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Differences in alcohol consumption habits between Roma and non-Roma in Northeastern Slovenia

Razlike v uživanju alkohola med Romi in Neromi v severovzhodni Sloveniji

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Key words: ethnicity; drinking habits; Slovenia; Roma; AUDIT questionnaire

Ključne besede: etničnost; pivske navade; Slovenija; Romi; vprašalnik AUDIT

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ABSTRACT

Introduction: Slovenia has a high level of alcohol consumption. Comparisons of the alcohol consumption habits of the Roma and non-Roma population have yielded conflicting results. The aim of this research was to compare alcohol consumption habits between Roma and non-Roma in a sample population in Northeastern Slovenia.

Methods: We conducted a cross-sectional study in which we included 100 representatives of Roma and 100 representatives of non-Roma population, aged 18 to 65 years. The questionnaire used included demographic data (gender, age, marital status, education, and employment) and the AUDIT (Alcohol Use Disorders Identification Test) questionnaire. Two logistic regression models (teetotallers/drinkers and non-hazardous drinkers/other drinkers) were used for the comparison of drinking habits.

Results: Roma scored lower on overall AUDIT score (4.51) than non-Roma (4.56). Roma and non-Roma differ significantly regarding teetotallers (39.0 % vs. 16.0 %) and non-hazardous drinkers (38.0 % vs. 64.0 %). Ethnicity was identified to have a statistically significant impact on the studied drinking behaviour: teetotallers ($p < 0.001$) and non-hazardous drinkers ($p = 0.015$).

Discussion and conclusion: Our aim was to look at the differences between the two groups rather than obtain representative data on the population. Our research also casts a doubt on whether the AUDIT questionnaire is suitable for measuring alcohol abuse.

IZVLEČEK

Uvod: Visoka stopnja uživanja alkohola je posebej značilna za severovzhodni del naše države. Študije, kjer so glede pitja alkohola primerjali romsko in neromsko populacijo, navajajo nasprotujoča si dejstva. Cilj raziskave je bila primerjava navad pitja alkohola med Romi in Neromi na vzorcu prebivalcev severovzhodne Slovenije.

Metode: Opravljena je bila presečna raziskava, ki je vključevala 100 predstavnikov Romov in 100 predstavnikov Neromov, starih od 18 do 65 let. Uporabljeni vprašalnik je vključeval demografske podatke (spol, starost, zakonski stan, stopnja izobrazbe in zaposlitev) in podatke vprašalnika AUDIT (Alcohol Use Disorders Identification Test). Za primerjavo pivskih navad sta bila uporabljena dva logistična regresijska modela (abstinenti/pivci in manj tvegani/ostali pivci).

Rezultati: Z vprašalnikom AUDIT je bilo za Rome ugotovljeno nižje povprečno število točk (4,51) kot za Nerome (4,56). Skupini se bistveno razlikujeta po številu abstinentov (Romi: 39,0 %, Neromi: 16,0 %) in manj tveganih pivcev (Romi: 38,0 %, Neromi: 64,0 %). Na pivsko vedenje ima etnična pripadnost statistično značilen vpliv, kar velja tako za abstinente ($p < 0,001$) kot tudi za manj tvegane pivce ($p = 0,015$).

Diskusija in zaključek: Namen raziskave ni bilo zbiranje reprezentativnih podatkov o prebivalstvu, ampak ugotavljanje razlik med obravnavanima skupinama. Nakazuje se tudi dvom, ali je vprašalnik AUDIT primeren za ocenjevanje odvisnosti od alkohola ali ne.

