AALBORG UNIVERSITY
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Internship Report

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Synopsis:

A stoma nurse has an important role in educating a patient to adjust to the new lifestyle after a stome surgery by teaching the patient self-management skills, also called stoma self-care. Stoma self-care is acknowledged as a crucial factor in determining a patient's quality of life after a surgery. The Urostomy Education Scale (UES) is a standardized educational intervention that aims to facilitate the nurses in teaching patients stoma self-care. It is intended to improve quality of stoma care and reduce random clinical practice. Despite of the many advantages of the UES, the current implementation in practice does not support nurses in teaching stoma self-care to patients using the UES. Challenges include missing overview of patient's progression, portability and availability of the patient's data. In this project, we designed and implemented an application to tablet devices that based on the UES facilitates the nurse in teaching the patients self-management skills. Through an iterative design and prototyping process, we found that mobile technology opens up for new perspectives to improve quality of care for stoma patients.

CHAPTER 1

Preface

The following internship report was developed during Autumn 2015 on the ninth semester of Medialogy at Aalborg University. The main theme for the project was *Media Innovation* with main focus on understanding and analysing elements in human centred interaction, using relevant methods to design solutions and implementing an interactive system based on a design solution.

Reading Guide

In the report, all the source references are gathered in the *Bibliography* chapter, listed using the Harvard system of referencing. In the body text, a source is cited as [Surname, Year of publication]. The full details of the given source can be found in the reference chapter with the following information: *Author, title and publisher*. Web pages are referenced with: *Author, title and data*.

Figures and tables are numbered in accordance with chapter number. For instance, the first figure in Chapter 4 has the number 4.1., the second figure has the number 4.2., etc. Each figure and table is referred to in the body text and given an explanatory text in addition to the numbering. Abbreviations are introduced in their extended form the first time they appear. Enclosed with this report is a CD containing the full report, process analysis, appendices, internship diary and other extra materials.

Thanks

Thanks are given to stoma nurse researchers Bente T. Jensen, Susanne A. Kristensen for making it possible for us to work on this project. Also a special thanks to project managers Klaus V. Kristensen and Lina Gotfredsen for giving me the opportunity to be a part of APPlab and providing supervision and assistance in this project and many other projects in APPlab. Special thanks are given to current and previous interns and students at APPlab for their collaboration, assistance and feedback.

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A stoma nurse has an important role, in educating a patient to adjust to a new lifestyle after a stome surgery. It is the stoma nurse at the hospital, who teaches the patient stoma-management skills. Stoma self-care is acknowledged as a crucial factor in determining a patient's quality of life [Piwonka & Merino 1999].

In this project we focused on designing and implementing a tool using mobile technology to facilitate the nurses in teaching patients stoma self-care, more specifically changing their stoma appliance. The application was based on the paper-version of the Urostomy Education Scale (UES) and had the primary objectives of scoring the patient according to the UES standards and giving the nurses an overview of the patient's current progression. Through an iterative prototyping process and testing, we found that the application had potential in terms of supporting nurses in teaching patients self-management.

In this project, it was acknowledged that more field studies and testing would benefit the application. Design and prototyping is still on-going and a high-fidelity test is expected to take place in Spring 2016 to further improve the application.

6.1 Future Perspectives

While the UES is an intervention that primarily focuses on the post-operative phase, it is important to emphasize that introducing the patient for education and counseling about e.g. stoma self-care already in the pre-operative phase is recommended.

This project dealt with design and implementation of a tool to facilitate nurses in educating patients to change their stoma appliance. Stoma self-care also involves other topics, such as identifying warning signs and managing such signs. In the process of teaching patients stoma self-care, much of the responsibility in assessing the patient's individual needs and motivating the patient is still left to the nurse.

Another perspective on this matter, could be empowering the patients (already in the pre-operative phase) to self-manage their stoma appliance and other stoma-related issues. This perspective could be considered to further improve the quality of life of stoma patients.

An application for stoma patients should take into account that motivation is an important prerequisite for learning and the application should support patient's individual needs. Access to relevant information should be prioritized, but focus should also be on preparing the patient to change behavior and adjust his/her lifestyle. This perspective requires identifying users needs in the context through field studies, workshops, interviews and similar user-centered design methods.

Further consideration on including the community nurses, physicians, patients and other important stakeholders (e.g. relatives) in the use of the current application should also be considered. In its current version, the application assumes that the patient is able to learn self-management in seven days without considering a possible re-admission and continuation of scoring after discharge. Perspectives on delivery of data between sectors, privacy/security and integration with the electronic health record should all be of major concern in the upcoming iterations. As mentioned in Chapter **??**, continuity in the care is an important parameter that should not be underestimated, when a patient is discharged from the hospital.

In terms of this project, more focus should be on designing the application to support nurses and influence their health choices for improved care based on existing knowledge about stoma patients. The application should provide guidelines and recommendations to the nurse based on existing patient data in the system, which requires more research on the topic.

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Bibliography

M. Piwonka & J. Merino (1999). 'A multidimensional modeling of predictors influencing the adjustment to a colostomy'. Journal of {WOCN} **2**6(6):298 – 305.