

Regional Differences in Alcohol Consumption in Croatia

Henrietta Benčević-Striehl^{1,2}, Djulija Malatestinić^{1,2} and Silvije Vuletić³

¹ Department of Social Medicine and Epidemiology, University of Rijeka, School of Medicine, Rijeka, Croatia

² Teaching Institute of Public Health of Primorsko-goranska County, Rijeka, Croatia

³ »Andrija Štampar« School of Public Health, School of Medicine, University of Zagreb, Zagreb, Croatia

ABSTRACT

This study aims to estimate regional and gender differences in the prevalence of alcohol consumption in Croatia. It is based on the data obtained from the Croatian Adult Health Survey 2003. The highest prevalence of alcohol consumption in men was reported in Eastern Croatia (14.1%). Men living in the Mountainous region had the lowest prevalence of reported alcohol consumption (8.8%). In contrast to men in the Eastern region, women in the same region reported drinking alcoholic beverages with the lowest prevalence (0.3%). The highest proportion of women who reported drinking alcoholic beverages was recorded in the Northern Croatian region (1.5%). Results support the expected gender gap in alcohol consumption and point out strong regional pattern of alcohol consumption. The observed pattern shows that primary prevention and health promotion should be implemented with special concern to regional differences and traditions.

Key words: Alcohol, regional pattern, gender differences, Croatian Adult Health Survey, Croatia

Introduction

The importance of exploring high alcohol consumption is emerging due to the fact that the problem had grown over the past years of transition, war and post war period in Croatia¹. Use of alcoholic beverages in larger than moderate amounts presents a risk for the development of cardiovascular diseases (CVD), cancer, other chronic diseases, mental health, violence, intentional and unintentional injuries and lowers the capability for lucid decision making that proceed into involvement in other risky behaviours^{2,3}. CVD itself account for more than half of the overall mortality in Croatia but the support for research in this area has not been sufficient in the last decade⁴. In 1991–2004, Croatia had the lowest cardiovascular disease publication rates (in 2003, the estimated proportion was 1.2% as opposed to 7.3–11.8% in other analyzed countries) in the MEDLINE database among countries included into the analysis⁵. Despite of the existing of the First Croatian Health Project, there were no systematic, sustainable and comparable studies of risk factors, together with studies on prevalence of alcohol consumption in a representative sample of the adult population at national as well as at the regional level^{5,6}. Croatian Adult Health Survey 2003 (CAHS) pro-

vided timely, reliable, cross-sectional estimates in order to support development of a public health information system as an evidence base for the national and regional health promotion platform⁷. The main aim of this study was to investigate regional and gender differences in the prevalence of alcohol consumption.

Subjects and Methods

The study data were collected in the summer of 2003, in the cross-sectional survey Croatian Adult Health Survey (CAHS), with the representative sample of the adult population of the Republic of Croatia. The main priority for the survey was to examine health status, risk factors and health care utilization with a focus on cardiovascular disease. Further details on questionnaire, participants and regional division are provided elsewhere⁷.

In this paper, proportion of high alcohol consumption was taken as a marker for the alcohol consumption in general for respective region.

High alcohol consumption was defined as having a binge of heavy drinking at least once a week, or drinking

alcohol daily and having someone constantly advising them on the need to cut down on alcohol consumption. The high alcohol consumption habits of each respondent were assessed on the basis of a group of questions: »How often do you drink 6 or more glasses (regular restaurant portions) of alcohol at once?« (possible answers: 1 – Never, 2 – Less than once a month, 3 – Once a month, 4 – Once a week, 5 – Every day or almost Every day^{8,9}).

Statistical analysis

Descriptive methods were used for prevalence estimation. All confidence intervals (CI) were calculated with 95% probability levels. Software SAS for Windows (version 8.2, SAS Institute Inc, Cary, NC) was used for the analysis.

Results

Average prevalence of alcohol consumption in the Republic of Croatia was 12.30% for men and 0.7% for women. Highest prevalence of alcohol consumption in men was recorded in the Eastern Croatia (14.09%) (Figure 1). Men from the Mountainous region had the lowest alcohol consumption prevalence (8.80%). In contrast to men in the Eastern region, women in the same region reported drinking alcoholic beverages with the lowest prevalence (0.27%) (Figure 2). The highest proportion of women reporting drinking of alcoholic beverages was recorded among those who were the residents of the Northern Croatia (1.45%).

