SHORT COMMUNICATION

HEALTH STATUS IN SELECTED POST-COMMUNIST EUROPEAN COUNTRIES: A COMPARATIVE STUDY BETWEEN POLAND AND ALBANIA

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SUMMARY

Objectives: The aim of this analysis was to compare selected health status indicators of the Albanian and Polish populations, pertinent to two former communist countries in Central and Eastern Europe (CEE).

Methods: This analysis was based on the estimates related to the Global Burden of Disease (GBD) 2019 study, reported by the Institute for Health Metrics and Evaluation (IHME). For Poland, IHME uses data mainly from the Central Statistical Office of Poland, whereas for Albania the information is based on the reports from the National Institute of Statistics.

Results: In 2019, life expectancy at birth was slightly higher in Albania compared to Poland (78.5 years vs. 78.1 years, respectively). Mortality rate from noncommunicable diseases was similar in both countries (about 520 deaths per 100,000 population). In 2019, the main risk factor for the overall mortality in both countries was the high systolic blood pressure. In Albania, high systolic blood pressure accounted for almost 32% of deaths from all causes, whereas in Poland it accounted for only 21% of all deaths. The second main risk factor in Albania concerned the dietary factors which were responsible for almost one in four deaths. In Poland, the second main risk factor for all-cause mortality concerned tobacco which was responsible for one in five deaths. The third leading risk factor in Albania was tobacco (responsible for one in five deaths), whereas in Poland it concerned the dietary risks (responsible for about 19% of the all-cause mortality).

Conclusions: This analysis provides useful information about the current health status of two populations pertinent to the former Communist Bloc in CEE. While health indicators can provide important information about the differences in health status between populations, it is important to interpret these indicators in the context of the specific challenges and limitations facing each country.

Key words: Albania, burden of disease, comparative analysis, mortality, Poland, post-communist countries

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https://doi.org/10.21101/cejph.a7804

INTRODUCTION

Albania and Poland were both part of the Communist Bloc during the Cold War (1, 2). Albania was a socialist state ruled by the Albanian Party of Labour from 1946 until the collapse of communism in 1992 (1). Poland was also a socialist state ruled by the Polish United Workers' Party from 1948 until 1989, when a peaceful transition to democracy took place following negotiations between the government and opposition groups (2).

After 30 years of breakdown of the socialist regime, Albania is currently experiencing a rapid population aging (in 2020, almost 15% of the population was ≥ 65 years), as a result of a steady increase in life expectancy, a gradual decrease in fertility rate, and emigration of particularly young adults (3, 4).

Likewise, Poland has experienced demographic changes in the past three decades. Hence, according to the Central Statistical Office of Poland, the percentage of the population aged 65 and over was about 9% in 1990, whereas in 2020 it had increased to 16% (5).

Poland joined the European Union (EU) in May 2004 (6), whereas Albania is still in the accession process, being granted EU candidate status in June 2014 (7). Therefore, Poland has already benefited extensively from EU funding and integration, while Albania has a much smaller economy. On the whole, while Poland and Albania are both part of the European continent, they have different histories, geographies, and socioeconomic characteristics that distinguish them from one another. Yet, it is appealing to compare the health status between these two countries in order to assess the evolution experienced in the past three decades following the breakdown of socialism.

Comparing the health status of Poland and Albania is useful both scientifically and practically for several reasons. Most importantly, it can provide information on the differences in health outcomes between two countries currently at different levels of

development due to having gone through different paths during their political and economic transformation, as well as due to the differences in EU membership status. Also, it can provide an opportunity to identify interventions that can be implemented in each country in order to improve health outcomes. Therefore, by comparing the health status of Poland and Albania, a better understanding of the factors influencing health outcomes can be obtained and potential areas for improvement can be detected. In particular, comparing the health status of Poland and Albania allows for benchmarking progress towards meeting EU health standards and objectives. This helps Albania understand where it stands in relation to EU member states like Poland and identify areas for improvement to align with EU health policies and regulations.

From this perspective, the objective of this analysis was to compare selected health status indicators of the Albanian and Polish populations, pertinent to two former communist countries in Central and Eastern Europe.

