Alcohol consumption among the elderly primary health care patients: The impact of alcohol on overall health

Abstract

Introduction: Alcoholism is the third most common psychiatric disorder among the elderly, yet it often goes undiagnosed in primary care setting.

Objective: To estimate the prevalence of alcohol use disorders among elderly primary care patients in Bosnia and Herzegovina and to determine the presence of different health problems related to alcohol consumption.

Method: The study was conducted in 10 family medicine practices. Family physicians randomly selected a group of 40 patients over 60 years of age registered with their practice. As a part of Comprehensive Geriatric Assessment, patients were asked to complete Alcohol Consumption Screening Questionnaire, Functional Status Questionnaire, Geriatric Depression Scale (GDS), Mini mental screening examination (MMSE), and Hamilton Anxiety Scale. Screening results were followed by additional clinical evaluation. To estimate the feasibility of Alcohol Consumption Screening Questionnaire, one family member or a caregiver of each patient was questioned about patient’s habits and health problems.

Results: Eighty-nine (22%) patients were current drinkers. Of those, 59% were harmful drinkers, 26% hazardous and 15% nonhazardous drinkers. Women accounted for 27% of current drinkers. MMSE revealed dementia symptoms in 37%, and symptoms of mild cognitive impairment (MCI) in 25% of current drinkers. Depression symptoms were found in 38% and anxiety symptoms in 6% of current drinkers. Functional status was decreased in hazardous and harmful drinkers.

Conclusion: High percentage of older adults in Bosnia and Herzegovina is regular users of alcohol. Hazardous and harmful drinking is associated with significant morbidity. These findings demonstrate the usefulness and importance of the excess alcohol use screening in all primary care settings serving adults over age 60.
Introduction

Alcoholism is the third most common psychiatric disorder among older adults. Up to 16% of men and 8% of women have alcohol use disorders. 

Also, alcoholism is in the differential diagnosis, either as a cause or an exacerbating factor, in majority of geriatric syndromes. It is estimated that 10% of demented individuals suffer from an alcohol-induced dementia which often goes unrecognized, despite being one of the most responsive to treatment.

Alcohol abuse often coexists with depression or anxiety and increases risk of osteoporosis, falls and fractures.

Despite the fact that many textbooks and research results talk about alcohol abuse among the elderly, it is still happening that elderly patients are treated symptomatically for alcohol-related conditions without recognition of the underlying problem. Why?

Partially, problem is in the fact that people have different attitudes toward alcohol consumption. There is continued debate, even among the physicians, regarding the beneficial effects of low-dose drinking. Many elderly people think that alcohol consumption improves overall health status. However, evidence of the benefits from drinking is still unclear, but according to some researchers, even low levels of consumption can cause adverse health effects because of age-related physiologic changes and the interaction between alcohol, ageing, impaired functional status and medication use. Sometimes, patients withhold information because of shame or fear of stigmatization (particularly women). This could lead to missed information about medical and psychiatric conditions, unexpected alcohol withdrawal symptoms, drug interactions, and lost opportunities for prevention what can cause serious complications.

The other reason might be a worldwide tendency for primary care physicians to neglect or to be unaware of symptoms and signs of alcohol abuse. In Bosnia and Herzegovina, development of Family Medicine Departments brought the series of teaching sections regarding alcohol abuse during undergraduate and postgraduate studies, but still, a large number of physicians have inappropriate attitudes toward the screening. Very often, physicians find that available screening procedures take too much of their time and that screening measures are not sensitive enough to detect the alcoholism among the elderly, particularly of female gender. Sometimes, physicians do not have confidence to search for alcohol consumption in their elderly patients, especially when this is considered to be culturally inappropriate.

Also, behaviours that lead to diagnosis in young people are considered to be less likely occurring in older persons and many of the classical clues are mistakenly attributed to age related changes or disease common in old age.