Discussion

Regional and gender differences in burden of the high alcohol consumption are present in Croatian adult popu-



Fig. 1. The prevalence of alcohol consumption in men in Croatia, based on the Croatian Adult Health Survey 2003 data; grey color denotes the gradient from the lowest prevalence (lightest grey) to the highest (darkest grey).

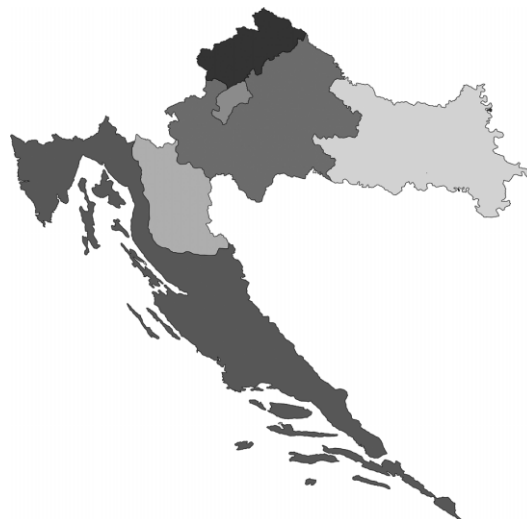


Fig. 2. The prevalence of alcohol consumption in women in Croatia, based on the Croatian Adult Health Survey 2003 data; grey color denotes the gradient from the lowest prevalence (lightest grey) to the highest (darkest grey).

lation. It is evident that men are more involved in a high alcohol consumption than women in all regions. Gender gap in alcohol consumption is generally present around the world¹⁰. Some other studies suggested the existence of geographic gradients in alcohol consumption between populations and mortality linked to it¹¹. Study from Germany from 1998 found a decrease in the prevalence from South to North in alcohol consumption¹². Recent European study from 2006 has shown the East – West gradient between countries of the European union in the use of alcohol and mortality linked to that use¹³. Our study has shown that there is no clear geographic gradient between Croatian regions with regards to the East – West or North – South geographic gradient. The pattern in Croatian regions could better be explained by mentality characteristics, tradition and socioeconomic situation in these regions¹⁴. It may be assumed that geographic area plays more significant role when it comes to the type of alcohol used. A previous health study in Croatia confirmed that, for example, more wine is used in the Coastal parts of Croatia that belongs to the area of Mediterranean culture, even though, it is not the only wine

TABLE 1
ESTIMATES OF PREVALENCE OF ALCOHOL CONSUMPTION IN ADULT POPULATION OF CROATIA, BY REGIONS

Region	Men		Women	
	%	95% CI	%	95% CI
Mountainous	8.80	2.04–15.57	0.41	–0.41–1.22
Eastern	14.09	8.30–19.87	0.27	–0.04–0.58
Coastal	13.85	10.07–17.62	0.89	0.23–1.55
Northern	13.12	8.84–17.39	1.45	0.30–2.59
Central	10.73	7.44–14.02	0.81	0.13–1.48
City of Zagreb	10.33	5.61–15.05	0.52	0.04–1.00

growing area of Croatia⁷. When it comes to beer consumption in Croatia, the main producers are in the continental part of Croatia and the use is constantly growing¹. This fact is raising the question on promotion of beer. Croatian Chamber of economy has issued the Codex of responsible marketing communication for beer producers¹⁵. The codex, unfortunately, does not speak about harmfulness of promotion of beer in connection to sport events, especially in connection to football, which is not only the problem in Croatia¹⁶. Strong alcohol is widely home distilled from different kinds of fruits in all regions in Croatia, but its use seems to be declining¹. Regional traditions should be investigated, revised and properly interpreted, especially when it comes to quantity of alcohol intake.

There are some limitations to our study. First, the study was based on cross-sectional data and thus, not designed to assess causes of risky behaviour, however, our goal was not to assess cause, but to determine the population burden of alcohol consumption. Second point is

that our assessment depends on respondent's honesty and possibly even recall bias.

Our results confirmed regional differences as well as the gender gap in alcohol consumption. It is stressing the potential but insufficient implementation of primary prevention and health promotion with special concern to regional traditions.