MATERIALS AND METHODS

This analysis was based on the estimates related to the Global Burden of Disease (GBD) 1990 and 2019 studies, reported by the Institute for Health Metrics and Evaluation (IHME) (8). The IHME estimates mortality using a combination of methods, including statistical modelling, disease-specific models, and cause of death modelling (8, 9). The statistical modelling used by IHME is based on available data from vital registration systems, surveys, and other sources. These models account for differences in data quality and completeness, as well as variations in mortality rates across different age groups and geographic regions. In addition, IHME employs disease-specific models to estimate mortality for specific diseases or conditions including cancer (8, 9). Also, cause of death modelling is used by IHME to estimate mortality by cause of death, which is important for understanding the leading causes of death in different populations. These models incorporate data from medical certifications, verbal autopsy, and other sources to estimate cause-specific mortality rates (8, 9). In addition, importantly, IHME employs ensemble modelling, which is an approach that combines multiple models to produce more accurate estimates of mortality. This approach takes into account the strengths and weaknesses of different modelling methods and incorporates uncertainty into the estimates (8, 9).

For Poland, IHME uses data mainly from the Central Statistical Office of Poland (5, 8), whereas for Albania the information is based on the reports from the National Institute of Statistics (3, 8).

RESULTS

Table 1 presents selected health indicators for Poland and Albania in 1990 (corresponding to the breakdown of the communist regime) and in 2019 (the most recent estimates from IHME). In 1990, life expectancy was higher in Albania compared to Poland for both sexes (sex-pooled: 72.8 years vs. 71.1 years, respectively). In 2019, the sex-pooled life expectancy was only slightly higher in Albania compared to Poland (78.5 years vs. 78.1 years, respectively). There was a slightly higher life expectancy in Polish females compared to their Albanian counterparts (81.9 years vs. 81.4 years, respectively), but an opposite finding in males (74.2 years vs. 75.8 years, respectively). Similar to the crude life expectancy, the sex-pooled healthy life expectancy was higher in Albania than in Poland, more so in 1990 than in 2019 (in 1990: 63.9 years vs. 62.0 years; in 2019: 68.9 years vs. 68.1 years, respectively).

Table 1. *Selected health indicators in Albania and Poland in 1990 and 2019*

Indicator	Albania		Poland	
	1990	2019	1990	2019
Life expectancy, < 1 year, both sexes	72.8	78.5	71.1	78.1
Life expectancy, < 1 year, males	69.7	75.8	66.6	74.2
Life expectancy, < 1 year, females	76.3	81.4	75.7	81.9
Healthy life expectancy, years, both sexes	63.9	68.9	62.0	68.1
Healthy life expectancy, years, males	61.7	67.2	58.8	65.3
Healthy life expectancy, years, females	66.4	70.7	65.3	70.9
All-cause mortality*	831	575	958	584
Non-communicable diseases*	673	520	838	521
Cardiovascular diseases*	389	314	490	236
Ischaemic heart disease*	163	146	322	130
Stroke*	176	136	116	61
Neoplasms*	125	113	194	175
Diabetes mellitus*	5	4	14	11
Chronic respiratory diseases*	59	19	35	15
Injuries*	42	28	75	41
Communicable, maternal, neonatal, and nutritional diseases*	116	28	44	23

*Deaths per 100,000 population – age-standardized estimates
Source: IHME – https://vizhub.healthdata.org/gbd-results/

In line with a slightly higher life expectancy, the age-standardized all-cause mortality rate in Albania in 2019 was a little lower than in Poland (575 vs. 584 deaths per 100,000 population), whereas in 1990 this difference was more pronounced (831 vs. 958 deaths per 100,000 population). In 2019, mortality rate from noncommunicable diseases (NCDs) was similar in both countries (about 520 deaths per 100,000 population), whereas in 1990 it was considerably higher in Poland compared to Albania (838 vs. 673 deaths per 100,000 population, respectively). In 1990, death rate from infectious, maternal, neonatal, and nutritional diseases was considerably higher in Albania than in Poland (116 vs. 44 deaths per 100,000 population), whereas in 1990 it was only a bit higher in Albania than in Poland (28 vs. 23 deaths per 100,000 population). Conversely, mortality rate from injuries was significantly higher in Poland than in Albania in both 1990 (75 vs. 42 deaths per 100,000 population) and 2019 (41 vs. 28 deaths per 100,000 population) (Table 1).

