Finnish 'Silver Surfers' and Online Health Information

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Abstract. The Internet is thought to be beneficial for the elderly regarding health communication. Many of those over 65 years of age do not, however, use the Internet. This paper presents results from a survey and a follow-up interview concerning health information seeking of Finns aged 65-79 years. Questionnaires were distributed to 1000 persons living in the Turku region in January 2011, and 281 questionnaires were returned. Interviews were conducted with 49 of those who had returned the questionnaire, and 19 interviews are included in this study. The results show that the Internet is fairly little used when elderly seek health-related information, and that many older, less educated and unhealthier persons do not use it at all. Those who use it the most mainly search Google, and obtain hits that can vary in quality. Health and information providers should be cautious to rely on the ability of seniors to take care of themselves and their health through information on the Internet, as there are still so many who do not use the web at all.

Keywords: elderly, health information, internet, seniors, web resources.

1 Introduction

Seniors constitute the group of people that is thought to benefit the most from the Internet as a medium for health communication [1]. Internet resources are convenient because they, for example, make it possible to see a physician from your own home [2]. The Internet also provides quick access to information for health-related purposes [3]. In addition to quick access, also access to multiple resources, and the possibility to become more knowledgeable before seeing a doctor can be beneficial to seniors [4]. Different aspects of older adults' use of the Internet have been studied. These include the seniors' ability to use the computer and the information; what types of information seniors look for on the Internet; how health information acquired from the Internet is used for decision making, and; why the Internet is used as a source for health information by seniors [1]. Which kinds of web resources so-called 'silver surfers' [5] prefer for health information and the way they find them has so far, however, only been scarcely studied. This paper examines the frequency of use of Internet resources for health-related information among Finns aged 65-79 years, and gives an insight into how they search for health information on the web and their preference for resources.

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2 Background

The Internet is an important health information source for elderly in some populations. Sixty-eight percent of Americans aged 65 years or older had gone online to look for health information in 2006 [6]. In Canada, 58% of the seniors had sought health information online [7]. A more recent survey of Americans showed that the Internet use is steadily increasing not the least among those aged 70 years or older, and seeking of health information was the third most popular online activity among Americans aged 73 years or older [8]. A Finnish survey of people aged 18-65 years did, however, show that those who were older and those with lower levels of education used Internet resources the least for health information [9]. Fifty-three percent of Finns aged 65-74 had used the Internet during the past three months in 2011, a share that is considerably smaller than that of younger age groups [10]. Also British seniors used the Internet less frequently in older age [11]. Taha and colleagues found that seniors who had poorer health more often belonged to a group of non-Internet users, as well [12]. Elderly people may face several barriers to Internet use, such as perceived lack of using skills [13], [14]. A British study revealed that seniors might also lack interest to use Internet, lack a computer or Internet access, and feel too old to use the Internet [15]. Psychological barriers such as perceptions of usefulness and ease of use can, furthermore, influence Internet use among seniors [16]. For those with lower levels of education, the provided information itself might constitute a barrier; medical information on the Internet has been found to require reading abilities at a fairly high level [17], [18].

Finnish seniors who did use the Internet, mostly used e-mail programs or search engines, whereas web sites related to health or medicine were only marginally used. The users were also showing fairly little trust in the information found on the Internet [19]. The most common Internet activity of Australians aged 55 years or older was using a search engine, as well [20]. Sixty-six percent of Americans looking for health information online had started their search at a search engine, whereas 27% began their information seeking at a health web site [6]. Merja Drake interviewed Finnish patients and found that they mostly used Google to find health-related information on the Internet [21: 105].

3 Current Study

This paper presents results from both a survey and a follow-up thematic interview conducted in the winter and spring of 2011. The survey was conducted in January 2011 on a random sample of 1,000 65-79 year old Finns living in the Turku region in Southwestern Finland, drawn from the Finnish Population Register. The distributed self-administered questionnaire was accompanied by a note asking those who were interested to take part in a follow-up interview to give their contact details, that is, e-mail address or phone number. A total of 281 completed questionnaires were returned by mail (response rate 28%), and 99 of these respondents had also attached their contact details. The respondents were contacted in the order they had returned their

