

DO EATING HABITS OF THE POPULATION LIVING IN ROMA SETTLEMENTS DIFFER FROM THOSE OF THE MAJORITY POPULATION IN SLOVAKIA?

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SUMMARY

Living in Roma settlements is associated with worse health in comparison with the majority population; this might be partially explained by socioeconomic disadvantages as well as cultural differences, including lifestyle. Eating habits represent an important part of lifestyle closely related to primary causes of morbidity and mortality, such as cardiovascular diseases, metabolic diseases or cancers. The eating habits of the population living in Roma settlements in comparison with those of the majority population were explored using the cross-sectional epidemiological HepaMeta study conducted in 2011. A representative sample of Roma ($n = 452$, mean age = 34.7; 35.2% men) and non-Roma ($n = 403$, mean age = 33.5; 45.9% men) aged 18–55 years living in the Košice region were asked about breakfasting and recent consumption of fruits, vegetables, dairy products, meat products, meat, farinaceous dishes, and soft drinks. A logistic regression model was used separately for male and female participants. The population living in Roma settlements reported the recent consumption of fruit, vegetables and dairy products significantly less frequently in comparison with the majority population. Moreover, Roma females, in comparison with non-Roma females, reported significantly more frequently the consumption of meat and soft drinks. No differences were found between Roma and non-Roma in the consumption of meat products and farinaceous dishes. The population living in Roma settlements reported more frequently unhealthy eating habits in comparison with the majority population; this might contribute to worse health status of this population. The differences might be attributed to cultural differences between ethnic as well as socioeconomic groups, reduced availability of certain food items due to segregation or poverty and lower health literacy.

Key words: Roma settlements, eating habits, health

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INTRODUCTION

There are 8 to 12 million Roma living worldwide (1), with approximately 5.2 million Roma living in Central and Eastern Europe (2). Slovakia is among countries with the highest share of Roma population: it is estimated that about 430,000 Roma live in Slovakia, which represents 8% of the Slovak population (3–5). Moreover, a considerable part of this population is living in settlements located in the eastern and southern part of Slovakia (2, 4). Living in Roma settlements indicates an accumulation of socioeconomic disadvantages like segregation, poor housing, overcrowding, limited access to drinking water, and a lack of sewage systems, and these communities experience generational poverty, a high prevalence of long-term unemployment, a low educational level and high risk of discrimination, violence, and usury (2–4, 6, 7). The health status of most of the Roma population is worse than that of the non-Roma population living in Slovakia (8, 9). These findings have also been validated abroad (10–12). In particular the prevalence of obesity, type 2 diabetes mellitus, metabolic syndromes and cardiovascular diseases is high in the Roma population (13–17). Differences in health status between the Roma population and the majority population might be at-

tributed to differences in living conditions, different access to goods and services and the extent of poverty; cultural differences, mainly differences in health-related behaviour and health literacy; differences in psycho-social conditions, e.g. the health consequences of discrimination-related stress, social exclusion, material and financial deprivation, and low socioeconomic position; and cumulative disadvantage from early childhood (11, 18–21). Eating habits and nutrition in particular play a critical role in the prevention of non-communicable diseases and may differ in the culturally different settings of Roma settlements. Dietary factors such as low consumption of fruit and vegetables and a diet high in fat (particularly saturated fats) and salt may cause, directly or through risk factors such as blood lipids, blood pressure or blood glucose, overweight and obesity (22–24). This kind of diet was found to be associated with low socioeconomic groups (25), to which the population living in Roma settlements generally belongs.

The aim of this study is to explore differences in eating habits between the population living in Roma settlements and the majority population in Slovakia.

MATERIALS AND METHODS

Data from the cross-sectional population-based HepaMeta study conducted in Slovakia in 2011 were used. This project aimed

*HepaMeta Team members are listed in Appendix

to map the prevalence of viral hepatitis B/C and metabolic syndrome in the population living in separated and segregated Roma settlements and to compare it with the occurrence of the same health indicators in the majority population considering selected risk and protective factors of these health indicators. This study is described in details elsewhere (26, 27). A representative sample of Roma (n=452, mean age=34.7; 35.2% men) and non-Roma (n=403, mean age=33.5; 45.9% men) aged 18–55 years living in the Košice region were asked about breakfasting and recent consumption of fruits, vegetables, dairy products, meat products, meat, farinaceous dishes, and soft drinks.

Eating habits were measured by asking respondents the question: “Do you breakfast regularly, i.e., at least 4 times per week?” and “Did you eat yesterday and today?” Fruit – apple, banana, orange, or other raw fruit; vegetables – tomatoes, green pepper, lettuce, or other raw vegetables; dairy products – milk, yoghurt, cheese, or other dairy products; meat products – salami, sausage, ham, or other meat products; meat – schnitzel, roast chicken, steak, or other meat; dishes from flour – pasta, noodles, dumplings, pancakes, or other farinaceous foods; soft drinks – cola, lemonade or other soft drinks. Possible responses were yes/no. Days after Sundays as well as days when welfare benefits are received were excluded from the data collection schedule.

