

CONFERENCE ABSTRACT

Telemedicine, as a way to qualify the orthopaedic pathway – a Participatory Design study

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AIM: This study was done as the first phase of a Ph.D.-project where the overall aim is to investigate whether the fast-track treatment of patients with osteoporotic hip fracture can be improved by a telemedicine/tele-health solution, which promotes patients' self-care and empowerment.

CONTEXT: Hip fracture is the most common cause of hospitalization in an orthopaedic ward. The demographic changes with an increasing number of older people and lifestyle factors such as poor diet, smoking, alcohol and lack of exercise, have a negative impact on bone health. Worldwide, the osteoporotic fracture is costly (Schiller et al., 2015). The incremental societal burden is an important health problem - both for the patient in the form of functional decline and pain, for the families and for the society in a health economic perspective (Hansen et al., 2013).

Denmark is in the midst of a restructuring of health care. Fast-track treatment has increasingly become an essential tool for quality development and efficient use of resources. Fast-track programmes, also referred to as fast-track surgery, fast-track regimen or fast-track

rehabilitation, is an interdisciplinary, evidence-based multimodal concept aimed at improving peri-operative treatment (Walter et al., 2006, Husted, 2012). The short stay in hospitals will put more pressure on other health practitioners, municipalities, practitioners, rehabilitation teams, etc. Similarly, it is likely to put pressure on the patients and their network - especially the relatives.

Telemedicine has proven to be an effective tool for supporting communication and cooperation between individuals and health professionals. However, is not widely used in orthopaedic surgery (Clemensen et al., 2007).

METHOD: The study uses Participatory Design(PD) as the overall research design. Participatory design (hereinafter PD) has its roots in action research and is a way to describe users' knowledge so that it can be used to design new tools and workflows that empower the users (Spinuzzi, C. 2005). PD has over the last 10 years been adopted in health research and has developed technologies that

have changed the way health services are offered (Clemensen et al., 2005, Danbjorg et al., 2014). PD is conducted in three phases and this paper reports from the initial phase where focus is on identifying needs and generating ideas to address these needs.

FINDINGS AND DISCUSSION: It is evident that recovering from a hip fracture is a complex and subjective experience.

This study shows that individuals want to be in charge of their own life and they want to have autonomy. Acquiring a hip fracture and recovering from this is a violent break – not only in a physiological manner but also in the individuals' everyday life. Acquiring a hip fracture is also a forceful reminder of the frailty of life: this stressful situation complicates the ability to understand information and knowledge given during the fast-track treatment. Thereby, the conventional way of communicating health knowledge in fast-track treatment in order to empower the individuals is challenged.

A new way of promoting and enabling patient-empowerment is required if we want to support autonomy and self-care and individuals' zest for life.

This study illustrates the gaps in the patient pathway and suggests ways to fill these gaps.

REFERENCES

- CLEMENSEN, J., LARSEN, S. B. & EJSKJAER, N. 2005. Telemedical treatment at home of diabetic foot ulcers. *J Telemed Telecare*, 11 Suppl 2, S14-6.
- CLEMENSEN, J., LARSEN, S. B., KYNG, M. & KIRKEVOLD, M. 2007. Participatory design in health sciences: Using cooperative experimental methods in developing health services and computer technology. *Qual Health Res*, 17, 122-30.
- DANBJORG, D. B., WAGNER, L. & CLEMENSEN, J. 2014. Do families after early postnatal discharge need new ways to communicate with the hospital? A feasibility study. *Midwifery*, 30, 725-32.
- HANSEN, L., MATHIESEN, A. S., VESTERGAARD, P., EHLERS, L. H. & PETERSEN, K. D. 2013. A health economic analysis of osteoporotic fractures: who carries the burden? *Arch Osteoporos*, 8, 126.
- HUSTED, H. 2012. Fast-track hip and knee arthroplasty: clinical and organizational aspects. *Acta Orthop Suppl*, 83, 1-39.
- SCHILLER, C., FRANKE, T., BELLE, J., SIMS-GOULD, J., SALE, J. & ASHE, M. C. 2015. Words of wisdom – patient perspectives to guide recovery for older adults after hip fracture: a qualitative study. *Patient preference and adherence*, 9, 57-64.
- SPINUZZI, C. 2005. The Methodology of Participatory Design. *Technical Communication*, Volume 52, pp.163-174(12).
- WALTER, C. J., SMITH, A. & GUILLOU, P. 2006. Perceptions of the Application of Fast-Track Surgical Principles by General Surgeons. *Annals of The Royal College of Surgeons of England*, 88, 191-195.

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