

## **Mii-vitaliSe - Development of a physiotherapist-supported Nintendo Wii™ intervention to encourage people with multiple sclerosis to become more active in the home**

Thomas S, Fazakarley L, Thomas PW, Collyer S, Brenton S, Perring S, Scott R, Galvin KT, Hickson J, Jones K, Hillier C.

**Background:** The benefits of physical activity for people with MS (pwMS) have become overwhelmingly evident. However, pwMS typically engage in dramatically lower levels of physical activity than the general population. This is cause for concern given that sedentary lifestyles are associated with increased health risks and poorer quality of life. Active gaming systems such as the Nintendo Wii™ might offer a convenient, enjoyable and engaging means for pwMS to become more active. Our aim was to develop a theoretically underpinned Nintendo Wii™ intervention package for pwMS incorporating physiotherapist support and behaviour change techniques that could be undertaken in the home.

**Methods:** Development of the intervention (Mii-vitaliSe) was based on the MRC guidance and drew upon;

(i) a literature review;

(ii) an intervention development group (IDG) comprising physiotherapists, psychologist, neurologist, medical scientist, 'Wii-hab' expert and service users;

(iii) a half-day consultation workshop with 8 current Wii users and healthcare professionals (discussed issues such as safety, facilitators and barriers, practical aspects, suitability of proposed software, patterns of play, factors contributing to longer term use, advice and tips).

**Results:** There was little existing guidance for using the Wii with/for pwMS. Relevant psychological frameworks and theories were identified (motivational interviewing, social cognitive, self-determination and cognitive behavioural theories and the health action process approach model). IDG members proposed key intervention components. The workshop helped to finalise the format and content of the Mii-vitaliSe intervention package, namely:

- Two 'orientation' sessions using the Wii™ in the hospital setting delivered by a physiotherapist.
- Co-developing a personalised Wii™ programme.
- Guidance and resource materials to support participants to start and continue using the Wii™.
- Installing the Wii™ in the home with a balance board and software (Wii Sports™, Wii Sports Resort™, Wii Fit Plus™).
- Continued home use with regular physiotherapist support (home visits and telephone).

**Discussion:** Often when developing complex interventions vital preparatory phases are overlooked or poorly reported. Here we describe the development of an evidence-based Nintendo Wii™ intervention in consultation with end users and key stakeholders. We have since tested the feasibility and acceptability of Mii-vitaliSe in a mixed methods pilot study (ISRCTN49286846).