Current standardized screening questionnaires are gold standards for diagnosis, but most of them have been designed to detect abusive and dependent drinking. The CAGE questionnaire and the Geriatric version of the Michigan Alcoholism Screening Test (MAST) are widely used screening measures, which can identify abusive (e.g. failure to fulfill social obligations) and dependent (e.g. having withdrawal symptoms) drinking. However, these instruments do not distinguish recent from remote drinking behaviour, and among patients aged 60 years and older, the CAGE screen is insensitive with usual scoring for detecting binge drinking. Also, those two questionnaires do not provide information about the relation between alcohol use and functional status or overall health. Therefore, supplemental information about the current quantity, frequency and pattern of alcohol use should be obtained.

The Alcohol Use Disorders Identification Test (The AUDIT) is another frequently used screening questionnaire, which has been shown to detect hazardous and harmful drinking in younger people. Yet, it does not provide information on alcohol use and health or on nonhazardous drinking, what can be important for clinical understanding of potential beneficial effects of low alcohol consumption on certain diseases prevention, such as stroke, dementia or cardiovascular diseases.

The Alcohol-Related Problems Survey (The ARPS) is another recently developed tool. It is an 18-item self-administered screening measure that focuses on the relation between alcohol use and medical problems, medication use and functional status. ARPS classifies drinking as non-hazardous, hazardous or harmful, according to algorithms developed from combining patients’ responses. According to the study results, the ARPS and its short version (sharps) are quite sensitive in identifying older drinkers with a spectrum of alcohol use disorders. Sensitivity and specificity of the ARPS are 93% and 63%, what makes it more sensitive than the AUDIT and the SMAST-G in identifying older persons who may be at risk or experiencing harm as a result of their alcohol use. They also provide information on specific risks associated with alcohol use, what cannot be obtained by other screening questionnaires.

However, our experience showed that asking questions regarding alcohol consumption was culturally unacceptable in our country, what instigated us to improve screening methods and make it easier in primary care settings. According to the previous studies, we made Alcohol Consumption Screening Questionnaire which includes the questions about quantity and frequency of alcohol drinking, symptoms of alcohol abuse and alcoholism, remote drinking, attitudes toward alcohol consumption and presence of alcoholism in the family. Further one, we wanted to assess the connection between alcohol consumption and different mental health problems, elderly abuse and functional status of geriatric patients.
Method

Before the study was conducted, Alcohol Consumption Screening Questionnaire was tested with a sample of 112 older adults. Terminology understanding, ways of administration and validity were analyzed. The results showed that Alcohol Consumption Screening Questionnaire is valid alcohol consumption screening tool, understandable to all elderly people regardless of education level, and that the best way of using it comes when questionnaire is administered by physician and incorporated in Comprehensive Geriatric Assessment.

Participants

Participants were recruited from ten family medicine practices, placed in eastern parts of Bosnia and Herzegovina. Selection criteria included: unknown alcohol consumption status and unknown/undocumented mental disorders. Family physicians randomly chose a group of 40 patients, who were 60 years of age or older and who were visiting them for different reasons.

Procedure

During first study consultation, physicians explained the importance of Comprehensive Geriatric assessment and made the plan, together with the patient, how to provide it gradually during next few consultations.

On the same occasion, physicians have done complete medical assessment, medication revision and functional status assessment, using Functional Status Questionnaire.

During the second consultation, depression and dementia screening were done, using Short Geriatric Depression Scale (GDS) and Mini Mental Screening Examination (MMSE). During the third consultation, Alcohol Consumption Screening Questionnaire was administered to the patient by physician. According to the answers, participants were classified as abstinent, nonhazardous, hazardous and harmful drinkers.

Participants who have not been taking any alcohol in last five years were classified as abstinent. Definition of nonhazardous, hazardous and harmful drinking was derived by an expert panel that used standardized panel agreement methods to reach consensus on the classification scheme. Nonhazardous drinking is a type of drinking that does not result in risks of medical or psychosocial damage. Hazardous drinking is a type of drinking that indicates risks for future problems. Harmful drinking is defined by the presence of health problems that can be worsened by alcohol use and includes alcohol abuse or dependence.

Home visit was a fourth consultation. Physician or nurse was estimating social functioning, environment factors, compliance.

On the same occasion, caregiver or family member was interviewed separately. She/he was asked about the patient’s alcohol consumption habits, potential mental disorders, family history and other health problems that a patient might experience. During fifth consultation, anxiety screening was done, using Hamilton Anxiety Scale (HAS). Data collection took place from December 2010-April 2011.

