Drinking alcohol for medicinal purposes by people aged over 75: a community-based interview study

Marja Aira\textsuperscript{a,b}, Sirpa Hartikainen\textsuperscript{c,d} and Raimo Sulkava\textsuperscript{a}


\textbf{Background.} Physicians often encounter patients using alcohol as self-medication, but studies on community level are scarce. Because of alcohol–medicine interactions, it is important to know also all self-medication used.

\textbf{Objective.} To describe alcohol use as self-medication by people aged over 75 years.

\textbf{Methods.} The home-dwelling elderly ($n = 699$) among a random sample of 1000 subjects from the total population of individuals aged 75 years or more in the city of Kuopio, Finland, were interviewed about their alcohol consumption and use as self-medication and also about their lifestyle habits, medicaments and diseases. A geriatrician checked their medical records for medical conditions.

\textbf{Results.} Half of the subjects consumed alcohol, and 40\% of them used alcohol for medicinal purposes. This was equally common in females and males. The quantity used was half a unit or less in 68\% of cases. Brandy and other spirits were the most commonly used beverages, and heart and vascular disorders (38\%), sleep disorders (26\%) and mental problems (23\%) were the commonest reasons for use. The study found altogether 84 persons who responded negatively to the question about alcohol consumption but later reported using alcohol as self-medication.

\textbf{Conclusions.} Drinking alcohol for medicinal purposes is common among the aged in Finland. Some people, especially older women, may find it easier to discuss their alcohol consumption in the context of medicinal use. Physicians have to consider the possible risks of alcohol associated with concomitant medical conditions and interactions of alcohol with medicines.

\textbf{Keywords.} Alcohol drinking, community, elderly, medicines, self-medication.

\section*{Introduction}

Since antiquity, wine has been believed to stimulate the appetite, to aid digestion and to act as a general tonic. It has been prescribed for practically every complaint.\textsuperscript{1} At the beginning of the last century, there was a temperance movement and a period of prohibitionary liquor laws in some countries. Alcohol was then seen as a moral nuisance too. More recently, the harmful effects of alcohol drinking have been the main focus of scientific discussion of alcohol use.\textsuperscript{2} Many examples of epidemiological research have shown beneficial effects of moderate alcohol use as well, notably in preventing coronary heart disease,\textsuperscript{3} stroke\textsuperscript{4} and diabetes.\textsuperscript{5} Evidence was shown first for red wine, and antioxidants were thought to be the explanation for it.\textsuperscript{6} Later on, it was argued that it is alcohol itself and the pattern of use which are responsible for this beneficial effect by modifying the fat content and coagulation factors in blood.\textsuperscript{7}

Epidemiological studies have shown a decline in alcohol drinking along with age.\textsuperscript{8} However, aged people constitute a special risk group because of the physiological changes and the many chronic conditions that accompany aging, together with the prescription and non-prescription medicines used by older people.\textsuperscript{2,9–11} Therefore, it is important to take into consideration the consumption of alcohol also in this age group.

To our knowledge, there is no research on alcohol use as self-medication by the elderly to prevent or cure...
Methods and participants

This study is part of the GeMS Study (Geriatric Multidisciplinary Strategy for Good Care of the Elderly), which is a population-based study focused on lifestyle habits, functional capacity, medication and the clinical epidemiology of diseases in subjects aged 75 years or older.

A random sample of subjects (n = 1000) all aged at least 75 years was drawn from the census data of the city of Kuopio (population 82,000) in November 2003. Of this cohort, 55 died before the examination, two moved away and 162 persons refused to take part in the survey. The remaining 781 participants attended a structured clinical examination and an interview conducted by two trained nurses. We here only included the subjects living in their homes (n = 699), since people in institutions do not have free access to alcoholic beverages in Finland.

The participants were interviewed about their use of alcohol in general, defined as consumption of any alcohol in the preceding year. We modified the standard Alcohol Use Disorders Identification Test (AUDIT) questionnaire by giving points differently to the Alcohol Use Disorders Identification Test (AUDIT) questions. If the response was affirmative, we scored six points for three to four drinks and four points for five or more drinks. In the question ‘how often do you have six drinks on one occasion?’ six was changed to four. The Finnish alcohol drink unit contains about 11 g of pure ethanol.

The participants were also asked ‘do you consume alcohol for medicinal purposes?’, even if they had not reported any alcohol use in the preceding AUDIT questions. If the response was affirmative, we asked them to specify the reasons why or conditions for which they used alcohol, in what form they drank it and how much and how often.

The subjects were also asked to bring their prescription forms and drugs with them to show the medication that they were currently taking. The interviews were held in the outpatient clinic of the municipal hospital. A geriatrician examined their medical records for medical conditions.

