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Conference Abstract

Pedometer Use as Motivation for Physical Activity in Cardiac Tele-Rehabilitation

Charlotte Brun Thorup, MScN, PhDstudent, Department of Cardiothoracic Surgery, Aalborg University Hospital, Denmark

Mette Grønkjær, PhD, Post Doc, Clinical Nursing Research Unit, Aalborg University Hospital, Aalborg, Denmark

Helle Spindler, PhD, Department of Psychology and Behavioural Sciences, Aarhus University, Denmark

Jan Jesper Andreasen, MD, PhD, Professor, Department of Cardiothoracic Surgery, Aalborg University Hospital and Department of Clinical Medicine, Aalborg University, Aalborg, Denmark

John Hansen, PhD, associated professor, Laboratory for Cardio technology, Medical Informatics Group, Department of Health Science and Technology, Faculty of Medicine, Aalborg University, Aalborg, Denmark

Birthe Irene Dinesen, PhD, associated professor, Head of Laboratory of Telehealth and Telerehabilitation, Center for Sensory-Motor Interaction (SMI), Department of Health Science and Technology, Faculty of Medicine, Aalborg University, Aalborg, Denmark

Gitte Nielsen, MD, PhD, Department of Cardiology, Vendsyssel Hospital, Hjoerring, Denmark

Erik Elgaard Sørensen, PhD, associated professor, Head of Clinical Nursing Research Unit, Aalborg University Hospital and Department of Clinical Medicine, Aalborg University, Aalborg, Denmark

Correspondence to: **Charlotte Brun Thorup**, E-mail: cbt@rn.dk

Abstract

Background: Cardiac Rehabilitation decreases morbidity and mortality. Particularly exercise based Cardiac Rehabilitation is known to reduce risk factors and provide positive behavioural outcomes [1-3]. Walking is a simple, convenient and inexpensive physical activity, suitable for people with cardiac disease. Walking is generally seen as an enjoyable activity that plays an important role in the resumption of work and daily life. Activity monitors, such as pedometers, are designed to count steps and measure walking activity. Using pedometers by setting activity goals may motivate people to increase daily physical activity and provide an indication of physical activity and adherence to activity programs. This study is part of the Cardiac Tele-Rehabilitation research trial; Teledi@log [4]. Teledi@log is a randomised controlled trial ($n= 151$) in which an intervention group of cardiac patients ($n=72$) are provided with Tele-Rehabilitation Technologies such as a digital pedometer and a tablet. The tablets contain a tailored electronic Personal Health Record for communication between the patients and health professionals.

Aim: To explore how patients and healthcare professionals experience the use of a digital pedometer as part of a cardiac Tele-Rehabilitation program.

Methods: An ethnographic design was used consisting of participant observations ($n= 25$ hours), interviews ($n=23$) and documents. The participants comprised 12 patients from the Teledi@log trial, and 11 health professionals; six physiotherapists and five registered nurses. Focus for the patient observations and interviews were handling and wearing of the pedometers and experiences of motivation for physical activity supported by the pedometer. The interviews of health professionals focused on their experiences in using a pedometer as a motivation tool for activity in their cooperation with patients. Written interaction between patients and health professionals from the Personal Health Record was analysed as ethnographic documents. Data were analysed using hermeneutical interpretation of meaning and qualitative content analysis. The theory of Self-Determination [5-6] was used to qualify interpretation and discussion of motivation.

Results and discussion: Three themes were found: *Consciously active*, *Tailored activity*, and *Independency*. As a basis for these three themes, a common theme; *visible steps* were revealed. Visible steps and clear goal for steps made the cardiac patients consciously active during Cardiac Tele-Rehabilitation. Pedometers became useful tools to monitor walking and to support tailoring of walking activity. This led to an independency of standardised rehabilitation programs. Motivation derived from a pedometer seem to support patient autonomy and competence, leading to more sustained health change behaviour in physical activity due to self-determined activity.

Conclusion: Pedometers as a part of Cardiac Tele-Rehabilitation, support motivation for physical activity. The pedometer made steps visible, leading to a conscious, tailored activity supporting patient autonomy and independency. It seems that patients' activity became self determined when using pedometers during Cardiac Tele-Rehabilitation.

Keywords

pedometer; physical activity; telemedicine; Cardiac Tele-Rehabilitation

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