ACCESSIBILITY AND USE OF HEALTH SERVICES AMONG OLDER ESTONIAN POPULATION

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SUMMARY

The aim of the study was to analyse the self-reported use of health services among the older Estonian population, to explain the predictors of health care utilisation and to study access to health services in comparison with other population groups. In November 2005, a randomly sampled Estonian residents aged 15–64 (n=1264) and 65–74 (n=182) was personally interviewed using structured questionnaires. Of the respondents aged 65–74, 81% reported having visited a general practitioner (GP) or specialist during the previous 12 months. Compared to younger people they used health services more often, except dental care. No significant differences were found in comparison with the waiting times to see the general practitioner or specialist between the younger and older population groups. Compared to the rest of the population people aged 65–74 were more satisfied with their access to health services. The probability of visiting a GP was higher for those respondents who had health problems and lived in rural areas. The presence of chronic illness also had an effect on the use of specialist services and ambulance services. Higher education, living in an urban area and having a family member with a chronic illness predicted the use of ambulance services as well. Younger age, higher income and higher education were predictors of the use of dental services. The availability of and access to health services for older people in Estonia are comparable with other groups of the population.

Key words: elderly, health services, utilisation, access

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INTRODUCTION

A common trend for most European countries is that their populations are aging. In Estonia the proportion of people aged 65+ has increased from 11.6% in 1990 to 16.3% in 2005 (1). Elderly people are considered one particular group of the population which needs and uses many health services of a various nature and the use of services has been found to increase with age (2–4). Self-rated health status and presence of illness are common factors which predict more frequent use of health services (5, 6). The results of previous studies conducted in Estonia demonstrated a negative correlation between age and self-reported health status, high prevalence of various chronic diseases as well as higher use of primary health care (PHC) services among the older population (7–9). Also, people above 65 years have higher health care expenditures due to paying for medicines out of their own pockets (10).

In Estonia, satisfaction with health services and doctors has been rather high; access to health services has been rather good as well (7, 9, 11–13). Still, people with chronic diseases who were found to be more frequent users of health services were found to be less satisfied with access to health services (13). Like people with chronic diseases older people could be considered as a special group due to their increased need for health services. However, according to a recent report, the health services provided may not be responsive to the older population's needs because of geographical, financial or information barriers, especially in rural areas (14). It has been found that elderly patients may fail to gain access to medication due to having to pay for part of it as well (15).

The aim of this study was to analyse the self-reported use of health services among the older Estonian population and to explain the predictors of health care utilisation. Additionally, access to health services was studied in comparison with other population groups.

MATERIAL AND METHODS

Design

The data were obtained from the survey conducted in November 2005. A random sample of Estonian residents aged 15–74 were personally interviewed using structured questionnaires (n=1446). The sample of the study was formed by self-assessment: a proportional model of the total population aged 15–74 was used, where all the respondents represented equally sized groups. Two-stage stratification was arranged in order to form the sample. First, the population was divided into six strata on the basis of their place of residences, while the size of the sample in each stratum was based on a proportional division of the population. After that, a two-stage selection was made in each stratum. The primary sampling units were settlements (cities, towns, urban settlements and villages). The sampling points (100 in total) were chosen at random according to the size of the settlement (the number of

residents who qualified for the survey's age group) on proportional probability bases.

In each primary sampling unit, the secondary sampling units – individuals – were chosen. In urban settlements, the choice was made by using randomly selected addresses from the national population register. In rural settlements, the systematic sampling of individuals was based on the population register of the local municipality. To select the individuals in selected households the so-called young-men rule was used. In each of the houses or apartments of the sample, the youngest man among the family members aged 15–74 who were home was interviewed or the youngest woman if no male family members were living there or were not at home. This method of the selection of individuals will give an additional chance to get into the sample for those categories of respondents who commonly stay at home more rarely than others, and thereby form the structure by gender and age of the empirical sample more similarly to the real structure of the population. A socio-demographic structure of the sample (age, gender and place of residence), which was formed during the interviewing process, was compared to the total population and assessed if necessary. The structure of the respondents by gender, age and place of residence in comparison with the structure of the total population of Estonia aged 15–74 years is presented in Table 1.

Face-to-face interviews were conducted by 89 trained interviewers of the Factum research company. To obtain a representative sample of the required size, 3,536 contacts were made with respondents. The final number of interviews was 1,446. In 923 cases nobody was at home on either visit, in 288 cases the person reached at home did not meet the criteria of the study (he/she was younger or older), and 879 persons refused to participate in the survey.