Written informed consent for the study was obtained from the subjects. The study protocol was approved by the Research Ethics Committee of the Hospital District of Northern Savo.

Statistical analysis

We used SPSS version 14 to compute descriptive statistics. The chi-square test was used to compare frequencies and the t-test for means.

Results

Alcohol consumption in general
Altogether 255 [36.5%, 95% confidence interval (CI) 32.9–40.1%] persons reported alcohol consumption in the AUDIT questionnaire. Only one person did not answer the questions. Nine persons scored 8 points or more, 20 scored 6 points or more and 57 scored 4 points or more in the modified AUDIT. Most points were obtained for the first three questions.

When the 84 persons who denied using alcohol in the AUDIT but reported using alcohol for medicinal purposes were included in the alcohol drinking group, the total number of subject who had consumed alcohol in the preceding year was 339 (48.5%, 95% CI 44.8–52.2%). Alcohol consumption was more common in males and younger age groups and in the more highly educated group (Table 1).

Use of alcohol for medicinal purposes
Of the 680 persons who responded to the question about the medicinal use of alcohol in the preceding year, 134 (19.7%, CI 16.7–22.7%) answered affirmatively: 94 females (20.1%) and 40 males (18.9%). The medicinal consumption of alcohol was more common in older age groups (Table 1).

The types of alcoholic beverages used as self-medication were brandy (62% of subjects), other spirits (21%), wine (9%), liqueurs (7%) and beer (1%).

The most commonly mentioned conditions for which alcohol was used were cardiovascular diseases (38%) and sleep disorders (Fig. 1).

The quantity of alcohol used as self-medication was most commonly half a unit or less (91 persons, 68%). Forty (30%) subjects drank one unit, and two persons (2%) drank two units or more. The frequency of using alcohol for medicinal purposes was less than once a month in 51 (38%) persons, once a month in 28 (21%), weekly in 36 (27%) and daily in 17 (13%) persons.

Persons using alcohol as self-medication also had many chronic conditions. Almost all of them used simultaneously prescription and non-prescription drugs, among them drugs having potential interactions with alcohol [e.g. sleeping pills, antihypertensives and nitrates (Table 2)]. The medicinal use of alcohol was most widespread among persons using herbal medications.

The subgroup of persons using alcohol ‘only for medicinal purposes’
Altogether 84 persons who denied alcohol consumption in the AUDIT questions nonetheless reported

---

diseases in the community. The aim of this study was to describe alcohol consumption as self-medication by the home-dwelling elderly aged 75 and older in Finland. The questions addressed in this study were do older people consume alcohol as a medicine? If so, how much, in what form and for what reasons or conditions?
using alcohol for medicinal purposes. The definition of alcohol use in both questions was the same: any amount of alcohol in the preceding year. These persons were predominantly female (65, 77.4%). Daily use was reported by 12 (14%), weekly use by 18 (21%), monthly use by 20 (24%) and less than monthly use by 34 persons (40%) in the subgroup. Sixteen persons drank one unit, while the other 68 drank less than one unit.

Discussion

Our study found that using alcohol for medicinal purposes is not uncommon in aged persons, and it is more common in older age groups. Both genders used this self-medication equally. It is interesting that a notable number of persons denied using alcohol in the AUDIT questionnaire but reported using alcohol as self-medication. This could be because of the small quantity of alcohol used, but it is also possible that some persons find this an unstigmatizing way to mention their alcohol consumption. It has been suggested that alcohol use screening questions do not find risky alcohol drinkers among older persons. Clearly then, including questions on the medicinal use of alcohol in questionnaires aimed at older persons could be useful in revealing alcohol use which might otherwise be kept secret.

Table 1  Gender, age, education and alcohol use of study subjects

<table>
<thead>
<tr>
<th>Gender</th>
<th>Alcohol as self-medication, n (%)</th>
<th>Drinks alcohol, n (%)</th>
<th>Abstainers, n (%)</th>
<th>Total number of subjects, n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>40 (18.9)</td>
<td>138 (64.8)</td>
<td>75 (35.2)</td>
<td>213 (30.5)</td>
</tr>
<tr>
<td>Women</td>
<td>94 (19.3)</td>
<td>201 (41.3)</td>
<td>285 (58.6)</td>
<td>486 (69.5)</td>
</tr>
<tr>
<td>Total</td>
<td>134 (19.2)</td>
<td>339 (48.5)</td>
<td>360 (51.5)</td>
<td>699 (100)</td>
</tr>
</tbody>
</table>

Table 2  Consumption of alcohol by subjects with chronic conditions or using medications

