Five-years cumulative incidence of alcohol consumption in Croatian adult population: the CroHort study

Vitale, Ksenija; Brborović, Ognjen; Sović, Slavica; Striehl Benčević, Henrietta; Čivljak, Marta

Coll. Antropol. **36** (2012) Suppl. 1: 105–108
Original scientific paper

Five-Years Cumulative Incidence of Alcohol Consumption in Croatian Adult Population: the CroHort Study

Ksenija Vitale[1], Ognjen Brborović[1], Slavica Sović[1], Henrietta Striehl Benčević[2] and Marta Čivljak[1]

[1] University of Zagreb, School of Medicine, »Andrija Štampar« School of Public Health, Zagreb, Croatia
[2] University of Rijeka, School of Medicine, Department of Social Medicine and Epidemiology, Rijeka, Croatia

A B S T R A C T

Alcohol consumption is traditionally part of most human cultures, and with the onset of industrial revolution it was recognized as a health and social problem. The aim of this article is to investigate cumulative incidence of alcohol consumption in Croatia. Data were obtained from the Croatian Adult health Survey in 2003 followed by 2008. The cohort consisted of 3229 participants. Questions regarding alcohol consumption were calculated into two factors describing existence or non-existence of risk behavior. Results revealed higher incidence of risk alcohol consumption in man than in women and highest in the 35–65, age group. Due to the some study limitations results might be underestimated. Present problem of alcohol is alarming, even more so, in women's population it might be only the tip of the iceberg. Cultural and regional differences should be taken into account when educational programs are constructed, especially due to the different type of alcohol consumed.

Key words: *alcohol consumption, incidence, Croatia*

Introduction

Alcohol consumption is traditionally part of most human cultures, as a part of both nutritional and therapeutic habits. Only with the onset of industrial revolution it was recognized as a health and social problem. This is one of the reasons why is it so difficult to eradicate problem of alcoholism in many societies[1].

Alcohol consumption in Europe is highest in the world, between 1 and 25 liters per capita. Croatia is following those trends with around 250.000 registered alcoholics which make around 6% of total population with constant recruiting of new cases[2–4]. However, this number is not final due to the fact that alcoholism is the disease of the whole family, and indirectly around one million or ¼ of total population in Croatia suffers directly or indirectly from that disease. Also, it is important to recognize new trends in alcoholic's profiles. In high school population there is increase of number of girls as a alcohol consumers regarding number of boys, which lead to the fact that on every seven man there are four women with serious alcohol problems[2,3]. In Europe alcohol is considered as psychoactive drug that causes problems of dependency, increase morbidity and mortality, and every fourth death in age group between 15 and 29 is connected with alcohol. In the east European countries 40 to 60% of all deaths are connected with intentional or unintentional injuries as a consequence of alcohol consumption[4,5]. The most common long-term negative consequences of alcohol consumption are damage of gastrointestinal, cardiovascular and neurological systems, skin, kidney and muscular disorders, appearance of hypoglycemia, tuberculosis, sexual dysfunction and obesity, as well as malignant diseases. Also it is well-documented adverse effects of alcohol consumption in pregnancy resulting in embryonal/fetal alcohol syndrome[6].

The aim of this article is to investigate cumulative incidence of alcohol consumption in Croatia, and to indicate is there any differences between genders and various age groups. Results could be valuable basis for targeted health education programs.

Received for publication September 1, 2011

Materials and Methods

Data for this study were obtained from the Croatian Adult health Survey (CAHS) in 2003 followed by 2008. Further details on CAHS are provided elsewhere[7]. Sample consisted of cohort of 3229 participants who were interviewed in both years. Several questions regarding alcohol consumption were calculated into two factors describing existence or non-existence of risk behavior. Presence of risk was described with combination 5 variables; if answer to »how often do you drink spirits or vine or beer?« was every day, if answer to »how often do you drink six or more shooters, glasses or bottles of alcohol at one occasion?« was once a month or more, and if »did you in the past year got advice to drink less from doctor, nurse or members of the family?« answer was yes. Presence of risk factor was calculated regarding gender and age group.

Pearson's χ^2-test was used for comparison of frequencies. As statistically significant was considered $p<0.05$. Data were analyzed using Statistica statistical package (Stat Soft INC, Tulsa, OK, USA).

Results

In 2003 there were 810 men who did not drink; out of them, in 2008, 84 started drinking. Out of the drinkers in 2003, 71 ceased drinking, and 34 remained in the status of drinkers. There is no statistically significant difference between age groups regarding number of new drinkers ($\chi^2=2.138$, $p=0.347$), same as for those who ceased drinking in 2008 ($\chi^2=1{,}624$, $p=0.446$) (Table 1.).

The highest incidence is in the most productive age group with highest number of participants. Almost the same incidence is present in youngest and oldest age group possibly indicating the same causes like depression and despair. On the other hand incidence in the youngest group could be result of attempts of social affirmation. The number itself must be regarded in the light of the actual age span of the youngest group, which is smaller than other two age groups, and present relatively high incidence. Drinking problems in the older age are mostly pressure on the health care system, while drinking problem in younger age is pressure on the economic, social, legal and health care system (Table 2.).

