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CDS & Diabetes in Roma Population

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Πίνακας περιεχομένων

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Introduction

Cardiovascular disease (CVD) remains a leading cause of morbidity and mortality across Europe, with distinct disparities among marginalized groups, particularly the Roma populations in Central and Eastern Europe. These communities face a significantly elevated risk of CVD due to a confluence of socioeconomic, lifestyle, and healthcare access challenges. High rates of smoking, obesity, hypertension, and diabetes—often exacerbated by limited access to healthcare and health education—are prevalent within Roma populations, contributing to poorer health outcomes compared to majority populations. Studies conducted in Bulgaria, Hungary, and other Central-Eastern European countries highlight the compounded effect of social determinants, such as low educational attainment, poverty, and discrimination, which further limit healthcare access and prevent effective management of CVD risk factors. This synthesis of findings underscores the urgent need for targeted, culturally sensitive public health interventions that address both behavioral and structural determinants of health within Roma communities.

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Title: Cardiovascular Health Disparities in Underprivileged Roma and Non-Roma Populations: A Comparative Analysis

Introduction

The disparities in cardiovascular health among the Roma population in Hungary reflect both social and economic inequalities that affect health outcomes. Cardiovascular diseases (CVD) are prevalent among marginalized groups, and the Roma, who constitute Hungary's largest minority group, are particularly affected. Key risk factors such as hypertension, obesity, and high rates of smoking contribute to higher morbidity and mortality rates. In Hungary, where cardiovascular conditions are a leading cause of death, understanding these disparities is critical to addressing public health inequities and developing targeted interventions (Andréka et al., 2024).

Methodology

The study was conducted as part of the “Taking the screening tests close to the people” program, which brought cardiovascular screenings to residents in economically disadvantaged areas. A sample of 6211 adults from 197 settlements participated, with data analyzed for demographic characteristics, physical health markers, and lifestyle factors. Using Pearson’s chi-squared test and logistic regression models, the study identified differences in cardiovascular risk factors between Roma and non-Roma groups, including obesity rates, hypertension, diabetes, and smoking habits (Andréka et al., 2024).

Results

1. Obesity and Physical Inactivity: Obesity, defined as a BMI over 25 kg/m², was high across both Roma and non-Roma populations, with 72.4% of Roma and 71.7% of non-Roma individuals classified as overweight or obese. This indicates that obesity is a pervasive issue in underprivileged areas, reflecting broader lifestyle and dietary challenges. Physical inactivity was prevalent, with over 90% of both groups engaging in less than three hours of exercise weekly (Andréka et al., 2024).

2. Smoking: Smoking rates were significantly higher in the Roma population, with 60.3% of Roma participants reporting daily smoking, compared to 28.7% of non-Roma. This disparity highlights the role of lifestyle factors in exacerbating cardiovascular risks in the Roma community. High smoking rates contribute directly

to increased risks of hypertension, diabetes, and other chronic conditions (Andréka et al., 2024).

3. Hypertension and Diabetes: Hypertension was diagnosed in 54.9% of the non-Roma group and 49.8% of the Roma group, while diabetes prevalence was similar across both groups (12.2% in non-Roma vs. 11.5% in Roma). Despite the similarity in diabetes rates, hypertension remains more prevalent among non-Roma, although both groups show rates significantly higher than the national average (Andréka et al., 2024).

Discussion

These findings highlight significant health disparities between Roma and non-Roma groups, driven by social and economic inequalities. The higher prevalence of smoking and limited access to healthcare services in underprivileged settlements underscores the need for accessible, culturally sensitive health programs. Education levels were also found to correlate with health outcomes, as Roma participants had lower rates of secondary and tertiary education compared to their non-Roma counterparts, potentially contributing to poorer health literacy and less effective self-management of chronic diseases (Andréka et al., 2024).

Conclusion

To address the health disparities identified, healthcare policies should focus on primary prevention, targeted health education, and reducing barriers to healthcare access in underprivileged areas. Programs tailored to the Roma community, with an emphasis on smoking cessation, nutritional education, and increased physical activity, are vital. Reducing these cardiovascular risk factors is essential to improving the health outcomes of marginalized populations in Hungary (Andréka et al., 2024).

