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Askari, M.

Citation for published version (APA):
Askari, M. (2014). Improving quality of fall prevention and management in elderly patients using information technology: The impact of computerized decision support

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Fall-related Information seeking behavior of seniors on the web

Marjan Askari¹, Saied Eslami¹, Stephanie Medlock¹, Sophia E. de Rooij², Ameen Abu-Hanna¹

¹Department of Medical Informatics, Academic Medical Center, Amsterdam, The Netherlands
²Department of Internal Medicine, Section of Geriatric Medicine, Academic Medical Center, Amsterdam, The Netherlands

Studies in health informatics, 2014;205:647-651
Abstract

Falls form a major health problem for older persons, and increasingly strain the healthcare system. The Internet is a potentially useful platform for empowering seniors, but their information-seeking behavior about falls and their information needs are not well understood. The aim of this study was therefore to investigate the information-seeking behavior about falls among elderly Internet users. A web-based survey was distributed among elderly people. The survey included questions on demographics, falls and information-seeking behavior. Fallers and non-fallers, seniors with and without experience with information seeking and the willingness of elderly for undertaking self-assessment tests on the Internet versus solely receiving information about falls were compared. Ninety-seven persons completed the survey (response rate 33%), of which 31 (32%) reported they sustained a fall in the last 12 months, and 83 (86%) reported using the Internet to find health-related information. 62 (64%) of the respondents were willing to search for fall-related information on the Internet. In general, there was much stated interest in receiving information about conditions and medications that increase the risk of falls and information on safety in the house. Around half of the 62 respondents did not feel that they are well-informed about falls. Searching for fall-related information was not significantly associated with having falls in the previous 12 months (OR 2.11, CI: 0.55-8.16).

The majority expressed higher interest in receiving fall-related information than undertaking a self-assessment test. However, only a small proportion had searched for this information already. One should investigate why seniors express less interest in participating in online assessment tests, as seniors are health information-seekers and could be at a considerable risk of falling.

7.1 Introduction

Around one-third of all community-dwelling persons aged 65 years or older experience a fall each year [1]. Falls and fear of falling have serious consequences in terms of injuries leading to emergency department visits or hospital admissions, disabilities, and long-standing pain and are associated with decreased activity, reduced social contact and/or social isolation. Therefore, this multi-causal phenomenon puts substantial pressure on the health care system. There is a need to develop feasible and easy-to-apply strategies for fall prevention, fall education and fall management for older persons living in the community. This is especially true because clinical trials, interventions and educational
programs for fall prevention and management have shown varied degrees of success and costs. In the age of rapidly-evolving communication and information technology, the Internet provides a potentially cost-effective instrument for educating and empowering patients, allowing patients to be provided with tailored information and preventive measures [2, 3].

However, it is suggested that health communicators need to understand the nuances in health information seeking among older Internet users, since seniors are becoming more active health information seekers on the Internet and are relying more on online sources of health information [4]. Also, investigating differences in needs between different groups of seniors can help tailor the information based on their needs. The health communicator can then develop materials appropriate for their target group for better empowerment. There is however a lack of understanding of the information needs and seeking behavior about falls of elderly adults on the Internet. Therefore, our objectives in this study were to investigate how elderly Internet users use the Internet to get fall-related information, and to learn what kind of fall-related information is of interest to them. In addition, we wanted to know whether they are willing and prepared to undertake self-assessment tests on fall prevention on the Internet, rather than solely receiving information about falls.

7.2 Methods

7.2.1 Study setting and design

A cross-sectional descriptive survey was distributed in the last quarter of 2011 for collecting data. A web link to this survey was sent per electronic mail among 298 members of an association of Internet-using elders (> 60 years old).

