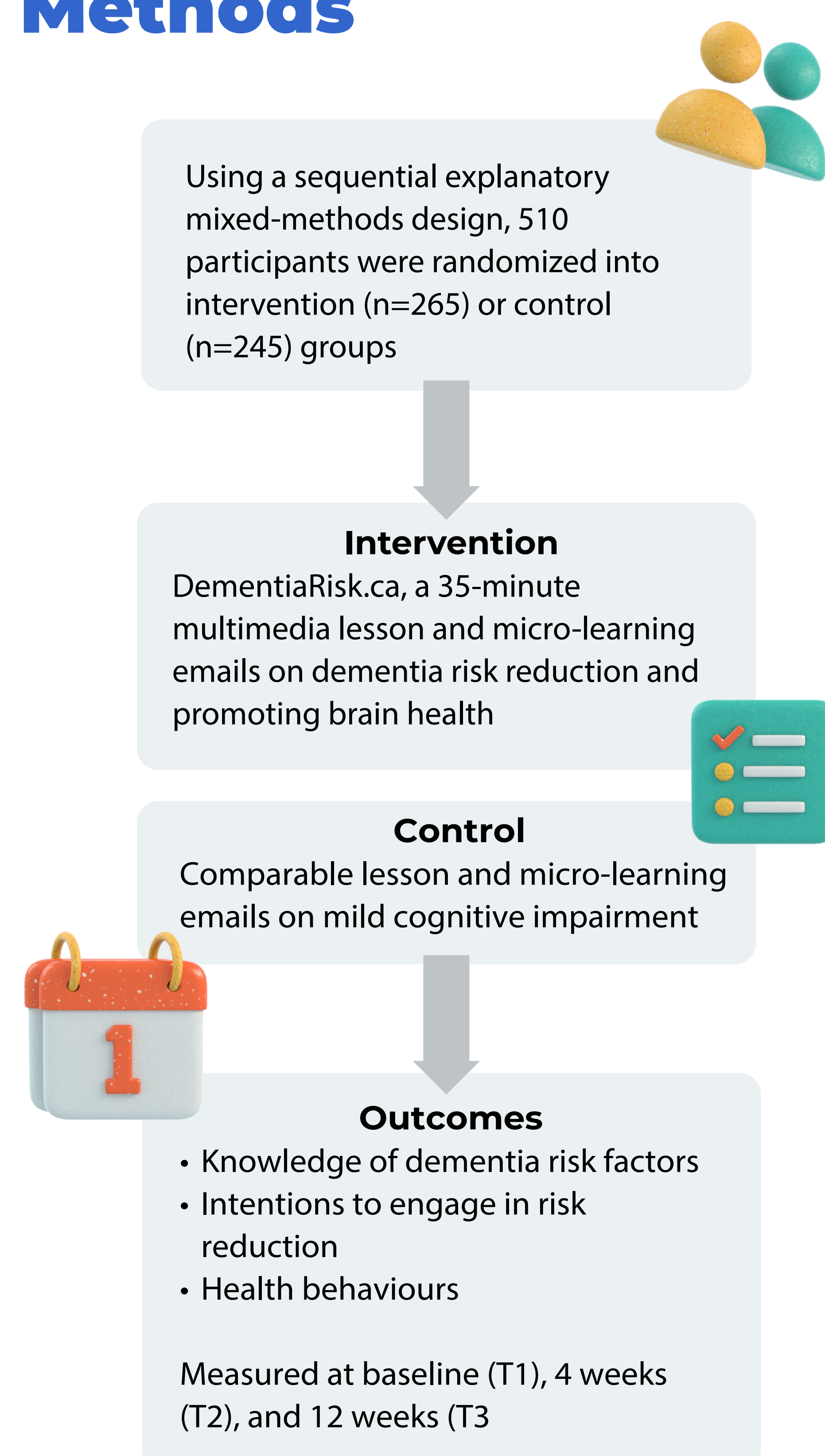


Figure 1: Screenshot from the 'Promoting Brain Health' lesson

Methods



Results

Quantitative Data

Participants were predominantly older adults ≥ 55 (55%), female (61%), and reported good to excellent health (81%).

Knowledge Scores

Both groups showed increases in knowledge, with the intervention group demonstrating significantly larger gains (mean increase of 8.8 points vs. 6.2 in control, $p < 0.01$). These differences persisted at T3.