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Introduction

According to the World Health Organisation (WHO) the European population has the highest drinking rate in the world at 11 litres of pure alcohol per year on average per inhabitant 15 years of age and older (World Health Organisation, 2014). More than 60 diseases are directly related to alcohol abuse (Anderson & Baumberg, 2006). On average, in the European Union (EU), alcohol abuse is responsible for 1/7 of male deaths and 1/13 female deaths in people aged 15–64 (WHO Regional office for Europe, 2013). With regard to this, Slovenia is a wine-producing country with about 2 million inhabitants; drinking wine and homemade brandy has always been part of its culture. Slovenia has one of the highest alcohol consumption rates in Europe; however, the data are inconsistent, with reported rates being from 11 to 18 litres of pure alcohol per year per inhabitant aged 15 or older (Lovrečič & Lovrečič, 2013; Lavtar, et al., 2014; World Health Organisation, 2014). Alcohol drinking starts in early childhood in Slovenia (Kolšek, 2000; Boben-Bardutzky, et al., 2009): 27 % of 15 year-old children drink alcohol several times a week (Jeričeк-Klanšček, et al., 2012). In one study, only 14 % of Slovenian adolescents were abstinent from alcohol; more than half of them (53 %) had been drunk sometime in the month preceding the study (Stergar, 2015). A 2008 CINDI (Countrywide Integrated Non-communicable Disease Intervention) study (Maučec-Zakotnik, et al., 2012) in Slovenia found that 10 % of adults are hazardous or harmful drinkers (16 % of males and 3.4 % of females) and that 21.6 % of men and 8.2 % of women binge drink at least once a month. In 2012, Sorko and Boben (2012) found that 35.5 % of the adult population in Slovenia are harmful drinkers, but the results of an anonymous questionnaire on the website www.nalijem.si (Kolšek & Visnovič-Poredoš, 2011) found an even higher proportion of excessive drinkers. According to that research, 58 % of adult men and 49 % of adult women drank above the low risk drinking limits, 0–7 AUDIT scores in total.

The correlation between low socioeconomic status and risk factors associated with unhealthy lifestyles is well established (Ekuklu, et al., 2004; Csepe, et al., 2007; Davis, et al., 2010; Maučec-Zakotnik, et al., 2012; Babinska, et al., 2014). The health status and living conditions of Roma in Europe are poorer than that of the rest of the population (Bogdanovič & Nikič, 2007; Csepe, et al., 2007; Niksić & Kurspahić-Mujčić, 2007; Kanapeckiene, et al., 2009). They have a higher prevalence of smoking, unhealthy diets and lack of physical activity (Niksić & Kurspahić-Mujčić, 2007; Rambouskova, et al., 2009; Van Cleemput, 2010; Colombini, et al., 2012). However, information about their alcohol consumption has been unclear. Whereas a Turkish study reports that alcohol consumption was higher amongst the Roma population than the general population (Ekuklu, et al., 2004), a Slovak study could not find any differences in overall total alcohol consumption between males of both populations, except more binge drinking in female Roma compared to non-Roma (Babinska, et al., 2014). Moreover, results of research on other minority groups confirm that in such groups, more people are either abstinent from, or engage in less harmful alcohol consumption; however, their populations are more at risk of addiction if they drink alcohol (Kell, et al., 2015; Noble, et al,. 2015). It has also been found that leading an unhealthy lifestyle is more prevalent in the Roma community than in the general population (Petek, et al., 2006; Niksič & Kurspahić-Mujićić, 2007; Van Cleemput, 2010). Mental health problems in this community have also been identified as more prevalent (Zelko, et al., 2015b).

Aims and objectives

Unfortunately, there is insufficient information regarding alcohol consumption among the Roma population and the factors that have an impact on the alcohol consumption. Members of the Roma community in Northeastern Slovenia pointed out the need for intervention programs regarding alcohol, which is an indication that alcohol consumption is perceived as a problem even in the community itself (Zelko, et al., 2015a). Therefore, we conducted our research whose main aim was to compare alcohol consumption habits between Roma and non-Roma.

Methods

We conducted a retrospective cross-sectional case-control study by using an AUDIT questionnaire.