In 2003 there were 1820 women who did not drink, out of them, in 2008, 40 started drinking. Out of the drinkers in 2003, 381 ceased drinking, and 13 remained in the status of drinkers. There is no statistically significant difference between age groups regarding number of new drinkers ($\chi^2=2.869$, $p=0.251$), same as for those who ceased drinking in 2008 ($\chi^2=2.322$, $p=0.287$) (Table 3).

The incidence is almost the same in the youngest and middle age group, but the trend, due to the disproportion in age groups is declining. Possible reasons could be the same as in men population, depression and despair at one hand and social affirmation on the other. Decline could be explained with onset of motherhood and intensive care for the family, which force women to change their habits (Table 4.).

TABLE 1
NUMBER OF MEN WHO DO NOT DRINK AND WHO DRINK IN RELATION TO DRINKING STATUS IN 2003

	2003 DOES NOT DRINK N(%)		2003 DRINK N(%)	
Age group	2008 does not drink	2008 drink	2008 does not drink	2008 drink
18–34	42 (91.3%)	4 (8.7%)	11 (97.7%)	1 (8.3%)
35–65	415 (88.3%)	55 (11.7%)	102 (81.0%)	24 (19.0%)
65<	269 (91.5%)	25 (8.5%)	58 (86.6%)	9 (13.4%)

TABLE 2
FIVE YEAR INCIDENCE COUNTED PER 1000 INHABITANTS

Age group	New cases	Total population for incidence calculation	5 year incidence/1000 inhabitants
18–34	4	46	87
35–65	55	470	117
65<	25	294	85

TABLE 3
NUMBER OF WOMEN WHO DO NOT DRINK AND WHO DRINK IN RELATION TO DRINKING STATUS IN 2003

	2003 DOES NOT DRINK N(%)		2003 DRINK N(%)	
Age group	2008 does not drink	2008 drink	2008 does not drink	2008 drink
18–34	124 (97.6%)	3 (2.4%)	23 (92.0%)	2 (8.0%)
35–65	1076 (97.4%)	29 (2.6%)	222 (96.5%)	8 (3.5%)
65<	580 (98.6%)	8 (1.4%)	136 (97.8%)	3 (2.2%)

TABLE 4
FIVE YEAR INCIDENCE COUNTED PER 1000 INHABITANTS

Age group	New cases	Total population for incidence calculation	5 year incidence/1000 inhabitants
18–34	3	127	24
35–65	29	1105	26
65<	8	588	14

Discussion

One of the reasons, alcohol is recognized, as a silent killer is the fact that is difficult to reveal exact number of the consumers. Our results indicated presence of risk based on rather stringent variable meaning rather high quantity of alcohol intake. If the cut of point was lower we would have higher incidence and higher number of drinkers which more realistically reflect the situation. As for drinking cessation results are most probably overesti-

mated due to the fact that even smallest decrease in drinking quantities classifies the participants as those who are not drinkers any more. Also it is important to note some limitations of this study; people usually underestimate their alcohol consumptions and heavy drinkers are less likely to participate in the surveys. Follow up study in America revealed that 63% of former problem drinkers who successfully achieved sustained remission continue to drink alcohol though at lower levels[8]. Bobo et al.[9] found that in two follow up studies for women only, increase drinkers rate was around 5% while decreasing drinkers was around 7.5% of the cohort. Our results show decrease between 80 and 96%, which seem to be overestimated.

When it comes to women in 2003 CAHS in western region only 459 women answered that they drink at least something, and authors believe they admitted only when the were sure that these quantities are low. Only 13 women received advice to change their drinking habits, meaning only 13 had problems of such a magnitude that someone approached them from health care system[10]. Many studies show that general practitioners (GP) are reluctant in approaching women regarding advices about drinking. Alcohol is the most disregarded area of advice in proportion to patient's needs[11,12], gender, age and long-term risk habits are discrimination factors[11–14]. Most probably in our sample, there are more women who drink, but they hide their problem because alcoholism in women is more socially stigmatized than in men. Large cross-cultural evaluation of patterns of alcohol use between genders confirms these speculations. Also they confirm that woman face more physiological health problems along with psychiatric co morbidity. In terms of social roles marriage, children and employment have beneficiary influence on decrease of drinking, while divorce, no children and loss of job promote drinking problems[15]. Our results could be explained within these findings. Some studies have shown that women do not markedly change their habits after age of 50 but they tend to exceed current recommendation[9]. Also social and lifestyle differences are reflected in regional differences in alcohol consumption in Croatia[16]. Men drink the most in eastern, coastal and northern part, while women drink most in northern, coastal and central part. We can speculate that women drink the most in the most well of or most urbanized regions, while men drink most in one of the two poorest regions, eastern region. Second poorest region is mountainous region, but there men drink least. It is hard to find clear geographical gradient but to some extent drinking in coastal and northern region could be connected with more well-off and more urbanized lifestyle.