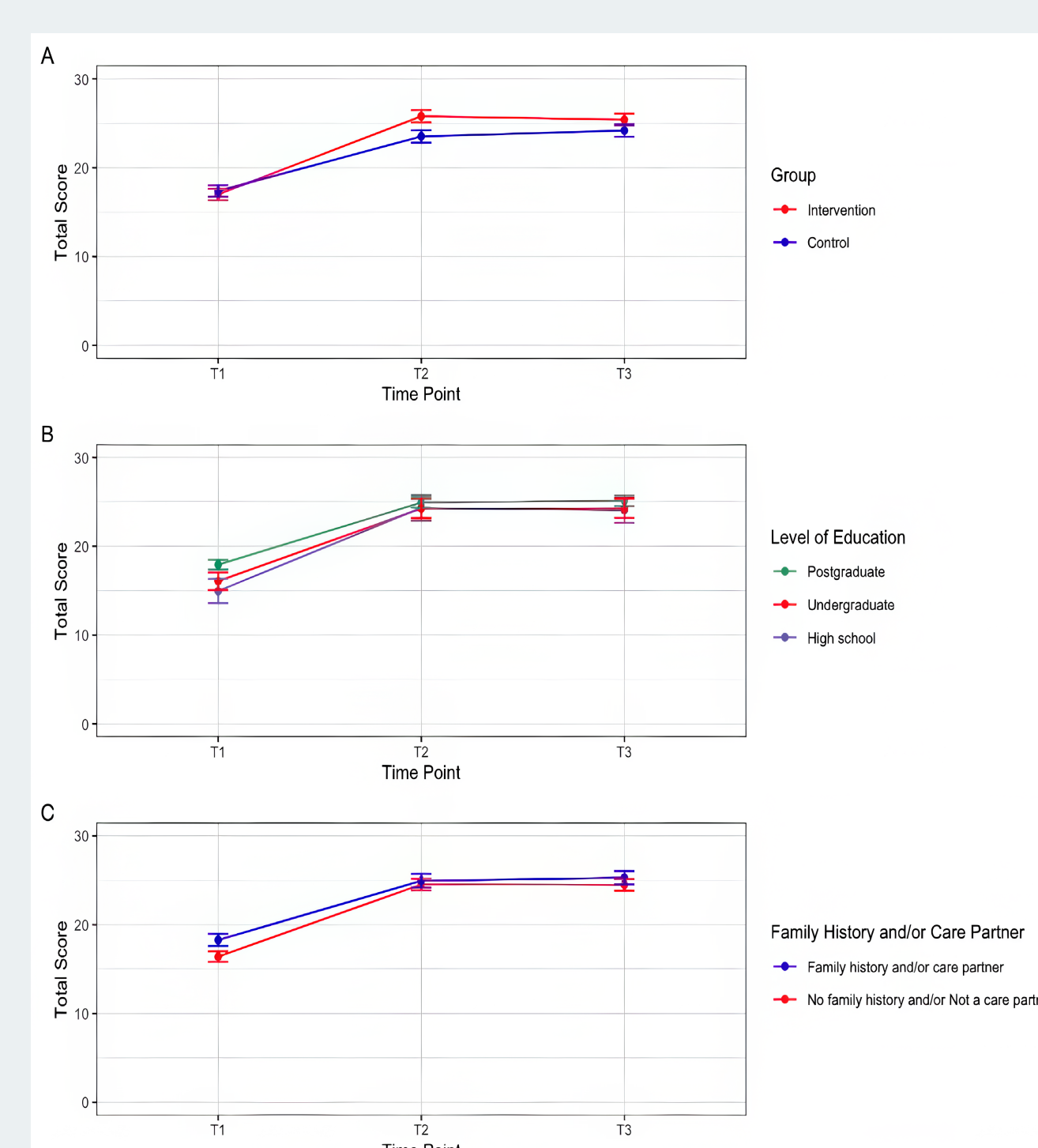


Figure 2: Linear mixed effects model estimates with 95% CI for knowledge score by: group (panel A), level of education (panel B), and dementia history/care partner (panel C)

Intentions Scores

Both groups had significant increases in intentions to adopt healthy behaviours, sustained through T3.