Description of the research instrument

The questionnaire included demographic data (gender, age, marital status, education, employment, and ethnicity) and the AUDIT questionnaire (Kolšek, et al., 2013). The AUDIT questionnaire was developed by the WHO as a simple method of screening for excessive drinking and to assist in brief assessment. AUDIT, consists of ten closed questions about recent alcohol use, alcohol dependence symptoms, and alcohol-related problems. Its reliability and validity have been established in research conducted in a variety of settings and in many different nations. It has been translated into many languages, including Turkish, Greek, Hindi, German, Dutch, Polish, Japanese, French, Portuguese, Spanish, Danish, Flemish, Bulgarian, Chinese, Italian, Slovenian and also into Nigerian dialects (Saunders, et al., 1993). According to the AUDIT questionnaire, the score of 0 points defines a teetotaller, and a score of 1–7 points to low hazardous drinking.

Description of the research sample

The sample included 200 people (100 Roma and 100 non-Roma), aged from 18 to 65 years, from Northeastern Slovenia – around Beltinci Health Centre. In June 2014, we asked every second adult visitor of the Community Health Center Murska Sobota - Beltinci to participate in the research until we reached the estimated sample. Roma representatives were included with the help of a community nurse. She only asked Roma that had chosen a general practitioner at the Community Health Center Murska Sobota - Beltinci to participate. A total of 300 questionnaires were distributed to both groups. The response rate in the Roma group was 76 % (n = 150) and in non-Roma 71 % (n = 150). 100 completed questionnaires from the Roma group and 100 from the non-Roma were included in the final analysis. The majority of respondents in both groups were married- Roma 53 % (n = 53) and non-Roma 58 % (n = 58). Roma representatives had mostly completed elementary school education (n = 48, 48 %), while non-Roma representatives had mostly completed vocational education (n = 40, 42.6 %). Roma representatives had higher unemployment rates (n = 39, 50 %) in comparison to non-Roma (n= 9, 10.6 %). In the non-Roma group most participants were male (n = 57, 57.6 %) in the age group 35 to 49 years (n = 40, 41.2 %), while Roma representatives were mostly women (n = 56, 56 %) in the age group 18 to 34 years (n = 44, 45.8 %).

Description of the research procedure and data analysis

We collected the data in June 2014. Participation was voluntary and anonymity was provided with participant coding. The Roma were collected by community nurses from their settlements. The non-Roma participants were located at the Community Health Center Murska Sobota - Beltinci. The study has been approved by the Slovenian National Medical Ethics Committee.

The data collected were analysed by using SPSS version 21.0 (SPSS, Chicago, IL, USA). Differences between the observed ethnic groups regarding demographic characteristics were examined using a non-parametric Chi-square test and Mann-Whitney test, because normality has not been calculated. Binary logistic regression analysis was performed to identify demographic characteristics that have a significant impact on being a teetotaller and a non-hazardous drinker. Goodness-of-fit of the resulting models was assessed by the Omnibus test of model coefficients, Hosmer-Lemeshow test, Nagelkerke R^2 and rate of correct classification. The level of statistical significance (p-value) was set at 0.05.

Results

Table 1 shows that there were statistically significant differences in sociodemographic characteristics between the Roma and non-Roma, namely in education level ($p < 0.001$) and employment status ($p < 0.001$).

The differences in overall AUDIT scores are statistically significant (p = 0.020) (Table 2). Roma have a lower overall AUDIT score than non-Roma. While simple differences in alcohol drinking habits are shown in Table 3. The differences between Roma and non-Roma are statistically significant in the proportion of teetotallers and non-hazardous drinkers, where Roma have a higher proportion of teetotallers and a lower proportion of non-hazardous drinkers. The proportion of people with addiction problems in Roma is higher than non-Roma, but the differences are not statistically significant. Binary logistic regression models, describing the behaviour of teetotallers and non-hazardous drinkers where statistically important differences were found, were estimated. Table 4 shows the results of the binary logistic regression model for teetotallers. 179 respondents were included in this model, 47 of them were considered as teetotallers.