Questionnaire

The current data were collected as a part of a larger study titled "Population's view on health and health services in Estonia." The data set used in this study included demographic data (gender, age, nationality, education, income, place of residence), self-assessment of health status, self-reported use of health services, access to health services and satisfaction with access to health services. The use of health services was assessed by asking the question "Have you used the following health services during the previous 12 months: general practitioner (GP), outpatient specialist, dentist, inpatient services, and/or ambulance services and if so, how many times?" Access to health services was evaluated by the self-reported length of the waiting times to see the GP and specialist. Satisfaction with access to health services was measured using a five-point scale: 1 – very satisfied; 2 – fairly satisfied; 3 – fairly dissatisfied; 4 – very dissatisfied; 5 – do not know. To analyse the use of health services among the older population, the respondents were divided into two groups: respondents aged 15–64 (n=1,264) and 65–74 (n=182). Insurance status was not included in the further analysis as all people aged 65+ in Estonia are covered by national health insurance.

Statistical Analysis

The data were analysed by using SPSS 15.0 statistical software for Windows. The χ^2 test was used to compare the background characteristics and opinions of health services between the younger and older population groups as well as the older urban and rural populations. To compare the means the ANOVA test was used. The predictors of use of health services as well as satisfaction with access to health services were calculated by using binary logistic regression. The dependent variables were taken as use of certain health services (0 – no, 1 – yes) and satisfaction with access to health

Table 1. *Structure of respondents by gender, age and place of residence in comparison with the structure of the total population of Estonia (aged 15–74 years)*

	Sample		Number of total population aged 15–74 years (January 1st, 2005)[1]	
	n	%	No.	%
Gender				
Male	674	47	489,603	47
Female	772	53	559,883	53
Age				
15–24	282	20	209,916	20
25–34	256	18	187,652	18
35–49	393	27	279,990	27
50–64	333	23	239,113	23
65–74	182	12	132,815	12
Place of residence				
Urban area	1016	70	735,795	70
Rural area	430	30	313,691	30
Total	1446	100	1,049,486	100

[1]Source: Statistical Office of Estonia

Table 2. *Distribution of the respondents by socio-demographic variables, self-reported health status and use of health services*

	Respondents aged 15–64		Respondents aged 65–74	
	n	%	n	%
Gender**				
Female	658	52	114	63
Male	605	48	68	37
Native language				
Estonian	872	69	131	72
Other	1261	31	182	28
Education**				
Elementary	239	19	71	39
Secondary	777	61	74	41
Higher	248	20	37	20
Income per family member per month** (n=1242[1])				
<EEK 1000 (<EUR 63.9)	65	6	2	1
EEK 1001–2000 (EUR 64–127.8)	200	19	24	14
EEK 2001–3000 (EUR 127.9–191.7)	286	27	102	60
EEK 3001–4000 (EUR 191.8–255.7)	205	19	30	18
>EEK 4000 (>EUR 255.7)	316	29	12	7
Place of residence				
Urban area (incl. capital)	898	71	117	64
Rural area	366	29	65	36
Self-reported health status**				
Very good	142	11	4	2
Rather good	490	39	25	14
So-so	500	40	102	56
Rather bad	111	9	35	19
Very bad	18	1	16	9
Chronic illness**	314	25	104	57
Use of health services during the previous 12 months				
General practitioner **	752	60	137	75
Specialist **	495	39	93	51
Dentist**	547	43	53	29
Admission to hospital	138	11	28	15
Ambulance services*	113	9	30	16

*p<0.05, **p<0.01
[1]Out of the respondents, 204 did not report their income per family member

services (0 – very satisfied or fairly satisfied, 1 – fairly dissatisfied or very dissatisfied). The respondents who answered "do not know" about satisfaction with access to health services were left out when performing the regression analysis. Socio-demographic variables (age, gender, education, native language, place of residence, income, having a family member with a chronic illness), health conditions (self-rated health status, presence of chronic illness) and simplicity of access to a GP were chosen as independent variables. The models include the categories of statistically significant exposure variable with odds ratios, except age, which has been calculated with exposure as a continuous variable and the odds ratio with one-year increases in age. All statistically non-significant variables were excluded from the final models.

RESULTS

Socio-demographic Characteristics and Use of Health Services

Compared to the younger population the respondents aged 65–74 rated their health status lower ($p<0.0001$), and reported having a chronic illness more often ($p<0.0001$). Older respondents were

Table 3. *Waiting times to see a general practitioner by age groups and place of residence (in %)*

Waiting time to see a general practitioner	Respondents aged 15–64		Respondents aged 65–74	
	Urban	Rural	Urban	Rural
On the same day when requested	47	63	44	69
1–2 days	35	25	35	25
3–4 days	13	9	11	3
5–7 days	4	2	5	3
More than one week	1	1	5	0

more likely women, with lower levels of education and income ($p<0.0001$). Of the older respondents, 81% reported having visited a GP or specialist during the previous 12 months. Compared to younger people they used health services more often, except dental care. However, for people aged 65–74 the reported average number of visits to a GP (3.8) and specialist (3.3) during the last 12 months was not significantly higher than for younger respondents (3.5 and 3.2, respectively). Use of health services was not related to the respondent's native language in either the younger or older respondents' groups. Table 2 presents the distribution of younger and older respondents by their socio-demographic variables, self-reported health and use of health services.