questionnaire, and a total of 49 personal interviews were finally conducted. The interviews were recorded and transcribed. In the questionnaire the respondents were given a list of 13 named health information sources, and were asked to rate them on a 5-point scale (1 not at all - 5 very much) regarding their importance and trustworthiness. An additional option of "do not know" was also available. The sources included media sources, interpersonal sources and electronic resources. In this paper, the focus is on Internet resources. The same list of sources was, furthermore, used in the personal interview, where interviewees were asked more thoroughly about their actual use of different types of information sources. Of the 49 persons attending the interview, 19 (39%) had ticked that they use Internet resources fairly or very much (4 or 5). These 19 persons were during the interview asked to specify which kinds of web resources they mostly use, and how they find them. Their responses constitute the material for the qualitative part of this study. Descriptive statistics were used for the analysis of the quantitative data. Using PASW Statistics 18 for Windows, use of and trust in Internet resources were cross-tabulated with the following background variables: gender, age group, education level, and self-rated current health. Chi-square analyses were conducted and P values at .05 or lower were considered statistically significant.

4 Results

4.1 Demographics of the Respondents

The questionnaires were returned by 122 (43%) men and 159 (57%) women. The mean age was 70 years. Age was categorized in three groups: 65 to 69 years (49%, n=137), 70 to 74 years (32%, n=90), and 75 to 79 years (19%, n=54). The education levels varied, as 34% (n=95) had a primary education, 44% (n=124) had a secondary education, and 22% (n=60) were highly educated (university level or equivalent). Sixteen percent of respondents (n=45) rated their current health as poor, 36% (n=98) as mediocre, and 48% (n=132) as good or excellent. The 19 interviewees who are included in this study consisted of 9 (47%) men and 10 (53%) women. Of these, 58% (n=11) were aged 65-69 years, whereas 37% (n=7) were 70-74 years old, and 5% (n=1) belonged to the age group 75-79 years. Eleven percent (n=2) had a basic level of education, 56% (n=10) had a secondary education, and 33% (n=6) had a high level of education. One interviewee had withheld his education level.

4.2 Health Information Sources and the Role of the Internet

Figure 1 shows the frequency of use of different types of information sources for health-related information. As can be seen, these sources are very medical, as information attached to medical packages, including prescriptions and patient information leaflets, is the most used source. Forty-five percent (n=124) of the 281 respondents used them very much, and an additional 29% (n=81) used these sources fairly much. Pharmacy staff followed, with 26% (n=72) using them very much and 34% (n=94) fairly much. Health professionals were used very much by 25% (n=69)

and fairly much by 35% (n=98) of the respondents. One-fourth (26%, n=70) of the respondents used Internet resources very or fairly much for health information, but of these only 12% (n=32) actually used them very much. Furthermore, as many as 40% (n=105) did not use Internet resources at all, and an additional 13% (n=35) chose to tick the option "do not know".