Table 1: *Differences in sociodemographic characteristics by ethnic group*
Tabela 1: *Razlike v socialnodemografskih značilnostih glede na etnično skupino*

Sociodemographic characteristics/ Socialnodemografske značilnosti	***Roma/ Romi***		***Non-Roma/ Neromi***		***p***
	n	***%***	***n***	***%***	
Gender					
Male	44	44.0	57	57.6	ns
Female	56	56.0	42	42.4	
Total	100	100	99	100	
Age					
18–34	44	45.8	31	32.0	
35–49	29	30.2	40	41.2	ns
50–65	23	24.0	26	26.8	
Total	96	100	97	100	

Continues/Se nadaljuje

Sociodemographic characteristics/ Socialnodemografske značilnosti	*Roma/ Romi*		*Non-Roma/ Neromi*		*p*
	n	*%*	*n*	*%*	
Educational status					
Elementary school	45	48.4	9	9.6	< 0.001
Vocational school	23	24.7	40	42.6	
High school	19	20.4	17	18.1	
Faculty	6	6.5	28	29.8	
Total	93	100	94	100	
Employment					
Unemployed	39	50.0	9	10.6	< 0.001
Student	5	6.4	4	4.7	
Employed	25	32.1	65	76.5	
Retired	9	11.5	7	8.2	
Total	78	100	85	100	
Housing					
Brick house	83	83.0	97	97.0	ns
Wooden house	12	12.0	/	/	
With relatives	5	5.0	3	3.0	
Total	100	100	100	100	
Marital status					
Married	53	54.6	58	58.0	ns
Single	36	37.1	35	35.0	
Divorced	1	1.0	5	5.0	
Widowed	7	7.2	2	2.0	
Total	97	100	100	100	

Legend/Legenda: n – number/število; % – percentage/odstotek; p – statistical significance/statistična značilnost; ns – not statistically significant/ni statistično značilno

Table 2: *Differences in overall AUDIT scores by ethnic group*
Tabela 2: *Razlike v zbranih točkah AUDIT vprašalnika glede na etnično skupino*

Ethnic group/ Etnična skupina	*n*	$\bar{x}$	*s*	*Min*	*Max*	*Mann-Whitney test*	
						U	*p*
Roma	100	4.51	7.177	0	33	4061.500	0.020
Non-Roma	100	4.56	5.547	0	40		
Total	200	4.54	6.398	0	40		

Legend/Legenda: n – number/število; $\bar{x}$ – average value/povprečna vrednost; s – standard deviation/standardni odklon; Min – minimum value/minimalna vrednost; Max – maximum value/maksimalna vrednost; U – Mann-Whitney test/Mann-Whitney test; p – statistical significance/statistična značilnost

Table 3: *Differences in alcohol drinking habits by ethnic group*
Tabela 3: *Razlike v pivskih navadah glede na etnično skupino*

Alcohol drinking habits/ Pivske navade	*Roma/ Romi*		*Non-Roma/ Neromi*		*Chi-Square Test/ Hi-kvadrat test*		
	n	*%*	*n*	*%*	χ^2	*df*	*p*
Teetotallers	39	39.0	16	16.0	13.266	1	< 0.001
Non-hazardous drinkers	38	38.0	64	64.0	12.511	1	< 0.001
Hazardous drinkers	13	13.0	14	14.0	0.043	1	ns
Harmful drinkers	2	2.0	5	5.0	1.332	1	ns
Addicted	7	7.0	1	1.0	4.688	1	ns

Legend/Legenda: n – number/število; % – percentage/odstotek; χ^2 – chi-square test statistic/hi-kvadrat test; df – degrees of freedom/ stopinje prostosti; p – statistical significance/statistična značilnost; ns – not statistically significant/ni statistično značilno

Table 4: *Statistically significant factors included in the binary logistic regression model of the teetotallers (n = 179)*
Tabela 4: *Statistično značilni dejavniki, vključeni v binarni logistični regresijski model abstinentov (n = 179)*