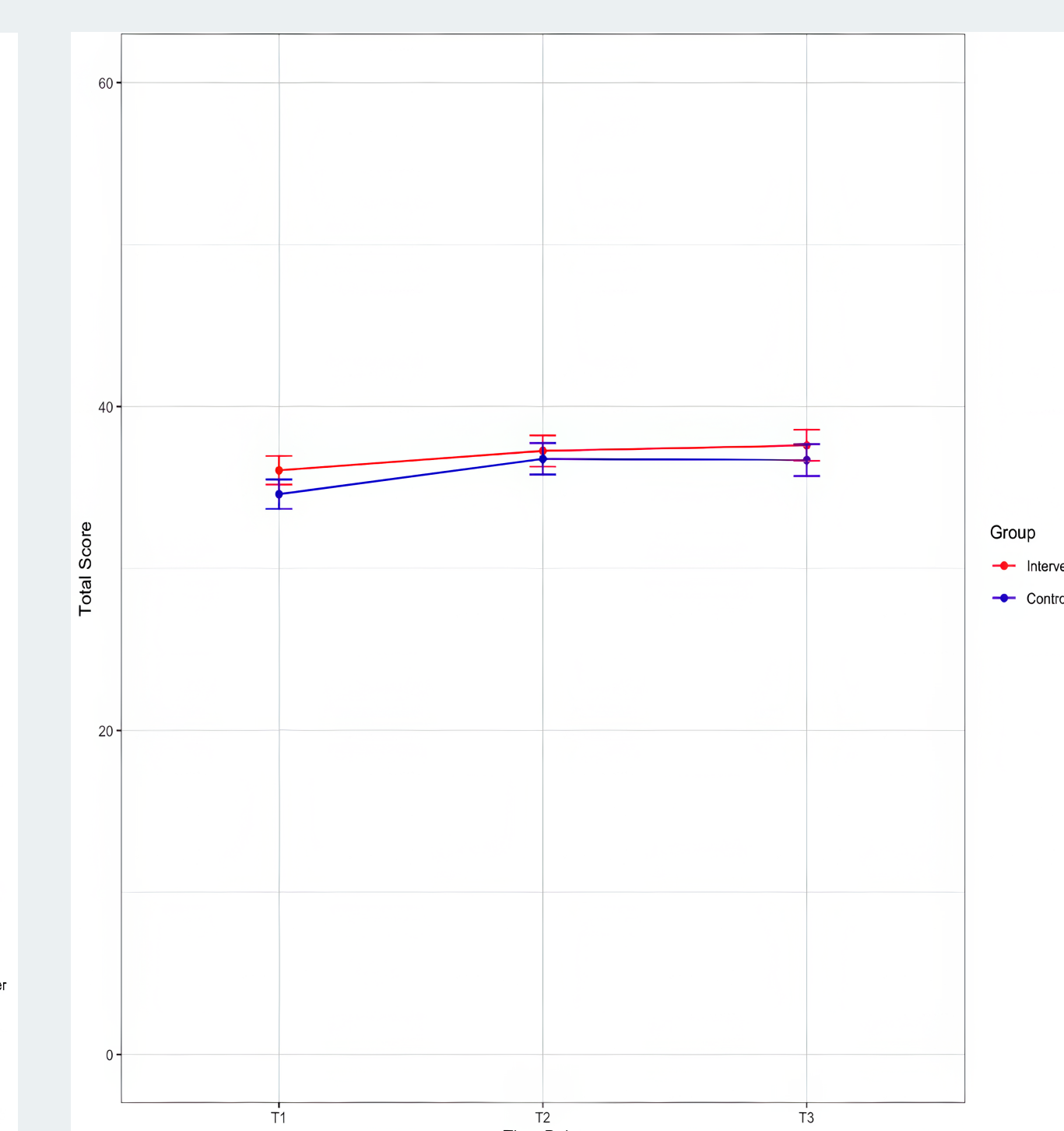


Figure 3: Intentions to engage in risk reduction by group

Health Behaviour Scores

The intervention group showed more substantial improvements in health behaviours, with a 5.88-point increase at T2 and a sustained 5.06-point increase at T3.