References

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Title: Cardiovascular Health and Risk Factors Among Roma Populations in Bulgaria: A Case Study

Introduction

The Roma population in Europe, particularly in Central and Eastern Europe, faces substantial health challenges that correlate with socioeconomic disadvantages. Among these challenges, cardiovascular disease (CVD) presents as one of the most significant health issues, with the Roma population experiencing higher rates of CVD and related risk factors, such as obesity, high cholesterol, and sedentary lifestyle, when compared to the majority populations in the region. This disparity is attributed to multiple factors, including limited access to healthcare, lower education levels, and poor living conditions (Delcheva et al., 2023)(cejph_cjp-202302-0006).

Methods

In this study, a sample of 60 Roma individuals from South Bulgaria was analyzed alongside a control group of 68 non-Roma individuals to assess cardiovascular risk indicators. Participants underwent comprehensive health assessments that included fasting blood tests for glucose, cholesterol, triglycerides, and HDL and LDL cholesterol levels. Anthropometric measurements and lifestyle data, such as physical activity and smoking habits, were also collected. The differences in these indicators between Roma and non-Roma populations were statistically evaluated using t-tests and Mann-Whitney U tests, allowing for insights into significant cardiovascular risk disparities between the groups (Delcheva et al., 2023) (cejph_cjp-202302-0006).

Results

The study's findings indicate significantly poorer cardiovascular health among the Roma population. Key results include:

1. Lipid Profile: The Roma participants exhibited higher total cholesterol, LDL cholesterol, and triglycerides levels, with significantly lower HDL cholesterol levels than the non-Roma group. Such a lipid profile is associated with an elevated risk of atherosclerosis and cardiovascular events. The mean TC/HDL-C and TG/HDL-C ratios, as well as the atherogenic index of plasma (AIP) and lipoprotein combine index (LCI),

were all significantly elevated in the Roma group, confirming a higher propensity toward cardiovascular risk (Delcheva et al., 2023)(cejph_cjp-202302-0006).

2. Obesity and Physical Activity: Obesity rates among the Roma participants reached 35%, notably higher than in the non-Roma group. Additionally, all Roma participants reported a sedentary lifestyle, with no engagement in regular physical exercise. This lack of physical activity, combined with a high prevalence of smoking—33.3% of the Roma participants actively smoked—further exacerbates cardiovascular risks. These findings align with previous studies linking low physical activity and smoking to increased cardiovascular morbidity within marginalized groups (Delcheva et al., 2023)(cejph_cjp-202302-0006).

3. Diabetes and Hyperglycemia: Approximately 16.7% of Roma participants were diagnosed with diabetes, while an additional 32% of non-diabetic Roma individuals presented with elevated fasting glucose levels, indicative of hyperglycemia. The diabetes rate, combined with high instances of hypercholesterolemia (90%) and hypertriglyceridemia (88.3%), underscores the metabolic challenges faced by the Roma, posing substantial risks for both cardiovascular and overall health (Delcheva et al., 2023)(cejph_cjp-202302-0006).

4. Family History and Socioeconomic Context: Nearly all Roma participants reported a family history of cardiovascular disease (CVD), highlighting the hereditary component in conjunction with lifestyle factors. The high rates of CVD in families, coupled with limited educational attainment (91.5% had only completed primary education), suggest that both environmental and genetic factors are at play in the heightened cardiovascular risk seen within the Roma community. Lower educational levels often correlate with reduced health literacy, leading to suboptimal health management and prevention behaviors (Delcheva et al., 2023)(cejph_cjp-202302-0006).

Discussion

The results of this study align with broader findings from Central and Eastern Europe, which consistently highlight the Roma population as a vulnerable group for cardiovascular diseases. The elevated levels of cholesterol, triglycerides, and LDL, combined with low HDL, are critical markers of cardiovascular health, and their presence in Roma individuals suggests an urgent

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need for targeted health interventions. Sedentary lifestyles and high smoking rates further compound these risks, with smoking widely accepted as a major contributor to atherosclerosis and cardiovascular complications.