Teetotallers/ Abstinenti	***Characteristics/ Značilnosti***	***B***	***Standard Error/ Standardna napaka***	***Wald***	***df***	***p***	***e^B***	***95% C.I. for e^B/ 95% C.I. za e^B***	
								Lower/ Spodnja	***Upper/ Zgornja***
Omnibus test: $\chi^2 = 30.188$; $df = 6$; $p = 0.000$ Hosmer-Lemshow test: $\chi^2 = 2.310$; $df = 8$; $p = 0.970$ Nagelkerke R^2: 0.227 Percentage correct: 78.2	Constant	–1.801	0.843	4.559	1	0.033	0.165	/	/
	Gender (female)	–1.292	0.403	10.297	1	0.001	0.275	0.125	0.605
	Age	0.047	0.017	7.221	1	0.007	1.048	1.013	1.084
	Ethnic group (Roma)	–1.705	0.484	12.401	1	0.000	0.182	0.070	0.470

Legend/Legenda: n – number/število; B – regression coefficient/regresijski koeficient; Std. Error – standard error/standardna napaka; Wald – Wald test/Waldov test; df – degrees of freedom/stopinje prostosti; p – statistical significance/statistična značilnost; e^B – odds ratio/razmerje obetov; C.I. – confidence interval/interval zaupanja; R^2 –explanatory proportion of variability/delež pojasnjevalne variabilnosti; χ2 – chi-square test/hi-kvadrat test

Table 5: *Statistically significant factors included in the binary logistic regression model of the non-hazardous drinkers (n = 179)*
Tabela 5: *Statistično značilni dejavniki, vključeni v binarni logistični regresijski model manj tveganih pivcev (n = 179)*

Non-hazardous drinkers/ Manj tvegani pivci	***Characteristics/ Značilnosti***	***B***	***Standard Error/ Standardna napaka***	***Wald***	***df***	***p***	***e^B***	***95% C.I. for e^B/ 95% C.I. za e^B***	
								Lower/ Spodnja	***Upper/ Zgornja***
Omnibus test: $\chi^2 = 15.463$; $df = 6$; $p = 0.017$ Hosmer-Lemshow test: $\chi^2 = 7.322$; $df = 8$; $p = 0.502$ Nagelkerke R^2: 0.110 Percentage correct: 62.6	Constant	–0.442	0.686	0.416	1	0.159	0.643	/	/
	Ethnic group (Roma)	0.884	0.363	5.936	1	0.015	2.421	1.189	4.932

Legend/Legenda: n – number/število; B – regression coefficient/regresijski koeficient; Std. Error – standard error/standardna napaka; Wald – Wald test/Waldov test; df – degrees of freedom/stopinje prostosti; p – statistical significance/statistična značilnost; e^B – odds ratio/razmerje obetov; C.I. – confidence interval/interval zaupanja; R^2 –explanatory proportion of variability/delež pojasnjevalne variabilnosti; χ2 – chi-square test/ hi-kvadrat test

Table 5 shows the results of the binary logistic regression model for non-hazardous drinkers. 179 respondents were included in this model, 95 of them were considered as non-hazardous drinkers.

Both logistic regression models (Table 4, Table 5) show that ethnicity is a statistically significant factor. Roma people have more than five (5.495) times the odds of being a teetotaller than non-Roma. Moreover, non-Roma people have more than two (2.421) times the odds of being a non-hazardous drinker than Roma. Both models proved statistically significant by Omnibus test. The teetotaller model explained 22.7 % of the variance in being a teetotaller and correctly classified 78.2 % of cases. The model of a non-hazardous drinker explained 11.0 % of the variance in being a non-hazardous-drinker and correctly classified 62.6 % of cases.