<table>
<thead>
<tr>
<th>Chronic conditions</th>
<th>Alcohol for medicinal purposes, n (%)</th>
<th>Drinks alcohol, n (%)</th>
<th>Total number of subjects, N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension</td>
<td>72 (19.0)</td>
<td>182 (48.1)</td>
<td>378</td>
</tr>
<tr>
<td>Coronary disease</td>
<td>68 (21.8)</td>
<td>139 (44.6)</td>
<td>312</td>
</tr>
<tr>
<td>Diabetes</td>
<td>25 (22.0)</td>
<td>52 (45.6)</td>
<td>114</td>
</tr>
<tr>
<td>Memory impairment</td>
<td>39 (18.8)</td>
<td>77 (37.0)</td>
<td>208</td>
</tr>
<tr>
<td>Dementia (DSM-IV)</td>
<td>13 (18.8)</td>
<td>17 (24.6)</td>
<td>69</td>
</tr>
<tr>
<td>Sleeplessness</td>
<td>6 (17.1)</td>
<td>13 (37.1)</td>
<td>35</td>
</tr>
<tr>
<td>Antidepressants</td>
<td>14 (21.2)</td>
<td>22 (33.3)</td>
<td>66</td>
</tr>
<tr>
<td>Regular medication</td>
<td>130 (19.5)</td>
<td>323 (48.5)</td>
<td>666</td>
</tr>
<tr>
<td>Herbal medication</td>
<td>36 (30.0)</td>
<td>67 (55.9)</td>
<td>120</td>
</tr>
</tbody>
</table>
frequency was less than is recommended in epidemiological preventive studies, we might assume that they drank to relieve symptoms of diseases, such as sleeplessness and pain and the common cold. On the other hand, the use was most prevalent in persons using herbal medications: perhaps they saw alcohol as a ‘soft natural medicine’.

While the quantity of alcohol used for medicinal purposes was mostly small, it is not without some risks since the users had many chronic conditions and also took medicines with possible interactions with alcohol. Many older patients may be unaware of the risky consequences of using both fast acting nitrates and alcohol to alleviate chest pain, for instance. Concomitant use of these drugs can induce hypotension and lead to collapse and falling. If a person takes a tranquilizer to calm down in the morning and has a drink in the evening, the sedative effect of alcohol may be increased because of the prolonged elimination time of the drug in aged people.

The main strength of this study is the high participation rate (78%). The interviews were conducted by trained nurses, and the medical conditions and medications were also checked in the health records by a geriatrician. One of the limitations of the study is that it relies on self-reporting of alcohol use. Another possible limitation is the fact that the AUDIT was developed and tested among younger populations. However, by slightly modifying the questionnaire, we aimed to take into account the increased vulnerability to alcohol of aged people. Actually, there are no laboratory tests that measure real alcohol consumption rate, but in any case this study aimed to investigate the use of alcohol for medicinal purposes and not the excessive use of alcohol.

We have not found any other studies of alcohol use as a self-medication by aged persons in community level. A Canadian national health population survey found that 57% of respondents aged 12 or older believed that moderate alcohol consumption has health benefits. A self-administered questionnaire was distributed during hospital or pharmacy visits to subjects aged 60 and more having sleep problems in Toronto (n = 176). Alcohol was used by six persons for enhancing sleep.

Comparing the prevalence of alcohol use in elderly populations is difficult because of the variations in the lower age limits, the definitions of drinking groups and the instruments used in detection. It has been shown in other studies of aged people that alcohol use is more common in males and younger age groups, and our study confirms these findings. The alcohol consumption rates in our study were slightly smaller than in the statistics of Finnish National Public Health Institute, where 52.5% of Finnish elderly aged 75–84 years had consumed alcohol in the precedent year (39.2% of females and 65.8% of males) in 2003.

Alcohol consumption is more prevalent in southern Finland and in big cities. In Finnish drinking culture, daily drinking is rare and most alcohol is consumed in binge drinking sessions. Our study cannot be generalized to other drinking cultures.

Physicians might be unsure about what advice about alcohol consumption they should give to older persons: is a daily drink advisable for health and should non-drinkers start drinking? This question remains open, but the risks related to aging and interactions with chronic conditions and other medicines, notably in cases of polypharmacy, should be borne in mind. More research is needed on using alcohol as self-medication in different drinking cultures and alcohol–medication interactions in the elderly.

Declaration

Funding: The Social Insurance Institution of Finland and City of Kuopio.

Ethical approval: Written informed consent for the study was obtained from the subjects. The study protocol was approved by the Research Ethics Committee of the Hospital District of Northern Savo.

Conflicts of interest: None.

References

collaborative project on early detection of persons with harmful alcohol consumption—II. *Addiction* 1993; **88**: 791–804.