The differences in eating habits between the population living in Roma settlements and the majority population in Slovakia were analysed using logistic models separately for males and females. The analyses were performed with IBM SPSS Statistics 20.

RESULTS

The final sample comprised 452 Roma (mean age=34.47; SD=9.16; 35.2% men) and 403 (mean age=33.47; SD=7.41; 45.9% men) non-Roma respondents. Results obtained from a representative sample of male and female respondents of both the Roma and majority populations are summarised in Table 1. Nearly three-quarters of respondents reported eating breakfast regularly, and no statistically significant differences between Roma and non-Roma males or females were confirmed. Reported recent consumption of fruits was nearly two-times lower among Roma respondents living in Roma settlements in comparison with non-Roma (OR/CI, males: 0.56/0.36–0.88, females: 0.59/0.40–0.86).

Recent consumption of fruits like apple, banana, orange, or other raw fruit was reported by 46.4% of males and 57.2% of females living in Roma settlements, but 60.5% of males and 69.6% of females from the majority population. The differences in vegetable consumption are even greater. Reported recent consumption of vegetable (tomatoes, green pepper, lettuce, or other raw vegetables) was more than three-times lower among respondents living in Roma settlements in comparison with non-Roma (OR/CI, males: 0.29/0.18–0.47, females: 0.30/0.20–0.46). Recent consumption of vegetables was reported by 49.3% of males and 53.7% of females living in Roma settlements, contrary to 77.3% of males and 79.3% of females in the majority population. The biggest differences were found in the consumption of milk, yoghurt, cheese, or other dairy products. Reported recent consumption of dairy products was six-times lower among Roma males in comparison with non-Roma males (OR/CI: 0.27/0.16–0.46) and more than eight-times lower among Roma females in comparison with non-Roma females (OR/CI: 0.12/0.07–0.21). While 81.8% of males and 92.5% of females from the majority population reported recent consumption of dairy products, only 55.1% of males and 59.7% of females living in Roma settlements did so. Roma males and females do not differ from their counterparts in the majority population in the recent consumption of salami, sausage, ham, or other meat products. Recent consumption of meat products was reported by more than 80% of males and more than 75% of females. More than 70% of males living in Roma settlements as well as from the majority reported the recent consumption of meat (schnitzel, roast chicken, steak, or other meat), but there is no statistical difference between them. However, more than 65% of Roma females, compared to 54% of non-Roma females (OR/CI: 1.62/1.11–2.37), reported the consumption of meat the day before the data collection. No differences between Roma and non-Roma were found in the recent consumption of pasta, noodles, dumplings, pancakes, or other farinaceous foods, which were reported by 70% of Roma males and females and more than 60% of non-Roma males and females. Similarly, no difference between Roma and non-Roma males was found in the consumption of soft drinks: 74.2% of Roma males and 67.9% of non-Roma males reported recent consumption of cola, lemonade or other soft drinks. On the other hand, 69.7% of Roma females compared to only 46.8% of non-Roma females reported recent consumption of soft drinks.

Table 1. Eating habits of the population living in Roma settlements in comparison with the majority population (prevalence, OR, CI)

	Male			Female		
	Roma (N=159) n (%)	non-Roma (N=185) n (%)	OR (95% CI)	Roma (N=293) n (%)	non-Roma (N=218) n (%)	OR (95% CI)
Breakfast	118 (74.2)	136 (73.5)	0.97 (0.60–1.59)	208 (71.0)	161 (73.9)	0.79 (0.53–1.19)
Fruits	70 (46.4)	98 (60.5)	0.56 (0.36–0.88) *	162 (57.2)	135 (69.6)	0.59 (0.40–0.86) **
Vegetables	73 (49.3)	126 (77.3)	0.29 (0.18–0.47) ***	152 (53.7)	157 (79.3)	0.30 (0.20–0.46) ***
Dairy products	81 (55.1)	135 (81.8)	0.27 (0.16–0.46) ***	169 (59.7)	186 (92.5)	0.12 (0.07–0.21) ***
Meat products	123 (80.4)	135 (83.3)	0.82 (0.46–1.46)	222 (78.4)	150 (76.1)	0.56 (0.74–1.76)
Meat	111 (73.0)	116 (72.0)	1.05 (0.64–1.73)	181 (65.1)	98 (53.6)	1.62 (1.11–2.37) *
Farinaceous dishes	104 (70.3)	93 (62.4)	1.42 (0.88–2.31)	195 (69.1)	111 (60.7)	1.45 (0.99–2.15)
Soft drinks	115 (74.2)	108 (67.9)	1.36 (0.83–2.22)	198 (69.7)	88 (46.8)	2.62 (1.79–3.83) ***

*p<0.05, **p<0.01, ***p<0.001

DISCUSSION

The population living in Roma settlements in comparison with the majority population reported less frequently the recent consumption of fruits, vegetables and dairy products, and among females more frequently the recent consumption of meat and soft drinks. No differences were found in regular breakfasting, recent consumption of meat products and farinaceous dishes.