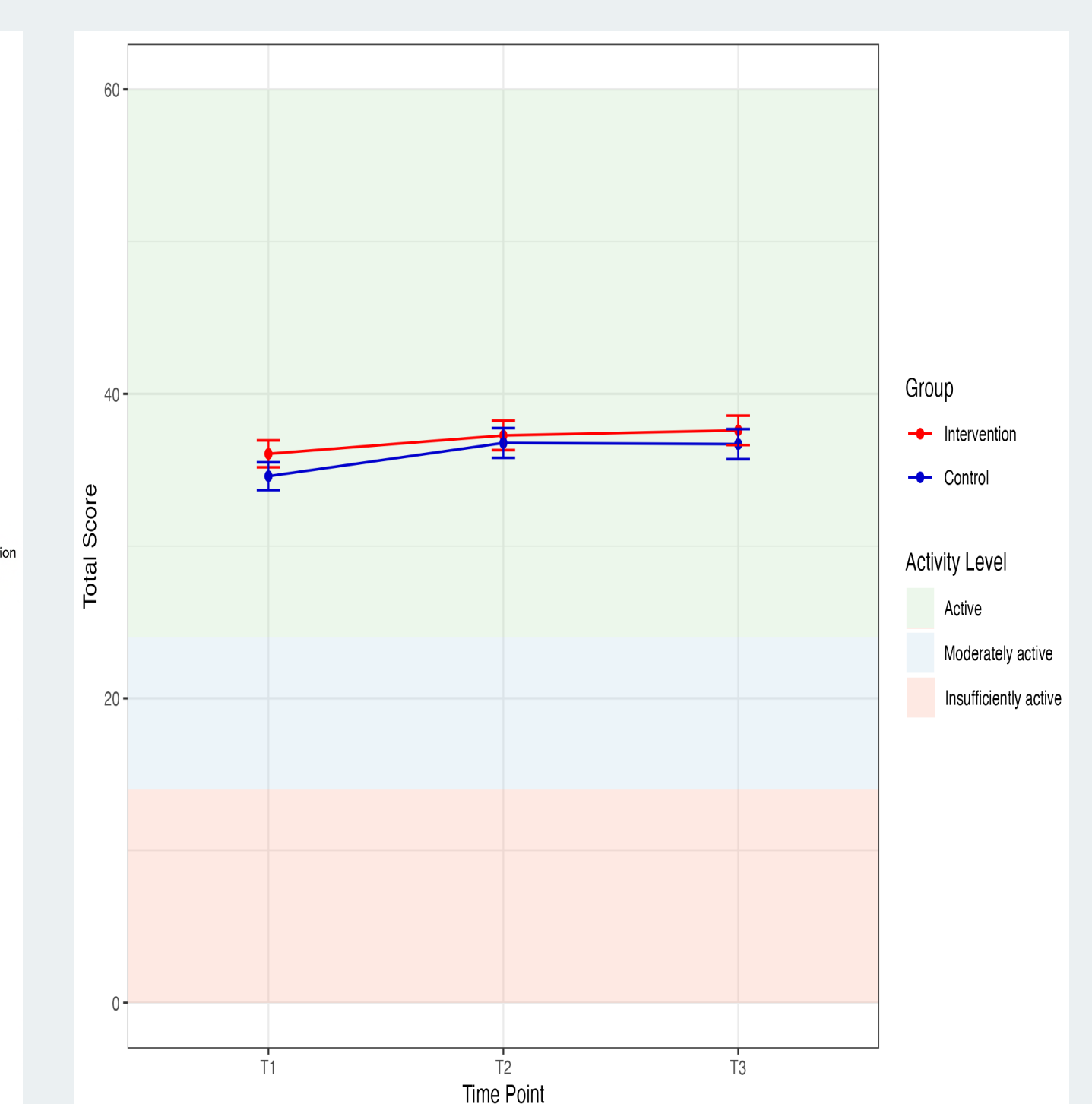


Figure 4: Linear mixed effects model estimates and 95% CI for Godin Shephard Leisure-Time Physical Activity Questionnaire score by group

Qualitative Data

Qualitative feedback indicated strong engagement, with participants reporting lifestyle changes (i.e., increased physical activity, dietary improvements, increased doctor visits).

Barriers included technological issues and time constraints. Younger participants were more prevention-focused, while older participants sought information on dementia management and caregiving.

Respondent Quotes

"This was one of if not the best study I have ever participated in. Learned a lot and hope to implement some of the recommended lifestyle habits."

- Respondent #292

"Everything was easy to understand and relate to. I enjoyed this study a lot and the surveys were easy to understand and complete."

- Respondent #381

"It's an exceptionally well organized study."

- Respondent #366

Conclusion

An evidence-based resource that's ready to complement clinical care

DementiaRisk.ca significantly improved knowledge of dementia risk factors and promoted behaviour changes, especially among individuals with lower education levels. These findings suggest the platform's potential to reduce health inequities and improve public health outcomes in dementia prevention. Future research will focus on optimizing engagement and expanding reach to diverse populations, with an emphasis on long-term impact.

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