Testing session to assess the user experience, usability and safety of the Heroes exergame for stroke patients to train balance

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This study aims to assess the User experience, Usability and Safety perception of the HEROES exergame in a home environment for people with stroke. This study aims to identify the advantages and disadvantages of the current version of the HEROES of…

Ethical review	Approved WMO
Status	Pending
Health condition type	Other condition
Study type	Observational non invasive

Summary

ID

NL-OMON56475

Source
ToetsingOnline

Brief title
User experience, usability and safety testing session of Heroes exergame

Condition

- Other condition

Synonym
Cerebro Vasculair Accident, Stroke

Health condition

nervous system disorder (chronic stroke)

Research involving

Human

Sponsors and support

Primary sponsor: University of Twente
Source(s) of monetary or material Support: NWO;ZoNMW and the Dutch Heart Foundation under the HEROES grant with reference number 104021002.

Intervention

Keyword: exergame, safety study, usability, User experience

Outcome measures

Primary outcome

The main study parameter is the user experience from the people with stroke.

Secondary outcome

The secondary outcome measures are usability and safety perception from the

end-user. This will be assessed with questionnaires and observation of the

session.

Study description

Background summary

To improve balance control and prevent falls in people with stroke, it's important to enhance their ability to recover from a perturbation by stepping. Serious videogames provide a way to train in a fun and challenging way. Some videogames train voluntary stepping, but it remains challenging to train recovery steps at home. The aim of the HEROES exergame is to train reactive stepping in a home environment. The HEROES exergame consist of a screen to display a humanoid avatar responding to different realistic virtual balance perturbations. The avatar demonstrates appropriate reactive stepping responses for recovering balance from these virtual perturbations. The player imagines being the avatar and mimics the stepping movements of the avatar as accurately as possible

Study objective

This study aims to assess the User experience, Usability and Safety perception of the HEROES exergame in a home environment for people with stroke. This study aims to identify the advantages and disadvantages of the current version of the HEROES of the sea.

Study design

observational study, consisting of a simulated therapy session of 1 to 2 hours, where participants play an exergame. The session includes a preparation period and a gameplay and feedback block

Study burden and risks

Participants will use the exergame system in a single session. The only risk to consider, i.e. loss of balance during the gameplay, is minimal. However, during the session a physiotherapist will be present to mitigate any possible risk. Because of this, the burden and risk associated with participation are negligible. Participants are asked to visit the eHealth House at the University of Twente for a single 2 hour session.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

-Having sustained a unilateral stroke in the cerebrum more than 6 months ago.
-Experiencing mild to moderate impairments in balance and walking.
-Physically able to stand and walk independently without walking aids (e.g. cane).
-Aged between 18 and 75 years old.

Exclusion criteria

-Conditions in which physical activity is contra-indicated
-Other neurological or musculoskeletal disorder or injuries affecting balance or gait abilities.
-Current orthopaedic problems; hip or knee replacement, or limb amputation.
-Impaired vision that is not corrected by glasses or lenses.
-Current use of psychotropic medication affecting responsiveness, balance or posture.
-Behavioural or cognitive problems interfering with compliance to the study protocol.
-Unable to use the intervention system independently.
-Unable to give personal informed consent

Study design

Design

Study type: Observational non invasive

Masking:	Open (masking not used)
Control:	Uncontrolled
Primary purpose:	Prevention

Recruitment

NL

Recruitment status:	Pending
Start date (anticipated):	27-11-2023
Enrollment:	10
Type:	Anticipated

Medical products/devices used

Registration:	No

Ethics review

Approved WMO

Date:	22-01-2024
Application type:	First submission
Review commission:	CMO regio Arnhem-Nijmegen (Nijmegen)

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
CCMO	NL85113.091.23