Statistical Analysis

Descriptive analysis in the form of frequencies and percentages was used to view the sample and the formation of certain categories of patients. Chi-square was used to test associations between age, gender and category of drinking.

The data were analyzed using SPSS program, version 20 (Statistical Program for Social Sciences).

Results

Of the 400 patients who had a screening for alcohol consumption, 182 (45%) were male and 218 (55%) were female. 208 (52%) had primary school education, while 104 (26%) had the basic level of education. 180 (45%) patients belonged to the age group between 60-69, 169 (42%) to the age group between 70-79 and 51 (13%) to the age group above 80. Most of the patients were coming from semi rural environment (78%), (Table1).

Table 1. Distribution of geriatric patients according to gender, age, education and living environment (N=400)
Alcohol consumption screening revealed that 89 (22%) geriatric patients were current drinkers and 311 (78%) were abstinent. We found out that 29 (7.25%) current drinkers drink daily, and that 37 (9.25%) drink 2-3 times per week. 37 (9%) patients were drinking 3-4 drinks per occasion, and 16 (4%) were drinking >5 drinks per occasion, (Table 2).

**Table 2.** Alcohol consumption screening results in patients (N=400)

<table>
<thead>
<tr>
<th>Alcohol consumption</th>
<th>Frequency</th>
<th>Number of patients</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>abstinence</td>
<td>311</td>
<td>78</td>
</tr>
<tr>
<td></td>
<td>1 time a month or less</td>
<td>13</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>2-4 time a month</td>
<td>10</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>2-3 times a week</td>
<td>37</td>
<td>9.25</td>
</tr>
<tr>
<td></td>
<td>Every day</td>
<td>29</td>
<td>7.25</td>
</tr>
<tr>
<td><strong>Number of drinks</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 or less</td>
<td>336</td>
<td>84</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>11</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>3-4</td>
<td>37</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>&gt;5</td>
<td>16</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

According to the quantity and frequency of alcohol consumption, current drinkers were divided into three categories: nonhazardous, hazardous and harmful drinkers.

The data derived from patients responses and data given by caregiver were completely the same in the groups of hazardous and nonhazardous drinkers, while the harmful drinkers gave false negative results in 2% of cases. Fifty-three (59%) patients were classified as harmful drinkers, 23 (26%) hazardous drinkers, and 13 (15%) was harmful drinker who quitted alcohol use 15 years ago.

Family history of alcoholism was positive in 76 (19%) geriatric patients. Of those, family history was positive in 24 (31.6%) abstinent and 52 (68.4%) current drinkers, of those 39 (75%) harmful drinkers and 13 (25%) hazardous drinkers. Many current drinkers had medical conditions that could be affected by alcohol consumption, such as hypertension (31%), congestive heart failure (15%) and ulcer disease (6%), (Table 4).

**Table 4.** Chronic medical diseases in patients who consume alcohol (N=89)

<table>
<thead>
<tr>
<th>Disease</th>
<th>Number of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension</td>
<td>28 (31)</td>
</tr>
<tr>
<td>Osteoarthritis</td>
<td>11 (12)</td>
</tr>
<tr>
<td>Congestive heart failure</td>
<td>13 (15)</td>
</tr>
<tr>
<td>Diabetes</td>
<td>12 (13)</td>
</tr>
<tr>
<td>Asthma</td>
<td>7 (8)</td>
</tr>
<tr>
<td>Ulcer disease</td>
<td>5 (6)</td>
</tr>
<tr>
<td>Without chronic disease</td>
<td>13 (15)</td>
</tr>
</tbody>
</table>

Almost 24 (27%) of current drinkers were taking antihypertensive medication, 10 (11%) sedatives and 7 (8%) pain killers, such as nonsteroidal anti-inflammatory agents, (Table 5).

