

The 48th Annual Scientific Meeting of the Nutrition Society of Australia, 3-6 December 2024

Co-design of a digital lifestyle intervention for Australian adults with metabolic dysfunction-associated fatty liver disease

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Metabolic dysfunction-associated fatty liver disease (MAFLD) is the most common liver disease globally, affecting 1 in 3 Australian adults and up to 39% in rural communities⁽¹⁾. Behaviour changes targeting diet and physical activity to achieve weight loss are considered the cornerstones of MAFLD management. A Mediterranean diet (MedDiet) rich in wholegrains, vegetables, fruits, fish, olives, raw nuts and seeds is recommended in key global guidelines as the optimal dietary pattern for MAFLD⁽²⁾. Additionally, research evidence indicates moderate-intensity aerobic exercise is effective in reducing liver fat and improving cardiometabolic health⁽³⁾. Given the higher rates of MAFLD in rural communities and their limited access to healthcare services, digital health interventions present a valuable opportunity to improve the accessibility, availability and personalisation of healthcare services to address this important unmet need. However, no digital interventions to address health risk behaviours in MAFLD including diet and physical activity, are currently available. This research aimed to use best practice co-design methodology to develop a web-based healthy living intervention for people with MAFLD. An iterative co-design process using the Double Diamond Framework, including four key phases was undertaken over 12 months. Twenty-seven adults (≥ 18 years) were recruited from The Alfred Hospital, Australia. This included people with MAFLD (n = 10; 50% female; mean age: 63.6 years), healthcare professionals (HCPs) (n = 17; 59% female; mean age: 37.1 years) [dietitians (n = 5), exercise professionals (n = 6), and clinicians/hepatologists (n = 6)]. *Phase 1–discover*. Barriers and facilitators were explored through semi-structured interviews to understand the needs of the target population regarding accessibility, appearance, resources and application of the web-based intervention. Interviews were virtual, conducted one-on-one via ZoomTM, transcribed and inductively analysed using NVivo. *Phase 2–define*. A reflexive thematic analysis identified five key themes within the data. These included: i) web-based functionality, navigation and formatting, ii) holistic behaviour change including MedDiet and physical activity, iii) digital health accessibility, iv) knowledge and resources, and v) intervention duration and reminders. *Phase 3–develop*. The knowledge gained from this process lead to the development of the web-based intervention taking into consideration expressed preferences for features that can enhance knowledge about the condition, offer dietary and physical activity support via targeted resources and videos, and increase engagement via chat group and frequent reminders. *Phase 4–deliver*. The co-design has led to the development of a web-based healthy living intervention that will be further evaluated for feasibility and implementation in a pilot trial. The resulting intervention aims to achieve behavioural change and promote healthier living amongst Australians with MAFLD. This knowledge has the potential to drive strategies to reduce barriers to accessing healthcare remotely, making the web-based intervention a valuable tool for both patients and professionals.

References

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