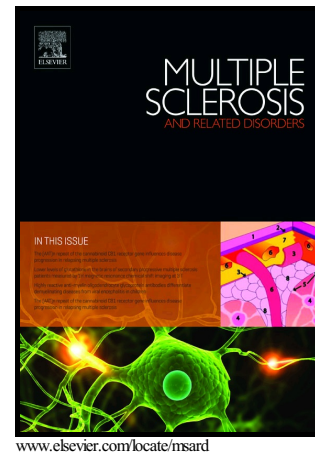


Author's Accepted Manuscript

Serious Games for Arm Rehabilitation of Persons with Multiple Sclerosis. A randomized controlled pilot study

Johanna Jonsdottir, Rita Bertoni, Michael Lawo, Angelo Montesano, Thomas Bowman, Silvia Gabrielli



PII: S2211-0348(17)30267-5
DOI: <https://doi.org/10.1016/j.msard.2017.10.010>
Reference: MSARD682

To appear in: *Multiple Sclerosis and Related Disorders*

Received date: 28 August 2017
Revised date: 9 October 2017
Accepted date: 15 October 2017

Cite this article as: Johanna Jonsdottir, Rita Bertoni, Michael Lawo, Angelo Montesano, Thomas Bowman and Silvia Gabrielli, Serious Games for Arm Rehabilitation of Persons with Multiple Sclerosis. A randomized controlled pilot study, *Multiple Sclerosis and Related Disorders*, <https://doi.org/10.1016/j.msard.2017.10.010>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Serious Games for Arm Rehabilitation of Persons with Multiple Sclerosis. A randomized controlled pilot study[☆]

Johanna Jonsdottir, DSc¹, Rita Bertoni, MSc¹, Michael Lawo, Eng, PhD², Angelo Montesano MD¹, Thomas Bowman, PT¹, Silvia Gabrielli, PhD³.

¹IRCCS Don Gnocchi Foundation Onlus, Milan, Italy

²Universität Bremen-TZI – Center for Computing and Communication Technologies; Am Fallturm 1 – 28359 Bremen, GERMANY

³Fondazione Bruno Kessler, Via Sommarive 18, Trento, ITALY

*Correspondence: Johanna Jonsdottir; Servizio riabilitazione neurologica adulti (Int. 282), IRCCS Fondazione Don Carlo Gnocchi Onlus. Via Capecelatro 66 – 20148 Milan, ITALY. Tel: 00390240308282; Fax: 00390240308498. jjonsdottir@dongnocchi.it

Abstract

Objectives

The feasibility and preliminary evidence for efficacy of a serious games platform compared to exergame using the Wii for arm rehabilitation in persons with multiple sclerosis (MS) was investigated.

Methods

A pilot single-blind randomized (2:1) controlled in clinic trial was carried out. Sixteen persons with MS participated (age years 56.8 (SD 12.3), MS-onset years 19.4 (SD 12.3), EDSS 6.5). Ten participants used a serious games platform (Rehab@Home) while 6 participants played with the commercial Wii platform, for four weeks (40 minutes, 12 sessions/4 weeks). Feasibility and user experience measures were collected.

Primary outcomes were the 9 Hole Peg Test (9HPT) and the Box and Block test (BBT). Secondary outcomes were the EQ-5D visual analogue scale (EQ-VAS) and the SF-12. Nonparametric analysis was used to verify changes from pre to post rehabilitation within group and treatment effect was verified with Mann-Whitney U test. P value was set at 0.10 and clinical improvement was set at 20% improvement from baseline.

[☆] Retrospectively registered: ClinicalTrials.gov Identifier: NCT02764372

Download English Version:

<https://daneshyari.com/en/article/8647598>

Download Persian Version:

<https://daneshyari.com/article/8647598>

[Daneshyari.com](https://daneshyari.com)