**Table 5.** Medication use in patients who consume alcohol (N=89)

<table>
<thead>
<tr>
<th>Medication</th>
<th>Number of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antihypertensives</td>
<td>24 (27)</td>
</tr>
<tr>
<td>Sedatives</td>
<td>10 (11)</td>
</tr>
<tr>
<td>NSAID</td>
<td>7 (8)</td>
</tr>
<tr>
<td>Antacids</td>
<td>10 (11)</td>
</tr>
<tr>
<td>H, blockers</td>
<td>12 (14)</td>
</tr>
<tr>
<td>None</td>
<td>26 (29)</td>
</tr>
</tbody>
</table>

Mini Mental Screening Examination revealed that 33 (37%) current drinkers had the symptoms of dementia, while 22 (25%) had the symptoms of mild cognitive impairment.
If we analyze total number of harmful drinkers, we can see that 27 (62%) male harmful drinkers had symptoms of either dementia or mild cognitive impairment. Also, 8 (80%) female harmful drinkers had the positive score on MMSE for dementia, and 2 (20%) for mild cognitive impairment. Also, 8 (80%) male harmful drinkers had symptoms of either dementia or mild cognitive impairment. If we analyze total number of harmful drinkers, we can see that 27 (62%) male harmful drinkers had symptoms of dementia, while 22 (25%) had the symptoms of mild cognitive impairment.

Mini Mental Screening Examination revealed that 33 (37%) current drinkers had the positive score on MMSE for dementia, and 2 (2%) for mild cognitive impairment. Also, 8 (80%) male harmful drinkers had symptoms of dementia, while 22 (25%) had the symptoms of mild cognitive impairment.

Depression screening positively revealed depression symptoms in 34 (38%) current drinkers. Of those, mild depression symptoms were present in 7 (21%) cases, moderate depression symptoms in 18 (53%), and severe depression symptoms in 9 (26%). Depression symptoms were found in 15 (35%) male harmful drinkers and 7 (70%) female harmful drinkers, (Table 7).

Anxiety was experienced by 5 (6%) current drinkers.

Functional status screening showed that 213 (65%) abstinents, 10 (80%) nonhazardous drinkers, 11 (48%) hazardous drinkers and 12 (23%) of harmful drinkers had good score in the area of physical functioning. In the area of psychological functioning, 203 (65%) abstinents, 10 (80%) nonhazardous drinkers, 15 (65%) hazardous drinkers and 8 (15%) harmful drinkers had good score. In the area of role functioning, harmful drinking group had good score in 274 (42%) of cases, while in other groups, good score was present in >88% of cases. Social functioning score was in the warning zone in almost 32 (60%) harmful drinkers. Also, harmful drinkers had warning score in the area of interaction in almost 39 (74%) cases. Statistically significant differences were found in every area of functioning between the drinking categories, (Table 8).

### Discussion

This study showed that a significant number of older adults in BiH consume alcohol at harmful level, what has an immense impact on their overall health and should raise the awareness of general practitioner on this issue. In international studies, the prevalence of harmful drinking among the elderly was lower.18,19

Alcohol consumption Screening Questionnaire appeared to be valid for use in primary health care. Yet, to avoid false negative results and to provide complete assessment of patients with possible alcohol-related problems, informa-
tion had to be gathered from several resources, including the
patient’s medical records and collateral informants, such as
family member or caregiver.

Majority of patients who were drinking with certain risk
presented with medical problems not obviously due to drink-
ing. It included hypertension, presented in 31% of harmful
and hazardous drinkers, which could have been secondary
and potentially reversible. Also, hypertension in those two
groups was more resistant to a treatment, compared to the
hypertension in a group of nonhazardous drinkers or in absti-
nent group. Standard treatment of ulcer disease did not lead to
the complete healing of ulcer in majority of participants who
were harmful drinkers. A large percentage of patients were on
medication that could be adversely affected by alcohol abuse.
Alcohol adversely affected adherence to treatment.