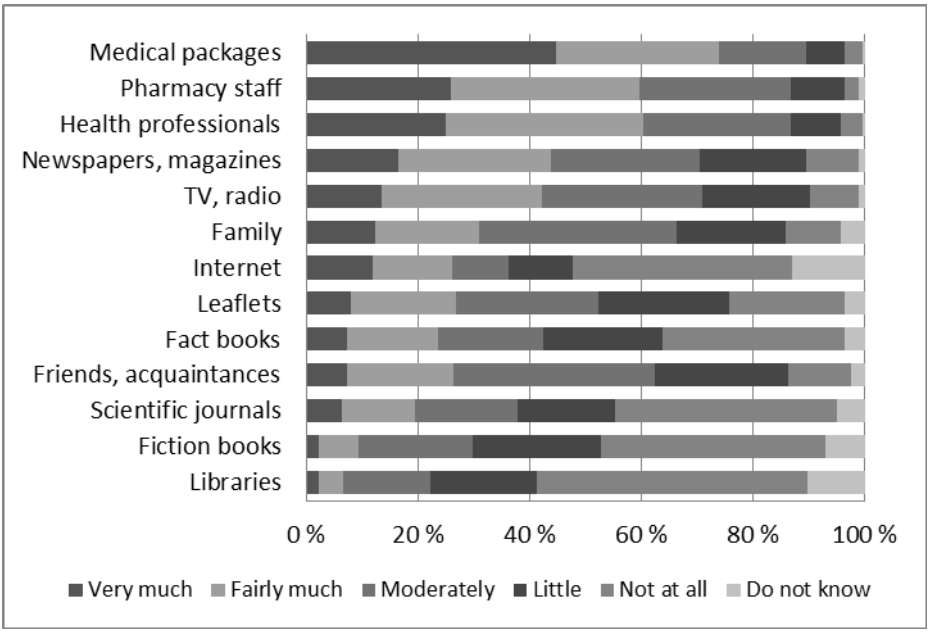

Fig. 1. Frequencies of use of different types of information sources

Regarding trust in information sources, the three most used information sources, that is, information attached to medical packages, pharmacy staff, and health professionals were the most trusted sources, as well. Pharmacy staff were considered very trustworthy by 42% (n=117) and fairly trustworthy by 44% (n=122). Medical packages are very trustworthy according to 40% (n=110) of the respondents, and ticked fairly trustworthy by 43% (n=120). Thirty-eight percent of the respondents (n=104) had ticked that health professionals are very trustworthy, and 49% (n=136) that they are fairly trustworthy. Only 4% (n=11) considered Internet resources to be very trustworthy, and 17% (n=44) thought that they are fairly trustworthy. Only 12% (n=32) did, however, not trust them at all. Instead more than one-third (35%, n=93) of the respondents had chosen to answer "do not know" on this question.

When use of and trust in Internet resources were cross-tabulated with gender, age group, education level, and self-rated current health, some, yet small, differences were found concerning gender. As shown in Table 1, male respondents were somewhat more inclined to use Internet resources. Age group and education level where, however, significantly related to use. The younger respondents and those with higher levels of education were using Internet resources more. As many as 60% of the respondents in the oldest age group, and one-half of those with only a basic level of

education, did not use this information source at all. Furthermore, those who rated their health as better used this resource more often, whereas more than one-half of those who rated their current health as poor did not use Internet resources at all.

Table 1. Use of Internet cross-tabulated with background variables

Back-ground variables	*Chi-square (P value)*	*Use very much* % (n)	*Use fairly much* % (n)	*Use mode-rately* % (n)	*Use a little* % (n)	*Do not use at all* % (n)	*Do not know* % (n)	*Total* % (n)
Gender	**5.876 (.318)**							
Female		11.0 (17)	13.0 (20)	12.3 (19)	9.7 (15)	42.9 (66)	11.0 (17)	100.0 (154)
Male		13.2 (15)	15.8 (18)	7.0 (8)	14.0 (16)	34.2 (39)	15.8 (18)	100.0 (114)
Age group	**31.567 (.000)**							
65-69 y		15.8 (21)	18.8 (25)	14.3 (19)	12.0 (16)	30.1 (40)	9.0 (12)	100.0 (133)
70-74 y		9.2 (8)	12.6 (11)	9.2 (8)	13.8 (12)	41.4 (36)	13.8 (12)	100.0 (87)
75-79 y		6.3 (3)	4.2 (2)	0.0 (0)	6.3 (3)	60.4 (29)	22.9 (11)	100.0 (48)
Education level	**40.671 (.000)**							
Primary		7.9 (7)	4.5 (4)	4.5 (4)	10.1 (9)	49.4 (44)	23.6 (21)	100.0 (89)
Secondary		9.4 (11)	17.1 (20)	12.0 (14)	14.5 (17)	39.3 (46)	7.7 (9)	100.0 (117)
High		21.7 (13)	23.3 (14)	15.0 (9)	8.3 (5)	25.0 (15)	6.7 (4)	100.0 (60)
Current health	**17.589 (.062)**							
Poor		4.8 (2)	7.1 (3)	4.8 (2)	11.9 (5)	54.8 (23)	16.7 (7)	100.0 (42)
Mediocre		7.6 (7)	13.0 (12)	9.8 (9)	13.0 (12)	40.2 (37)	16.3 (15)	100.0 (92)
Good/ excellent		17.8 (23)	17.8 (23)	11.6 (15)	10.1 (13)	32.6 (42)	10.1 (13)	100.0 (129)

Table 2 shows the trust in Internet resources cross-tabulated with gender, age group, education level and current self-rated health. Women seem to trust Internet resources slightly more than men do, although the differences are small. Age group and education level, as well as self-rated health, are all significantly related to trust; the younger, more educated and healthier respondents trusted these resources more. More than 60% of those aged 75-79 years, almost 50% of those with a primary education, and more than 40% of those with poor health hade ticked that they do not know.