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REFERENCES

1. WORLD HEALTH ORGANIZATION. WHO Global Status Report on Alcohol 2004 (World Health Organisation, Geneva 2004). — 2. PADWAL R, STRAUS SE, MCALISTER FA, Brit Med J, 322 (2001) 977. — 3. WORLD HEALTH ORGANIZATION. Strategies to reduce the harmful use of alcohol, report by the secretariat. A61/13 Provisional agenda item 11.10 20 March 2008, accessed: 09.06.2008. Available from: URL: http://www.who.int/gb/ebwha/pdf_files/A61/A61_13-en.pdf. — 4. CROATIAN CENTRAL BUREAU OF STATISTICS, Statistical yearbook 2004. (DEM-2/03.), accessed: 09.06.2008. Available from: URL: http://www.dzs.hr/default_e.htm. — 5. LUKENDA J, KOLARIĆ B, KOLČIĆ I, PAŽUR V, BILOGLAV Z, Croat Med J, 46 (2005) 865. — 6. STRNAD M, CORIC T, KERN J, POLAŠEK O. Mortality due to Cardiovascular Diseases. (in Croatian). Regional Distribution of Populations Cardiovascular Risk factors in Croatia. In: Proceedings (Zagreb: Academy of Medical Science, Zagreb, Croatia; 2005). — 7. TUREK S, RUDAN I, SMOLEJ-NARANČIĆ N, SZIROVICZA L, CUBRILLO-TUREK M, ZERJAVIĆ-HRABAK V, KAIĆ-RAK A, VRHOVSKI-HEBRANG D, PREBEG Z, LJUBIČIĆ M, JANICLIJEVIĆ B, RUDAN P, Coll Antropol, 25 (2001) 77. — 8. VULETIĆ S, POLAŠEK O, KERN J, STRNAD M, BAKLAIĆ Z, Coll Antropol, 33 Suppl 1 (2009) 3. — 9. KERN J, STRNAD M, CORIC T, VULETIĆ S, Brit Med J, 331 (2005) 208. — 10. REPUBLIC OF CROATIA MINISTRY OF HEALTH, Croatian Adult Health Survey Users' Guide (Republic of Croatia Ministry of Health, Zagreb, 2003). — 11. WORLD HEALTH ORGANIZATION. Alcohol, gender and drinking problems: perspectives from low and middle income countries (World health organization, Geneva 2005). — 12. MULLER-NORDHORN J, BINTING S, ROLLS S, WILLICH SN, Eur Heart J, 29 (2008) 1316. — 13. MEYER C, RUMPF HJ, HAPKE U, JOHN U. Gesundheitswesen 60 (1998) 486. — 14. REHM J, SULKOWSKA U, MANCZUK M, BOFFETTA P, POWLES J, POPOVA S, ZATONSKI W, Int J Epidemiol, 36 (2007) 458. — 15. BLOOMFIELD K, GRITNER U, KRAMER S, GMEL G, Alcohol Alcohol Suppl 41 (2006) i26. — 16. CROATIAN CHAMBER OF ECONOMY. Kodeks odgovornog marketinskog komuniciranja proizvođača piva, accessed: 09. 06.2008. Available from: URL: <http://www2.hgk.hr/en/depts/agriculture/KODEKS.pdf>. — 17. USPARA M. Oglašivači iz 'zasjede' vrebaju na Euro 2008, accessed: 09.06.2008. Available from: URL: <http://www.poslovni.hr/79998.aspx>

H. Benčević-Striehl

*University of Rijeka School of Medicine, Braće Branchetta 20, 51000 Rijeka
e-mail: henrietta@striehl.eu*

REGIONALIZAM KONZUMACIJE ALKOHOLA U HRVATSKOJ

SAŽETAK

Cilj istraživanja bio je procijeniti regionalne i spolne razlike u prevalenciji pretjeranog uživanja alkohola u Hrvatskoj. Studija se zasniva na podacima dobivenim iz Hrvatske zdravstvene ankete 2003. Najviša prevalencija pretjeranog uživanja alkohola kod muškaraca zabilježena je u istočnoj Hrvatskoj (14,1%). Kao kontrast muškarcima u istočnoj regiji, žene u istoj regiji su imale najnižu prevalenciju pijenja alkoholnih pića (0,3%). Najveći udio žena koje su prijavile da piju alkoholna pića je zabilježen u sjevernoj Hrvatskoj (1,5%). Rezultati pokazuju očekivani spolni jaz u pretjeranom uživanju alkohola. Naši su rezultati potvrdili regionalne razlike i spolni jaz u pretjeranom uživanju alkohola. Time se naglašava potencijal, ali nedovoljna primjena primarne prevencije i promocije zdravlja s posebnim naglaskom na regionalne običaje.