Family history was positive in 58% of current drink-
ers, what shows that having an alcoholic parent present an
important risk factor for developing alcoholism or alcohol
abuse. Although environmental and interpersonal factors are
important, a genetic predisposition underlies alcohol abuse,
particularly in harmful drinking pattern.34

This research showed that in abstinent group depression
symptoms were also prevalent (32%), but in less percentage
than in the groups of harmful and hazardous drinkers (41%).
Also, in 87% of abstinent, depression symptoms were mild
compared to the groups of harmful and hazardous drinkers,
where 79% of depression symptoms were classified as mod-
erate or severe. The extent of comorbidity between depres-
sion and alcoholism was demonstrated by the results of sev-
eral large epidemiological studies. Although the association
between major depression and alcoholism is well established,
the reason for this association is not completely understood.
Possible causes of the association may be shared etiology,
the direct result of the pharmacology of heavy alcohol con-
sumption, or an indirect link between the outcomes of alco-
hol abuse that lead to increased risk factors for depression. It
is now known that some of the systems that are involved in
producing the symptoms of low mood, anxiety, poor sleep
and reduced appetite in depression are also affected by alco-
hol. Also, alcohol can have a toxic effect on their serotonin
neuro-transmitters and contributes to the development of de-
pression, increasing the frequency and severity of depression
episodes, but not all heavy drinkers will become depressed,
as we were able to see in this study results.21, 22, 23, 24, 25

The results of the research conducted in Centre for Ad-
diction and Mental Health, London, Ontario Department of
Psychology, University of Western Ontario, London, Ontario,
Canada, and presented by Agnes Massak and Kathryn Gra-
ham, using the Composite International Diagnostic Interview
(CIDI) and Alcohol Use Disorders Identification Test (AU-
DIT), found that depression was more strongly and more gen-
eralized related to hazardous drinking pattern for women than
for men, but alcohol dependence symptoms and harmful con-
sequences from drinking were significantly associated with
depression for both men and women.26 However, establishing
the association between major depression and alcoholism in
geriatric patient, especially women, should provide physi-
cians who care for these patients with a better understanding
of the dual diagnoses, precaution and better plan for treatment

People suffering from depression will often turn to al-
cohol in an attempt to make themselves feel better. The same
is happening to the elderly people who have history of abuse.
All types of abuse lead to emotional distress, and sometimes
abused people cope with it. In some other cases, they can’t
see a solution for their problem, and start to drink in other to
feel better. Further one, long-term alcohol abuse could upset
chemical balances in the brain and thus could promote the
onset of depressive episodes. If a patient is already depressed,
the affect that heavy drinking has on the central nervous sys-
tem will be more detrimental to the wellbeing of depressed
patients than non depressed individuals, so all primary care
patients, who are predisposed to depression, should be advice
to abstain from drinking.27

A large percentage of geriatric patients in abstinent
group had a positive score on MMSE for dementia (usually
vascular) or mild cognitive impairment (52,4%). This find-
ing could come from the fact that 62% of study participants
appeared to have insufficient or basic education (one of the
risk factors for dementia). However, excessive drinking over
a period of years might lead to an alcohol dementia in a group
of harmful drinkers, causing problems with memory, learning
and other cognitive skills.

In the study conducted by Mukamal KJ, Kuller LH and
coworkers, it was found that compared with abstention, con-
sumption of 1 to 6 drinks weekly is associated with a lower
risk of incident dementia among older adults.28 According to
other studies, alcohol has a direct affect on brain cells, result-
ing in poor judgment, difficulty making decisions and lack of
insight, and lowers initial repetition, recall, and recognition
scores, especially when associated with depression. Current
drinkers suffering from dementia, had little ability to learn
new things, but few of them kept other mental abilities still
highly functioning, what perhaps misled the physicians in es-
ablishing proper diagnosis.29, 30 Eventually, alcohol-induced
dementia is reversible condition, where cessation of drinking
leads to the improvement in cognition and function, and for
that reason, physicians should think about the alcohol abuse
as a potential cause of cognitive impairments, and do the
screening of alcohol consumption among elderly patients in
every day practice.

Results of the study of alcoholism, based on animal
models, indicated that alcohol acts as anxiolytic agent during
early stages of consumption and as an anxiogenic agent when
absent after chronic or acute doses, and that the administra-
tion of ethanol provokes anxiolytic effects.31 That could be an
explanation why some current drinkers experienced anxiety
symptoms (6%).