Table 2. Trust in Internet cross-tabulated with background variables

Back-ground variables	*Chi-square (P value)*	*Trust very much* % (n)	*Trust fairly much* % (n)	*Trust mode-rately* % (n)	*Trust a little* % (n)	*Do not trust at all* % (n)	*Do not know* % (n)	*Total* % (n)
Gender	**4.895 (.429)**							
Female		5.4 (8)	18.2 (27)	20.9 (31)	10.8 (16)	8.8 (13)	35.8 (53)	100.0 (148)
Male		2.6 (3)	14.7 (17)	21.6 (25)	10.3 (12)	16.4 (19)	34.5 (40)	100.0 (116)
Age group	**36.614 (.000)**							
65-69 y		5.2 (7)	23.1 (31)	26.1 (35)	10.4 (14)	6.0 (8)	29.1 (39)	100.0 (134)
70-74 y		4.7 (4)	9.3 (8)	22.1 (19)	12.8 (11)	19.8 (17)	31.4 (27)	100.0 (86)
75-79 y		0.0 (0)	11.4 (5)	4.5 (2)	6.8 (3)	15.9 (7)	61.4 (27)	100.0 (44)
Education level	**32.883 (.000)**							
Primary		2.4 (2)	12.9 (11)	11.8 (10)	7.1 (6)	16.5 (14)	49.4 (42)	100.0 (85)
Secondary		5.1 (6)	16.9 (20)	18.6 (22)	15.3 (18)	11.9 (14)	32.2 (38)	100.0 (118)
High		3.4 (2)	22.0 (13)	40.7 (24)	6.8 (4)	6.8 (4)	20.3 (12)	100.0 (59)
Current health	**21.145 (.020)**							
Poor		2.4 (1)	7.1 (3)	9.5 (4)	19.0 (8)	19.0 (8)	42.9 (18)	100.0 (42)
Mediocre		2.2 (2)	13.0 (12)	27.2 (25)	7.6 (7)	10.9 (10)	39.1 (36)	100.0 (92)
Good/ excellent		6.4 (8)	23.2 (29)	20.8 (26)	9.6 (12)	11.2 (14)	28.8 (36)	100.0 (125)

4.3 Searching the Internet for Health Information

Most of the 19 interviewees who had ticked that they use the Internet very or fairly much chose this source in order to find information in case of illness, symptoms or otherwise raised information needs. The following quotes give examples of these situations:

> *"Sometimes if [someone] somewhere in the close environment or you yourself have a special symptom or thing, then I might take a look at some recommendation in* Käypä hoito*"* (woman born 1939)

"What happens to occur sometimes, if you get an address from a newspaper or something" (man born 1939)

"And then of course from the computer, and the web, especially If I have that kind of ailments that I think I might find something [about them]" (woman born 1941)

"I look [online] every time when there is an interesting thing that I want to know about, from there you get it" (woman born 1936)

"I have now as old noticed that on the web you can, like, find everything, so every time I or my wife or the daughters have something, I like to go there because I have enough time to" (man born 1937)

Google was the dominating search engine; as many as 14 of the 19 interviewees (74%) answered that they use Google, and an additional one only mentioned seeking information by using search words. One interviewee who explained that he uses Google because it is the fastest way to find information said that:

"Google is a good start; from there you can then go on an adventure" (man born 1944)

A couple of interviewees specified that the searches were done by typing symptoms or illnesses:

"Through Google then, [I] type that illness, for example" (woman born 1941)

"You find quite easily when you feed something like for example an illness or a symptom or something, you don't really need to feed anything else, and then it searches from different places from where you can, you get links to different sites" (man born 1937)

Most of the interviewees could not specify which kinds of web sites they actually use after having done the searches. Some did, however, mention what kinds of sites they avoid:

"You try to find something where they describe the symptoms of certain illnesses, from that kind of sites you try to find information, so that, not from those discussion forums no, they are not of any use, I think that it is better to get information that is current at that specific moment" (man born 1945)

"For example Wikipedia, there, like, it is information gathered by people and not by experts" (man born 1945)

Those who did mention specific sites mostly preferred health portals. One interviewee mentioned an unnamed site where you can get a diagnosis through a dialog with the doctor, but some interviewees could also name the sites they visit. Named health

portals were mentioned six times; *Käypä hoito*, the Finnish national current care guidelines developed by the Finnish Medical Society *Duodecim* in cooperation with other medical societies was mentioned three times, whereas the web site of *Duodecim* itself containing e.g. *Terveyskirjasto* (Health library) was mentioned twice, and the commercial health portal *Tohtori.fi* was mentioned by one person:

> *"Well if you talk about health, this* Tohtori.fi *is that kind of information source for us, there we check medications and get to know all diseases and what there is, and then also the stories at* Käypä hoito*, there you can also go to do research"* (man born 1945)