The survey was organized in 4 main sections. The first and second sections elicited respectively information regarding participants’ general demographic information (gender, age, education, marital status etc.) and fall-related information (number of falls during the past 12 months, self-perception of own health, having fall anxiety, reasons of having fear of falling etc.). The third section contained questions about health related Internet use including: searching information about general health or falls on Internet. If the participants indicated that they do not have interest in using the Internet to find fall-related information then the questionnaire terminated. The final part was designed for those who were interested in using the Internet to find or receive fall-related information. Questions were related to: whether seniors feel informed about falls; whether they already searched for fall-related information; where do they have specifically more interest regarding usability (having a forum, being able to contact a caregiver via
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... and whether they have interests in doing self-assessment tests on Internet.

7.2.2 Quantitative Data analysis

Aside from the analysis in the whole respondent group, we contrasted our findings between the subgroups fallers versus non-fallers, and those with versus those without experience in seeking fall-related information on the Internet. We excluded missing values in the responses and recalculated the total number of respondents for each question separately. Except for the demographic data, the questions were either dichotomous or designed on a 4- and 5-point Likert scale. Continuous normally distributed variables were summarized using the mean and the standard deviation, and binary variables by percentages. Subgroups were compared using appropriate statistical tests. Differences between subgroups (all information seekers vs. non-seekers) were quantified by odds ratios (OR) along with their 95% confidence intervals (CI).

7.3 Results

A total of 97 out of 298 participants completed our questionnaire (33% response rate) of which 45% were men. The average age was 72 (SD 7.7) years. Among the participants, 93% (87/94) were native Dutch (this denominator means that this item had three missing values). Of the participants, 32% (31/97) had one or more falls in the previous 12 months, which is concordant with the prevalence of falls among elderly people in the Netherlands. The most important reasons for being afraid of falling were their own previous fall (50%, 14/28) or a fall sustained by a friend or family member (21%, 6/28). Eighty-three respondents (86%) reported using the Internet for seeking health-related information, of which 55% (53/97) reported regular ("quite often" or "a lot") use of the Internet for this purpose. Sixty-four percent (62/97) were interested in using the Internet to find fall-related information. From the 83 respondents only 13% indicated actually searching for fall-related information; 31% (26/83) were not inclined to search for/receive fall-related information on the Internet; 41% (34/83) were willing and indicated that they found falls important.

Among the 62 respondents who were willing to use the Internet to find fall-related information, respectively, 66% (39/59), 69% (41/59), and 57% (33/58) felt that they are a little or not informed about causes of falls, prevention of falls and consequences of falls. There were 68% (41/60) of respondents and 58% (35/60) expressing interest in having a website that uses respectively images or films for enhancing illustration of textual information. Only 23% (14/60) expressed inter-
est in using forums (a possibility on a website to discuss fall-related questions or topics with caregivers or professionals electronically) and 15% (9/58) expressed interest in having a “listen button” on the website to allow for automatic reading of the textual information on the website. Figure 7.1 summarizes the expressed interest of elderly patients in receiving information about different subjects related to falls in older age.

Fall-information seekers were significantly better informed about causes, consequences and prevention of falls than non-seekers (mean Likert scale respectively (from 1 to 5): 3.8 vs. 3.1 p = 0.01; 4.1 vs. 3.2 p = 0.0015; 3.6 vs. 3.0 p = 0.06). There was a significant difference between fall-information seekers and non-seekers about wanting to receive detailed information about conditions or diseases that increase the risk of falls (respectively, mean Likert scale (1 to 4) (SD): 3.60 (0.48) vs. 3.03 (0.89); p = 0.04).