The high rates of diabetes and hyperglycemia identified in this study add another layer of complexity to the health challenges facing the Roma community. Given that diabetes is a significant risk factor for CVD, these findings underscore the need for comprehensive health programs that address not only smoking cessation and physical activity but also dietary management and blood glucose control. Health interventions should consider the socioeconomic factors influencing these health behaviors and focus on community-based education that is both accessible and culturally sensitive (Delcheva et al., 2023)(cejph_cjp-202302-0006).

Conclusion

This study provides valuable insights into the cardiovascular health status of the Roma population in South Bulgaria. With clear evidence of elevated cardiovascular risk factors, including dyslipidemia, obesity, diabetes, and a sedentary lifestyle, it is essential for public health policymakers to develop targeted programs that can effectively address these risks. Potential interventions may include mobile health units, culturally adapted education programs, and the establishment of community support structures to promote healthier lifestyles within Roma communities.

Enhanced efforts to improve access to healthcare and preventive services for Roma populations are crucial to reducing health disparities. Future research should focus on larger sample sizes and the long-term impact of specific intervention programs aimed at reducing CVD risk factors within Roma communities, which could inform better health policies across Central and Eastern Europe.

References

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Title: Cardiovascular Risk Factors in Roma Populations of Central-Eastern Europe: Health Disparities and Intervention Needs

Introduction

The Roma population in Central-Eastern Europe faces distinct health challenges, including a disproportionately high prevalence of cardiovascular disease (CVD) risk factors compared to non-Roma populations. Although the Roma have a rich cultural heritage, historical marginalization and socioeconomic disadvantages have significantly impacted their health outcomes. This analysis explores the unique CVD risk factors prevalent in Roma communities, such as high rates of smoking, obesity, hypertension, and diabetes. Addressing these issues is critical for public health improvement, as these communities often lack access to healthcare and health education (Dobranici, Buzea, & Popescu, 2012)(JMedLife-05-382).

Demographics and Health Status of the Roma Population

The Roma population in Central-Eastern Europe is estimated to include around 4.2 million individuals, with considerable diversity across countries like Slovakia, Croatia, Czech Republic, and Serbia. The majority of Roma face significant socioeconomic challenges, such as poverty, overcrowded living conditions, and limited access to education. These social determinants are tightly linked to the increased prevalence of non-communicable diseases, especially CVD. Data from the European Commission and various health studies highlight that this ethnic group often has lower life expectancy and higher morbidity rates, particularly from chronic diseases (Dobranici et al., 2012)(JMedLife-05-382).

Major Cardiovascular Risk Factors

1. Smoking: Smoking rates among Roma populations are substantially higher than among the general population in Central-Eastern Europe, contributing directly to increased cardiovascular risk. Studies indicate that smoking is both a widespread habit and a cultural practice within Roma communities. The health consequences of high smoking prevalence include elevated risks for coronary heart disease, stroke, and other forms of atherosclerotic CVD. Efforts to promote smoking cessation are crucial but often face challenges due to low awareness of smoking's harmful effects (Dobranici et al., 2012)(JMedLife-05-382).

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2. Obesity and Physical Inactivity: Obesity rates in Roma communities are concerning, as sedentary lifestyles and unhealthy dietary practices are common. This, coupled with limited access to exercise facilities, has resulted in high rates of obesity, which is a known risk factor for CVD. For instance, studies in Slovakia and Hungary indicate that obesity and high body mass index (BMI) are prevalent in Roma populations across age groups, further increasing their risk for diabetes, hypertension, and metabolic syndrome. Addressing obesity requires culturally adapted interventions that promote physical activity and healthy eating within these communities (Dobranici et al., 2012)(JMedLife-05-382).