Two interviewees had found the abovementioned health portals through searches on Google, and one mentioned that she has the *Duodecim* web site in her list of favourites and goes there directly when needed. Those who did use Google often expressed concerns about the amount of found web sites and the trustworthiness of these:

> *"There are millions and millions of hits"* (man born 1939)

> *"Well I do look there, like there are huge amounts of information and I look every time when there is an interesting thing that I want to know about, from there you get it, but you have to filter it then"* (woman born 1936)

> *"If you have to find out something you will find it there, and then you have to try to decide that whose text is this now, that you don't necessary get trustworthy [information] from there"* (man born 1944)

> *"And I don't, like, use Google that much because you can also get all kinds of information from there"* (woman born 1939)

> *"I think that something like the* Käypä hoito *recommendation, that is then quite specific and has gone through many filters, that kind, I hardly research anything else there"* (woman born 1939)

When the interviewees were inquired about which sources they prefer to turn to, in case they need health-related information, health professionals were most often mentioned - by 11 interviewees - whereas 9 interviewees mentioned that they turn to the Internet, either as the only first-hand source, or combined with health professionals or other sources such as medical encyclopedias:

> *"Well it is probably first a physician, but when you come from the appointment and he has perhaps not really, [or] she has not taken time to explain, then you go online and read"* (woman born 1941)

> *"Yes, at first I check the web and if that doesn't help I will make an appointment"* (man born 1939)

5 Discussion

This paper has presented an overview of Finnish seniors' use of Internet resources for health-related information. The studied population, that is Finns aged 65-79 years, did not differ much from those in previous studies, because web resources were fairly little used as a health information source, compared with some other sources. Several studies have shown that health professionals, such as physicians and pharmacists, are the sources seniors prefer to turn to in case they need health-related information [22-27]. Most studies do not include information attached to medical packages as a named source, but those who do, show that this source is very important to the elderly [25-27].

American seniors looking for online health information mostly sought information about medications, treatments or procedures, or specific illnesses, as well as information on nutrition and exercise [6], [28]. In the current study illnesses seemed to be the most common sought-for topic, searches were conducted in case of occurred symptoms, but also to find out more about medications.

Age and education level were significantly related to use of the Internet in the studied population, whereas current health was also related to some extent. Also this finding is in line with the results of previous research showing that older age, less education, and poorer health was connected with non-use of the Internet [9], [11], [12]. The oldest respondents, as well as those with a primary education and poor health had, furthermore, to a large extent answered "do not know" on the question about trust in Internet resources, probably because they could not decide on this as they did not use this source at all. The pattern was repeated in the interviews; the interviewees who were included in the study because they used Internet resources very or fairly much were mainly younger and had a medium or high level of education, as well. Like in previous studies [6], [21], use of search engines - not the least Google - was the most common way to find health information; only a few of the interviewees could name certain health sites that they turn to directly. Harris, Wathen, and Fear [29] thought that limited use of health portals could be due to ignorance of their existence. In fact, a couple of the interviewees of this study had found the named health portals through searches on Google. One respondent mentioned that he used Google because it was the fastest way to find needed information. The possibility to obtain information quickly has been a major reason for Internet use in American studies, as well [3], [4].

Searching the Internet brought large amounts of information, but could also cause trouble, due to the huge number of hits and worries about the trustworthiness of the sites found. Also previous research shows that seniors worry about the trustworthiness of Internet resources [25]. Americans expressed concerns about potential violations of privacy or confidentiality and also about the accuracy of the information as barriers to use of online health information [3].

6 Conclusions

The results show a divide between seniors, regarding their use of Internet resources. The older respondents, those with lower levels of education, and those who rated their

health as poor were less likely to use the Internet to find health information. This is possibly a matter of concern, as older age is bound to increase health problems, and both the older persons and those who already experience health problems could benefit more from the possibilities Internet offers. One challenge is to not only make seniors in the more vulnerable groups aware of these possibilities, but also to get them more interested to make use of these. Health and information providers should, furthermore, be cautious to rely on the ability of seniors to take care of themselves and their health through information on the Internet, as there are still so many who do not use the web at all. Only a few of the interviewees could name certain health portals that they turn to directly. This could also be worrisome, as although the respondents seemed to be cautious with trusting all the found information, the large number of web sites found through the search engine increases the possibility of ending up at sites containing less trustworthy information. The number of interviewees was limited, and further qualitative studies should be conducted in order to increase the knowledge about how 'silver surfers' actually search and use the online health information they come across. The amount of information available on the Internet is evermore growing, as is the number of older adults in the world. The challenge is still to get these two to meet.

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