Listening to the patients
Jønsson, Katrine; Melholt, Camilla; Hansen, John; Leth, Søren; Spindler, Helle; Hollingdal, Malene; Refsgaard, Jens; Dinesen, Birthe Irene

Publication date:
2017

Document Version
Publisher's PDF, also known as Version of record

Link to publication from Aalborg University

Citation for published version (APA):

General rights
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal?

Take down policy
If you believe that this document breaches copyright please contact us at vbn@aub.aau.dk providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from vbn.aau.dk on: august 22, 2018
BACKGROUND

Cardiac diseases is the leading cause of deaths worldwide [1]. Cardiac rehabilitation requires patients to make both short- and long-term lifestyle changes. [2]. One solution for giving patients a better opportunity to change behavior may be personalized rehabilitation programs that use interactive telerehabilitation or e-Health web portals that can facilitate patient education. Several studies indicate that e-Health systems to be successfully implemented, the end-users’ needs and concerns need to be taken into consideration. [3,4,5]. In our view, the chances of operational success are greater by employing a patient-centered and participatory design (PD) in the design and development process. [3,4,5]

AIM

The aim of this study was to evaluate the design and usability of a cardiac telerehabilitation web portal called the ‘HeartPortal’

METHODS

Phase I: Development of ideas

Aim: Needs assessment and idea generation
Method: 8 workshops with heart failure patients, relatives, health care professionals, health technology companies, and researchers
Time: November 2015 to June 2016

Phase II: Evaluation of design and structure

Aim: To evaluate the structure and user-friendliness of the ‘HeartPortal’
Method: Questionnaire survey and tasks assignments on: Use of technology; Experience of user-friendliness; Structure of the HeartPortal
Time: December 2016

Phase III: Testing usability

Aim: To test the usability of the interactive information site and the health monitoring and activity tracking module of the HeartPortal
Method: Questionnaires comparable to phase II with additional questions regarding data presentation and interpretation of graphical illustrations
Time: February 2017

User Evaluation

The user evaluations were done trough questions with heart failure patients and healthcare professionals.

<table>
<thead>
<tr>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>25/40</td>
<td>60/40</td>
<td>25/0</td>
<td>0/0</td>
<td>0/0</td>
</tr>
<tr>
<td>25/60</td>
<td>75/40</td>
<td>0/0</td>
<td>0/0</td>
<td>0/0</td>
</tr>
<tr>
<td>40/60</td>
<td>60/20</td>
<td>0/0</td>
<td>0/0</td>
<td>0/0</td>
</tr>
<tr>
<td>20/60</td>
<td>80/40</td>
<td>0/0</td>
<td>0/0</td>
<td>0/0</td>
</tr>
<tr>
<td>60/60</td>
<td>20/20</td>
<td>20/20</td>
<td>0/0</td>
<td>0/0</td>
</tr>
<tr>
<td>80/60</td>
<td>20/20</td>
<td>20/20</td>
<td>0/0</td>
<td>0/0</td>
</tr>
</tbody>
</table>

It is easy to navigate on the HeartPortal
The information is understandable
The information is relevant for the disease
I feel secure in using the information
I understand the graphs
The graphs are clear and have an appropriate size
Patients being updated on activity helps to improve their health

Answers from the Usability Evaluation. The numbers are percentage of answers in presented as (% Healthcare professionals) / (% Patients)

A total of 60% of patients reported that it was ‘very easy’ to navigate on the HeartPortal, 80% ‘strongly agreed’ that the information was understandable, and 60% ‘strongly agreed’ that the web portal had a logical structure. The results from the health care professionals were almost identical: 80% of the health care professionals reported that the portal was ‘very easy’ to navigate on the web portal, 60% found the information understandable, and 80% reported that the HeartPortal had a logical structure.

REFERENCES


CONCLUSION

Based upon a PD process, an interactive HeartPortal for use in a telerehabilitation program for HF patients has been designed and developed.

Evaluation of the portal by patients and HCP shows the design and structure of the HeartPortal to be logical and easy to navigate.

The study shows the absolute importance of PD in developing web-based technologies for patient users.

ACKNOWLEDGEMENT

We wish to thank the HF patients, their relatives, and healthcare professionals for participating in this study. We also wish to thank the healthcare professionals at the healthcare centers in Skive, Viborg and Randers, and the Cardiology Departments at the Regional Hospitals of Viborg and Skive for their cooperation. Thank you to Aage and Johanne Louise Hansen’s Foundation for making this study possible.

Table 1: Participants of the usability study.

<table>
<thead>
<tr>
<th>Group</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinic</td>
<td>20%</td>
</tr>
<tr>
<td>General Practitioner</td>
<td>20%</td>
</tr>
<tr>
<td>HeartPortal</td>
<td>20%</td>
</tr>
</tbody>
</table>

All participants felt comfortable using the HeartPortal
All agreed that the portal was easy to use, understandable, relevant for the disease, and comprehensive

The majority of the participants felt that being updated about their activities through the tracking devices could help improve their health condition.

Our findings show that HF patients, their relatives, and HCP had an overall positive experience of the web portal and that end-users’ needs and ideas have been integrated into the portal.