Alcohol consumption enhances the effect of all other lifestyles factors such as inadequate nutritional habits, lack of body activity and particularly smoking. Many studies show that GP in primary health care is point for the most intensive preventive measures implementation but on the other hand a number of studies indicate that in many cases this is the missed opportunity when GPs do not include lifestyle advising in the primary prevention[17].

We can conclude that present problem of alcohol is alarming, even more so, in women's population it might be only the tip of the iceberg. Cultural differences should be taken into account when educational programs are constructed, especially due to the different type of alcohol consumed. Further analysis is needed in that direction.

Acknowledgements

This study was supported by the Croatian ministry of Science, Education and Sport, grant number 108-1080135--0264.

REFERENCES

1.NORSTROM T, SKOG OJ, Adiction, 96 (2001) 5. — 2. THALLER V, BULJAN D, BREITENFELD D, MARUŠIĆ S, BREITENFELD T, DE SYO D, ZORIĆIĆ Z, Coll Antropol, 22 (1998) 603. — 3. ŽUŠKIN E, JUKIĆ V, LIPOZENČIĆ J, MATOŠIĆ A, MUSTAJBEGOVIĆ J, TURČIĆ N, POPLAŠEN-ORLOVAC D, BUBAS M, PROHIĆ A, Arh Hig Rada Toksikol, 57 (2006) 413. — 4. REHM J, TAYLOR B, PATRA J, Addiction 101 (2006); 1086. — 5. RITTER J, STEWART M, BERNET C, COE M, BROWN SA, J Trauma Stress 15 (2002) 113. — 6. REHM J, BALIUNAS D, BORGES GL, GRAHAM K, IRVING H, KEHOE T, PARRY CD, PATRA J, POPOVA S, POZNYAK V, ROERECKE M, ROOM R, SAMOKHVALOV AV, TAYLOR B, Addiction, 105 (2010) 817. — 7. VULETIĆ S, POLAŠEK O, KERN J, STRNAD M, BAKLAIĆ Ž, Coll. Antropol, 33 Suppl 1 (2009) 3. — 8. SCHUTTE KK, NICHOLS KA, BRENNAN PL, MOOS RH, J Stud Alcohol, 64 (2003) 367. — 9. BOBO JK, GREEK AA, KLEPINGER DH, HERTING JR, J Am Geriatr Soc, 58 (2010) 2375. — 10. VITALE K, ŠULJIĆ P, DŽAKULA A, TODOROVIĆ G, VULETIĆ S, ČOVIĆ A, Coll Antropol, 33 Suppl 1 (2009) 165. — 11. JOHANSON K, BENDTSEN P, AKERLIND I, Eur J Public Health, 15 (2005) 615. — 12. AHACIC K, ALLEBECK P, THAKKER KD, Subst Abuse Treat Prev Policy, 29 (2010) 5. — 13. LIVAUDIAS JC, KAPLAN CP, HAAS JS, PEREZ-STABLE EJ, STEWART S, JARLAIS GD, J Womens health, 14 (2005) 485. — 14. LITTLE P, SLOCOCK L, GRIFFIN S, PILLINGER J, Br J Gen Pract, 49 (1999) 806. — 15. KERR-CORREA F, IGAMI TZ, HIROCE V, TUCCI AM, J Affect Disord, 102 (2007) 265. — 16. BENČEVIĆ-STREIHL H, MALATESTINIĆ DJ, VULETIĆ S, Coll Antropol, 33 Suppl 1 (2009) 39. — 17. NOORDMAN J, VERHAAK P, VAN DULMEN S, BMC Fam Pract, 9 (2010) 11.

K. Vitale

University of Zagreb, School of Medicine, »Andrija Štampar« School of Public Health, Rockefellerova 4, Zagreb, Croatia
e-mail: kvitale@snz.hr

PETOGODIŠNJA KUMULATIVNA INCIDENCIJA KONZUMACIJE ALKOHOLA U ODRASLOJ POPULACIJI U HRVATSKOJ: CroHort STUDIJA

S A Ž E T A K

Konzumacija alkohola tradicionalno je dio većine kultura, a tek je pojavom industrijske revolucije prepoznat kao zdravstveni i socijalni problem. Cilj ovog rada je bio istražiti spolne i dobne razlike u kumulativnoj incidenciji konzumacije alkohola u Hrvatskoj. Podaci su dobiveni iz Hrvatske zdravstvene ankete provedene 2003 te pnovljene 2008 godine, a uzorak je činila kohorta od 3229 ispitanika. Pitanja o konzumaciji alkohola komprimirana su u dvije varijable koje opisuju prisutnost ili odsutnost rizičnog ponašanja pretjerane konzumacije alkohola. Rezultati su pokazali da je incidencija rizičnog konzumiranja alkohola veća u muškaraca nego žena i da je najviša u dobnoj skupini između 35 i 65 godina. Uslijed nekih limitirajućih faktora same studije moguće je da su rezultati podcjenjeni. Problem rizičnog konzumiranja alkohola je alarmantan pogotovo u žena. Da bi bili uspješni, potrebno je kulturne, regionalne kao i razlike u vrsti alkohola koji se kozumira uzeti u ubzir pri formiranju programa zdravstvene edukacije.