Regular breakfasting has a relatively high prevalence in the majority population as well as the population in Roma settlements (over 70%), which is in accordance with findings of some epidemiological (28) and anthropological studies (29, 30) conducted in populations in Roma settlements. Only about 5% of respondents among children and adults usually omitted breakfast (28). Belák reported on breakfasting of bread with meat products, soup or warmed leftover food from the previous day as a regular part of the day in the observed Roma community, while an actual feeling of hunger seems to be the only reason to join eating in community (29). Breakfast is recommended as a part of healthy diet, and breakfast consumers tend to have higher micro and macro nutrient intakes and lower BMI than those who skip breakfast (31, 32).

Lower consumption of fruits and vegetables among Roma in comparison with non-Roma was also confirmed in the works of Ostrihoňová and Bérešová (16), Popper et al. (28) and Kačala et al. (33). The lower prevalence of fresh fruit and vegetables in the Roma diet is usually attributed to financial stringency and poverty (30). Fruits and vegetables contribute to cardiovascular health through the variety of phytonutrients, potassium, folic acid, and fibre they contain (33). Daily intake of fresh fruits and vegetables (including berries, green leafy and cruciferous vegetables and legumes) in adequate quantities (400–500 g per day) is recommended to reduce the risk of coronary heart disease, stroke, high blood pressure, colorectal cancer, and to improve bowel function and contribute to better management of diabetes (34, 35).

Lower consumption of dairy product among Roma in comparison with non-Roma was also confirmed by Ostrihoňová and Bérešová (16). Dairy products are an important source of protein and certain vitamins and minerals, such as vitamin D, vitamin A and vitamins B-12, B-6 and calcium (36). Use of dairy products, especially fermented products containing probiotics is important since probiotics have both local and general biomedical effects, inhibitory effect against pathogens, optimising effect on digestive processes, immunostimulative effect as well as anti-tumour and cholesterol-reducing activities (37).

About three-quarters of respondents, Roma as well as non-Roma, reported a relatively high prevalence of meat and meat products consumption and therefore the differences, particularly among males, were not significant. Several studies have previously reported preference for meat and meat products in the diet of Roma populations (16, 28, 29, 33). Meat and meat products consumption is usually the main source of fat intake in a diet, nevertheless, lowering the intake is usually recommended (34). Dietary intake of fats strongly influences the risk of cardiovascular diseases such as coronary heart disease and stroke through their effects on blood lipids, thrombosis, blood pressure, arterial (endothelial) function, arrhythmogenesis and inflammation (34).

Despite the fact that in our study the prevalence of farinaceous dishes was higher in the population living in Roma settlements in comparison with the majority population, no significant dif-

ferences were confirmed. However, there are studies that have reported differences in the consumption of farinaceous dishes between Roma and non-Roma populations, 13.9% of Roma contrary to only 4% of non-Roma reported high (nearly daily) consumption of farinaceous dishes (16). This dietary component belongs among traditional and favourite foods in Slovakia (38) due to its palatability and financial affordability as well.

The regular consumption of soft drinks represents a main source of high sugar intake, which might significantly contribute to overweight and obesity. Consumption of soft drinks is relatively high in Roma as well as non-Roma males (74.2% vs. 67.9%), which might explain the lack of significant differences between them. Differences in the consumption of soft drinks among Roma and non-Roma women, e.g., the higher prevalence of soft drinks consumption among Roma women (69.7%) in comparison with non-Roma women (46.8%) might explain the higher prevalence of obesity among them (27). In contrast to these findings, a study by Belák reported water drinking in the observed Roma community and only sporadic consumption of soft drinks despite higher social status of the family (29). Women from majority population might be more aware of health-promoting campaigns, particularly those related to weight maintenance including drinking regime as a main part of the diet. At the same time they might experience fewer restrictions related to the availability of drinking water. Problematic access to drinking water in many Roma settlements – a probable cause of higher prevalence of water-borne diseases (39, 40) may lead to a preference of bottled drinks represented mainly by soft drinks. Soft drinks provide little nutritional benefit, by virtue of their high added-sugar content may be a key contributor to the epidemic of overweight and obesity and probably the risk of diabetes, fractures and dental caries as well (36, 41, 42). Drinking regime is an important part of a lifestyle, the consumption of drinks such as water, low-fat milk, and small quantities of fruit juice should be preferred (36).

Unhealthy eating habits might contribute to worse health status of Roma population in comparison with the majority population. These differences might be attributed to cultural differences related to ethnic as well as socioeconomic groups, lower availability of certain food due to segregation or poverty and health literacy (25, 43). Therefore, any strategy or intervention aimed at healthy nutritional habits has to tackle not only individual knowledge of nutrition and motivation but also structural factors like access to grocery stores, transportation, water supply, neighbourhood safety as well as the financial affordability of healthy foods for the particular population (25).

Acknowledgement

This project was partially supported by Roche Slovensko, s.r.o., and the Agency of the Slovak Ministry of Education for the Structural Funds of EU, project ITMS: 26220120058 (70%).

Conflict of Interests

None declared

APPENDIX

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