Functional status was in decline in a group of hazardous and harmful drinkers. Perhaps, explanation could be analyzed through the understanding of alcohol effect on overall health. Alcohol leads to the anxiety, mood disorder, polyneuropathy, confusion, dizziness and drowsiness, which can influence the functional status. On the contrary, nonhazardous drinking did not cause any particular decline comparing to the abstinent group, what can follow other study results, which indicate that patients who drink infrequently and low-quantity of alcohol (nonhazardous drinkers) have better overall functional status and health than patients from other consumption groups 32.

The fact the majority of harmful and hazardous drinkers come from rural areas is very important. It could be explained by the tradition and customs in rural areas of Bosnia, where domestic alcohol production is freely engaged into, without any legal repercussions, as the majority of the social events in such areas, like celebrations of Saint Patron’s days and feasts, with large alcohol consumption are socially acceptable. Current drinkers from rural areas had also specific attitudes toward alcohol consumption, where a distinguishing between alcohol use and alcohol dependence or abuse in reality does not exist. Such group in particular should be a target for health promotion in family practice settings.

Conclusion

Alcohol abuse and alcoholism are common but under-recognized problems among elderly population in Bosnia and Herzegovina. Hazardous and harmful drinking was associated with significant morbidity. These findings demonstrate the usefulness and importance of the excess alcohol use screening in all primary care settings serving adults over age 60. Several practical screening tools for alcoholism are available but, supplemental information about the current quantity, frequency and pattern of alcohol use should be obtained.

When caring for elderly patients who have problems related to alcohol use, family physician should encounter interrelated medical, behavioural, social and environmental factors and must maintain high index of suspicious and non-judgmental attitude.
Конзумирање алкohoла код старијих пацијената примарне здравствене заштите: Утицај алкohoла на целокупно здравље

Кључне речи: алкohoлизам, скрининг, популација старијег животног доба, свеобухватна геријатријска процена

Сажетак

Увод. Алкохолизам се налази на трећем месту најчешћих психијатријских поремећаја код особа старијег животног доба, али га лекаре примарне здравствене заштите често не дијагностикују.

Циљ рада. Проценим превалентност поремећаја изазваних употребом алкohoла код пацијената старијег животног доба, који се лече на нивоу примарне здравствене заштите у Босни и Херцеговини, и утврдити присуство различитих здравствених проблема у вези са конзумирањем алкohoла.

Метод. Студија је спроведена у 10 тимова породичне медицине. Љекари породичне медицине су насумично одабрали групу од 40 пацијената старијих од 60 година, регистрованих у њиховом тиму породичне медицине. Као део свеобухватне геријатријске процене, пацијенти су замољени да испуне скрининг упитник о конзумирању алкohoла (Alcohol Consumption Screening Questionnaire), упитник о процени функционалног статуса (Functional Status Questionnaire), геријатријску скалу депресије (Geriatric Depression Scale - GDS), мини ментал скрининг тест (Mini mental screening examination - MMSE) и Хамилтонову скалу анксиозности. Како би се проценила тачност скрининг упитника о конзумирању алкohoла, члану породице или неговатељу сваког пацијента су постављена питања о пацијентовим навикама и здравственим проблемима.

Резултати. Осамдесет девет (22%) пацијената редовно конзумира алкohoл. Од тога, код 59% се радило о штетном, код 26% хазардном и код 15% нехазардном конзумирању алкohoла; 27% особа које редовно конзумирају алкohoл су женског пола. Мини ментал скрининг тестом пронађени су симптоми деменције код 37% особа, симптоми благог когнитивног поремећаја код 25%, симптоми депресије код 38% и симптоми анксиозности код 6% особа које редовно конзумирају алкohoл. Код особа које хазардно и штетно конзумирају алкohoл, функционални статус је био снижен.

Заклњучак. Висок проценат особа старијег животног доба у Босни и Херцеговини редовно конзумира алкohoл. Хазардно и штетно пијење је удржано са значајним морбидитетом. Ови резултати указују на корисност и важност скрининга прекомерне употребе алкohoла у свим здравственим установама примарног нивоа које збрињавају здравствене проблеме особа старијих од 60 година.
Literatura

References