3. Hypertension: Hypertension is one of the most prominent CVD risk factors among Roma populations. It is more prevalent in Roma communities than in the general population and often goes undiagnosed due to inadequate access to healthcare. High blood pressure significantly increases the risk of heart disease and stroke. In communities where routine screenings are rare, hypertension frequently remains untreated, leading to severe cardiovascular complications. Effective management of hypertension within Roma populations could reduce morbidity and mortality rates but requires increased access to healthcare services and consistent follow-up (Dobranici et al., 2012)(JMedLife-05-382).

4. Diabetes and Metabolic Syndrome: Diabetes mellitus, particularly type 2 diabetes, is increasingly common in Roma communities. Studies reveal a high prevalence of insulin resistance and metabolic syndrome, which is partly attributed to genetic factors and lifestyle. Metabolic syndrome, which includes conditions such as abdominal obesity, high triglyceride levels, and hypertension, poses a significant cardiovascular threat. Screening for diabetes and metabolic syndrome in Roma populations could facilitate early intervention and management, thereby reducing long-term health risks (Dobranici et al., 2012)(JMedLife-05-382).

Social Determinants of Health and Healthcare Access

The socioeconomic conditions of Roma populations are a critical determinant of their health outcomes. Factors such as low educational attainment, unemployment, and lack of health insurance contribute to poor health literacy and limited access to healthcare services. Many Roma individuals face discrimination within healthcare settings, further discouraging them from seeking medical assistance. Additionally, high levels of stress associated with

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socioeconomic hardship can exacerbate cardiovascular risk. Addressing these social determinants is essential for improving the health status of Roma communities (Dobranici et al., 2012)(JMedLife-05-382).

Challenges and Recommendations for Public Health Interventions

Improving cardiovascular health in Roma communities requires a multifaceted approach that addresses both health behaviors and social determinants. Public health interventions should focus on:

1. Culturally Sensitive Health Education: Programs designed to educate Roma communities about the dangers of smoking, unhealthy diets, and sedentary lifestyles are essential. These programs must be culturally tailored to resonate with Roma values and practices.

2. Increased Healthcare Access: Ensuring that Roma populations have access to routine health screenings, preventive care, and treatment for CVD risk factors is vital. This may involve mobile health clinics and partnerships with local Roma leaders to encourage participation in health programs.

3. Community-Based Interventions: Engaging Roma communities in public health efforts can increase their sense of ownership and responsibility. Community-based interventions, such as group exercise programs or smoking cessation workshops, can create supportive environments that encourage healthy behaviors.

4. Reducing Socioeconomic Inequality: Addressing the broader socioeconomic disparities faced by Roma populations, including access to education and employment opportunities, will have a positive impact on their health outcomes. Public health policies that prioritize equitable healthcare access and support social inclusion are crucial for long-term improvement in Roma health (Dobranici et al., 2012)(JMedLife-05-382).

Conclusion

The elevated cardiovascular risk among Roma populations in Central-Eastern Europe underscores the urgent need for targeted public health interventions. By addressing the high rates of smoking, obesity, hypertension, and diabetes, healthcare providers and policymakers can make meaningful strides toward reducing health disparities. The unique cultural, social,

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and economic contexts of Roma communities must guide the design and implementation of health programs to ensure their effectiveness. Ultimately, a comprehensive, inclusive approach to healthcare can help bridge the gap in cardiovascular health and enhance the quality of life for Roma individuals (Dobranici et al., 2012)(JMedLife-05-382).

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The elevated cardiovascular risk observed among Roma populations in Central and Eastern Europe underscores significant health disparities driven by both lifestyle factors and systemic inequities. High rates of smoking, obesity, hypertension, and diabetes in these communities highlight the urgent need for comprehensive health interventions that go beyond individual behavior modification. Effective public health strategies must include culturally tailored health education, improved healthcare access, and support for preventive care to address both immediate risk factors and broader social determinants of health. Furthermore, addressing socioeconomic barriers, such as low educational attainment and discrimination in healthcare, is essential to create equitable opportunities for improved health outcomes within Roma populations. Collaborative efforts between healthcare providers, policymakers, and local communities are critical to closing the health gap and promoting sustainable, long-term improvements in cardiovascular health among Roma individuals in Central-Eastern Europe.

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