Access to Health Services

When comparing the self-reported waiting times to see a GP or specialist, we did not find a statistically significant difference in the waiting time for younger or older people. A small majority of all respondents (52%) who visited a GP were admitted on the same day when requested and 32% within 1–2 days. As presented in Table 3, the waiting time to see a GP was shorter for people from rural areas, among both younger and older respondents ($p<0.0001$ and $p<0.05$, respectively). The waiting time to see specialists was up to two weeks for 65% of the younger and 69% of older respondents; the difference between the evaluations of the rural and urban populations was not statistically significant.

Of the older respondents, 12% reported that they had some difficulties in going to a GP's office. Access to a GP was more often complicated for respondents from rural areas (22%) compared to 6% of the older urban population ($p<0.003$). The reasons for complicated access were mostly related to transportation.

Predictors of Health Care Utilisation

Table 4 presents the predictors of use of various health services among the respondents aged 65–74. To predict the use of outpatient and inpatient health services as well as ambulance services, the influence of the following factors was analysed: socio-demographic variables (age, gender, native language, education, income and place of residence), self-reported health status and presence of chronic illness, having a family member with a chronic illness, and the simplicity of access to a GP. As demonstrated by the regression analysis the probability of visiting a GP was higher for those respondents who had health problems and lived in rural areas. The presence of chronic illness also had an effect on the use of specialist and ambulance services. Respondents who had difficulties going to their GP were likelier to use hospital care and ambulance services. Higher education, living in an urban area and having a family member with a chronic illness predicted the use of ambulance services as well. Younger age, higher income and education were predictors of the use of dental services.

Table 4. *Predictors of the utilisation of health services among the population aged 65–74*

	Odds Ratio (OR)	95.0% C.I. for OR
General practitioner		
Presence of a chronic illness		
No	1.0	
Yes	4.8	1.9–12.3
Self-reported health status		
Very good or good	1.0	
Average	7.5	1.3–43.5
Poor or very poor	2.3	0.6–9.3
Place of residence		
Urban	1.0	
Rural	1.6	1.1–2.4
Income per family member per month		
<EEK 2000 (<EUR 127.8)	1.0	
EEK 2001–3000 (EUR 127.9–191.7)	7.2	1.1–45.5
>EEK 3000 (>EUR 191.7)	3.1	0.7–13.5

Table 4. *cont.*

Specialist		
Presence of a chronic illness		
No	1.0	
Yes	5.8	2.5–13.9
Dentist		
Age (yearly increase)	0.9	0.8–1.0
Income per family member per month		
<EEK 2000 (<EUR 127.8)	1.0	
EEK 2001–3000 (EUR 127.9–191.7)	4.5	1.0–20.8
>EEK 3000 (>EUR 191.7)	1.1	0.4–2.8
Education		
Elementary	1.0	
Secondary	3.9	1.2–12.5
Higher	0.9	0.3–2.7
Hospital care		
Access to general practitioner		
Easy access	1.0	
Complicated access	2.2	1.1–4.3
Ambulance services		
Presence of a chronic illness		
No	1.0	
Yes	5.3	1.2–22.7
Family member with chronic illness		
No	1.0	
Yes	3.6	1.1–11.8
Place of residence		
Urban	1.0	
Rural	0.6	0.4–0.9
Education		
Elementary	1.0	
Secondary	9.6	1.5–63.3
Higher	4.1	0.7–26.4
Access to general practitioner		
Easy access	1.0	
Complicated access	2.5	1.2–5.2

Satisfaction with Access to Health Services

Compared to the rest of the population people aged 65–74 were more satisfied with access to health services (54% and 48%, respectively, $p<0.05$). Satisfaction with access to health services among respondents 65–74 was related to the waiting time to see a GP or specialist. Of the respondents admitted by a GP on the same day when requested, 58% were satisfied with access to health services. Of the respondents whose waiting time to see a GP was longer, 37% were satisfied with access to health services ($p<0.05$). Also, the respondents who were admitted by a specialist within two weeks were more satisfied than respondents with a longer waiting time. The proportions of the satisfied respondents were 59% and 30%, respectively ($p<0.02$). We also compared the satisfaction rates between the respondent groups according their native language, but no statistically significant difference was found. When investigating the impact of the background variables of the respondents we found the following factors for predicting satisfaction with access to health services: self-reported health status, gender and place of residence (Table 5). The respondents who were more satisfied with access to health services were also likely to have a better health status, were women and lived in rural areas.