There was no significant difference found between fallers and non-fallers in being well-informed about the causes, prevention, and consequences of falls: (mean from a Likert scale score respectively (from 1 to 5): 3.3 for fallers vs. 3.2 for non-fallers, p = 0.74; 3.1 vs. 3.1, p = 0.53; and 3.2 vs. 3.3, p = 0.74). There were no differences between considering fall information as important between the two groups (total score between 3 and 15: mean 7.9 vs. 7.9, p = 0.8). In general, 95% (19/20) and 89% (55/62) of fallers and non-fallers expressed interest in receiving fall information, and 70% (14/20) and 64% (39/61) in undertaking a self-assessment test. There were significantly higher odds of having more interest in undertaking self-assessment tests for fallers vs. non-fallers (OR = 4.12; CI: 1.39-12.3; p = 0.01). There was, however, not significantly higher odds of having more interest in undertaking a self-assessment test for fall-information seekers vs. non-seekers (OR = 1.5; CI: 0.4-4.7; p = 0.7)). Having had a fall was not associated with seeking fall-related information (OR = 2.12; CI: 0.55-8.16; p = 0.27).

7.4 Discussion

Most elderly Internet users (85%) reported using the Internet to find health-related information. However, one in three was not willing to use the Internet to find or receive fall-related information. Moreover, from the 85% of respondents who did search for health related information, 31% did not want to search for fall-related information on the Internet. Among those willing to use Internet for searching for fall-related information (64%), more than half indicated that they feel they are not or only a little informed about falls. In addition, only about 1 in 5 had sought fall-related information. Fall-information seekers felt more informed about falls in older ages than non-seekers. Fallers did not consider receiving information
Figure 7.1: Chart showing percentage of elderly patients showing interest in receiving fall-related information in the total sample. In the first bar “Conditions” refer to both medical/geriatric diseases and conditions, whereas in the 7th bar “Fall-related institute” refer to institutes such as physiotherapy-or fall outpatient clinics.
about falls more important than non-fallers. In general there was more interest in receiving information than undertaking an assessment test for fall prevention. To our knowledge our work is the first study on fall-related information seeking behavior of elderly Internet users. Although the overall response rate was relatively high, many seniors did not respond to our questionnaire possibly because they may consider fall prevention as less relevant and/or had difficulty completing the survey [5, 6]. It is thus plausible that the respondents were more interested in fall management than non-responders; therefore this survey may overestimate the interest of the elderly in receiving fall-related information on the Internet. We only studied the elderly Internet users. Therefore, these results may not be generalizable to the whole elderly population. Future studies should be performed to study the general senior population, investigating the information needs and the consequences of offering this information to elderly patients.

About 1 in 3 seniors stated that they were not inclined to search information about falls on the Internet. This was even the case in seniors who were already health information seekers on the web. This could be due to regarding fall prevention in older age as irrelevant, being unaware of the serious consequences of falls in older people [7], or there might be denial of the considerable fall risk [8]. In addition, elderly people may not want to be seen as aged and frail [3, 9], and therefore may not be willing to participate in fall-related programs. It is also possible that the Internet itself is not seen as the most appropriate medium for receiving fall-related information. Understanding the reasons why some seniors do not state that they are interested in receiving fall-related information through the Internet is therefore important and merits further study.

Our results showed that the majority of seniors expressed more interest in receiving fall-related information on the Internet than undertaking an assessment test regarding fall prevention. Previous studies also showed that a large percentage of elderly declined to take part in interventions regarding fall prevention [10]. There are suggestions that the intention to undertake an intervention (e.g., exercise) was closely related to coping style in the elderly. Given the considerable risk of falling for elders one should investigate why online assessment tests do not receive more interest from senior Internet users. Also, understanding why some seniors show no interest in seeking fall-related information on the Internet could be used to design programs for offering preventive measures using the correct medium, thereby addressing seniors’ needs. We showed that there was interest in receiving information on the Internet about conditions that increase the risk of falling; safety at home; possible exercises; and medications that increase risks of falling. Therefore, websites aiming at offering fall-related information to elders should consider these items for inclusion. In addition, the usage of image and video information was considered more important than modalities and functionalities, such as a listening buttons, and it should be taken into account.
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Acknowledgments
The authors wish to thank Piet Verdonk and the members of the Protestants Christelijke Ouderen Bond for their participation in this survey. This study was funded by the Netherlands Organization for Health Research and Development (ZonMw), through the PROFIT project (#300020010).

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