Discussion

The findings from this research suggest that, compared to the non-Roma population, the Roma population drink less than non-Roma, since the average AUDIT score is lower for Roma than non-Roma (Table 2). While looking at drinking patterns, ethnicity emerges as an important factor in determining a teetotaller and non-hazardous drinker (Table 3 and 4). In non-hazardous drinking, ethnicity is the only statistically important factor (Table 5). The interpretation of the model for teetotallers is relatively straightforward: being Roma, a person of female sex and older age are factors that are linked with non-drinking behaviour. Most studies conducted on minorities suggest that there is more abstinence in these groups compared to

the general population (Connor, et al., 2004; Dingwall, et al., 2011; Caetano, et al., 2014), therefore our results are not different from existing findings. For example, in Latvia and Lithuania, studies also found a higher rate of abstinence among Roma children (Kanapeckiene, et al., 2009). Our study has confirmed these findings. The model of non-drinking compared the non-hazardous drinkers with a control group of teetotallers and other drinking behaviours (hazardous, harmful and dependence). In this model, ethnicity is the only predicting factor, Roma being less likely to be non-hazardous drinkers (Table 5). The interpretation may be that Roma either do not drink at all, but when they do, they are more likely to drink excessively. In order to prove this thesis, we should construct a model that would compare the non-risky drinkers with the rest of the drinkers, but the sample size was too small to permit such an analysis. Roma traditionally do not own land, they do not plant fruit or grapes and are therefore not used to producing alcohol in order to consume it regularly in smaller quantities (Podojsteršek, 2015). However, other studies should be conducted in order to test the validity of this thesis. We would also like to draw attention to a relatively high proportion of reported addiction problems in the Roma population. The differences are not statistically important because the sample was too small. We could not give a relevant explanation to this question and further research would be needed to give an explanation of this observation. Another potential research question regarding this observation might be regarding the AUDIT scale and whether it is sufficiently accurate for alcohol abuse, as suggested by some authors (Foxcroft, et al., 2014). This is a finding that is certainly worth exploring in greater depth in further studies. Also, high quality health care should include knowledge about patients and this includes knowing about their ethnicity. Since Roma are a specific group to deal with and because they have different patterns of using healthcare, they are often considered as problematic patients (Van Cleemput, 2010). This, in turn, is a source of prejudice among healthcare providers, who often label them as problematic in their alcohol consumption, without any real data to support it. We believe our study sheds some additional light on this issue, proving that overall alcohol consumption in Roma is lower than in non-Roma, but that drinking behaviour, once it develops, may be more prone to excessive drinking.

The estimates of alcohol consumption were obtained from a self-reported questionnaire, and the results may be influenced by cultural norms. Some previous research pointed out that it may be possible that Roma wanted to please the investigators more than the rest of the population, which could influence the differences (Petek, et al., 2006; Niksič & Kurspahić-Mujićić, 2007; Zelko, et al., 2015b). Roma also more frequently needed help in understanding some of the questions in the questionnaire, which may also be a source of bias. It might also be possible that some of the non-Roma sample did not understand the question, but refused to ask for help. These biases of self-reported questionnaires are well known and could not be avoided in looking at alcohol drinking behaviour. We are also aware that the sample was not representative. The aim of the research put forward was not to get representative data on the population, but rather to look at the differences between the two groups. Further, we are also aware that Roma groups are culturally different and that the group we have approached may not share the same values and norms as other Roma groups living in the country. Another limitation of the study could be a potentially non-sufficient accuracy of the AUDIT questionnaire for alcohol abuse and the question of usefulness of the questionnaire for minority groups.

Conclusion

We confirmed that the Roma drink less and are more often teetotallers than non-Roma and that they have a different pattern of drinking behaviour. Further research should be conducted in order to clarify some of the questions regarding the drinking behaviour of this group, especially regarding drinking patterns and reasons for them.

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Conflict of interest

The authors declare that no conflicts of interest exist.

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Ethical approval

The study was approved by the Slovenian National Medical Ethics Committee on 23th of May 2014 (UKC-MB-KME-48/14).

Author contributions

EZ and JP, the main investigators, designed the study and drafted the manuscript. IŠ and MK co-designed the study and co-drafted the manuscript. MS made the statistical analysis and co-drafted the manuscript. All authors read and approved the final manuscript.

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