Table 5. *Predictors of satisfaction with access to health services among the population aged 65–74*

	Odds Ratio (OR)	95.0% C.I. for OR
Place of residence		
Urban	1.0	
Rural	1.4	1.0–1.9
Gender		
Male	1.0	
Female	2.3	1.1–5.1
Self-reported health status		
Very good or good	1.0	
Average	0.4	0.1–1.0
Poor or very poor	0.7	0.3–1.4

DISCUSSION

Older people are considered a particular group of the population which needs and uses more health services than the rest of the population due to their health status. Sometimes they are considered as a more disadvantaged group in receiving appropriate heath care (2–4, 14). As expected, older people rated their health status lower than younger, and the proportion of people with chronic conditions was higher among the older group of respondents. The results of the present study showed that Estonian people aged 65–74 more often used outpatient health services than younger people. The use of outpatient health services among the older Estonian population is comparable for example with findings from Norway and Finland; however, Estonian people visited specialists more often (5). Compared to other parts of the population older respondents were more likely to agree that access to health services was good. Also compared to people with chronic conditions, elderly people are in a more advantageous position (13). Comparison of waiting times to see GPs and specialists confirmed this evaluation. The fact that all people aged 65 and more are covered by national health insurance is also probably one predictor of good access to health services while universal coverage of the population by national health insurance has been found to reduce most disparities in access to care (16). Still, the findings of this study referred to the geographical barriers of access to health services, first of all for the older rural population. Limited access due to geographical barriers seems to be the common problem for the rural population in other countries as well, e.g. as reported previously in a study from Northern Ireland (14). In contrast, based on the result of this study, there were no time barriers for access to health services. Although rural people may experience difficulties when going to a GP's office, most of them were admitted on the same day when requested. The short waiting time to see a GP also seems to be a reason why rural people were more satisfied with access to health services.

The main determinants of the use of physician services and ambulance services were related to health status–having a chronic illness was the most dominant factor associated with the use of those services. Also, other researchers have found similar results (2, 5, 6). The use of dental services was mostly predicted by predisposing factors (age, income and education), and these associations have been reported in earlier studies as well (6). The less frequent use of dental services among the older population can probably be explained by those factors, too. The associations between the use of hospital care as well as ambulance services and complicated access to GP services may refer to unmet health needs on the PHC level. As argued by McCusker and Verdon, intervention in outpatient, primary care or home care settings, such as geriatric assessment and management and case management, reduced the utilisation of the emergency departments of the hospitals (17). When people have difficulties going to their GPs, they may prefer to call an ambulance because of its convenience. In Estonia ambulance services have always been easily accessible. As reported previously, people prefer to call an ambulance if they face health problems in the evening, at night, or the weekend. Calling an ambulance was considered as the fastest and surest way of getting medical aid and was preferred more often by older people and people with a poorer health status (7). Still, having a chronic illness was found to be a predictor of the use of ambulance services and similar results have been found by other researchers as well (17, 18).

One could expect that because of geographical barriers older rural people use ambulance services more often, as well. But in our study we found that ambulance services were more likely to be used by older respondents who lived in urban areas. This fact might be associated with access to a GP's services, too. The proportion of older respondents admitted by a GP on the day they requested was significantly lower in urban areas than in rural areas. If people could not see their GPs as soon as they would like they may use alternative services, which are easily accessible. For example, factors that promote access to primary medical care like physician availability and geographical access to services have been found to reduce utilisation of emergency health services (19, 20). However, it has also been argued that better access to primary care may not reduce utilisation of emergency health services (21). On the other hand, the preferences of use of GP or ambulance services might be related to how close the contact between the patient and the GP is and how satisfied the patients are with their GPs. As found in previous studies rural people preferred the GP for first contact with the health system more often than the urban population (7, 11). Compared to urban people they also preferred calling a GP in case health problems have occurred in the evening, at night or the weekend more often (7).

In general, the availability of and access to health services for older people in Estonia is comparable with other groups of the population. Still, there are some geographical barriers for the rural population, but at the same time there are no time barriers. As the proportion of the older population is gradually increasing the health services provided should be responsive to their health needs. Strengthening the PHC system while focusing on the health care needs of different groups of the population, including the elderly population, seems to be the effective way to respond to people's health expectations. This study did not include the people aged 75+, which can be considered as a limitation of the study while these older people use more health services and they may have more problems with access than our study population. Therefore, the availability of health services for the elderly population should be continuously studied and considered when planning health services.

Acknowledgements

This study design and data collection were financed by the Ministry of Social Affairs of Estonia and the Estonian Health Insurance Fund.

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Received July 10, 2008
Accepted in revised form February 16, 2009