Notably, in 2019, the (age-standardized) mortality rate from cardiovascular diseases was considerably higher in Albania than in Poland (314 vs. 236 deaths per 100,000 population), indicating an earlier evolutionary stage in the cardiovascular epidemic in transitional Albania. A contrary finding was evident in 1990 with Poland exhibiting a substantially higher mortality rate from cardiovascular diseases (490 vs. 389 deaths per 100,000 population). In particular, mortality rate from stroke in both 2019 and 1990 was substantially higher in Albania than in Poland, pointing to main differences between these two countries regarding prevention and especially prompt treatment of this highly fatal condition. Regarding the ischaemic heart disease, in 2019, the mortality rate was only slightly higher in Albania than in Poland, whereas in 1990 there was evidence of a considerably higher mortality rate in Poland compared to Albania, pointing additionally to a much more effective control and prevention of this condition in Poland than in Albania (Table 1).

On the other hand, the (age-standardized) mortality rate from neoplasms was higher in Poland than in Albania in both 1990 (194 vs. 125 deaths per 100,000 population) and in 2019 (175 vs. 113 deaths per 100,000 population), estimates which deserve careful interpretation as to potential differences between the two countries regarding the reporting level, screening and detection rate of various neoplasms at a population level. Furthermore, mortality rate from diabetes was almost triple in Poland compared to Albania in both 1990 (14 vs. 5 deaths per 100,000 population) and 2019 (11 vs. 4 deaths per 100,000 population) which, likewise the neoplasms, should be interpreted cautiously concerning the reporting and detection level of this condition in the respective populations (Table 1).

In 1990, the (age-standardized) mortality rate attributable to behavioural risk factors was higher in Poland than in Albania (476 vs. 382 deaths per 100,000 population), whereas in 2019 it was identical in both countries (estimated at 255 deaths per 100,000 population) (Table 2). On the other hand, mortality rate from environmental and occupational risk factors was higher in Albania than in Poland in both 1990 (208 vs. 179 deaths per 100,000 population) and 2019 (99 vs. 77 deaths per 100,000 population). Interestingly, in 1990, mortality rate from metabolic risk factors was considerably higher in Poland than in Albania (428 vs. 319 deaths per 100,000 population), whereas in 2019 it was slightly higher in the Albanian population compared to Poland (258 vs. 225 deaths per 100,000 population) (Table 2).

Within behavioural risk factors, in 1990, mortality rate from tobacco was higher in Poland compared to Albania (232 vs. 177 deaths per 100,000 population), whereas in 2019 tobacco accounted for a similar mortality rate in both countries (estimated at 116 to 117 deaths per 100,000 population). On the other hand, mortality rate due to alcohol use was significantly higher in Poland than in Albania in both 1990 (44 vs. 13 deaths per 100,000 population) and in 2019 (44 vs. 18 deaths per 100,000 population). Remarkably, in 1990, mortality rate from dietary risks was higher in Poland compared to Albania (251 vs. 190 deaths per 100,000 population), whereas in 2019 it was higher in Albania than in Poland (140 vs. 110 deaths per 100,000 population) (Table 2).

Within metabolic risks, the (age-standardized) mortality rate from hyperglycaemia was higher in Poland than in Albania in

Table 2. *Attributable mortality to selected risk factors in Albania and Poland in 1990 and 2019*

Risk factor	Albania		Poland	
	1990	2019	1990	2019
Behavioural risk factors*	382	255	476	255
Environmental and occupational risks*	208	99	179	77
Metabolic risks*	319	258	428	225
Tobacco*	177	116	232	117
Alcohol use*	13	18	44	44
Dietary risks*	190	140	251	110
High fasting plasma glucose*	50	52	116	84
High LDL cholesterol*	81	69	168	64
High systolic blood pressure*	245	183	261	123
High body mass index*	75	74	127	80
Low physical activity*	7	8	22	12
Air pollution*	147	55	124	43

*Deaths per 100,000 population – age-standardized estimates
Source: IHME – https://vizhub.healthdata.org/gbd-results/

both 1990 (116 vs. 50 deaths per 100,000 population) and 2019 (84 vs. 52 deaths per 100,000 population). Mortality rate from a higher body mass index was slightly higher in Poland than in Albania in 2019 (80 vs. 74 deaths per 100,000 population), but it was significantly higher in 1990 (127 vs. 75 deaths per 100,000 population). In turn, mortality rate from high LDL cholesterol level in 1990 was substantially higher in Poland compared to Albania (168 vs. 81 per 100,000 population), whereas in 2019 it was slightly higher in Albania than in Poland (69 vs. 64 deaths per 100,000 population). Of note, in 1990, mortality rate from high systolic blood pressure was somewhat higher in Poland than in Albania (261 vs. 245 deaths per 100,000 population), whereas in 2019 it was considerably higher in Albania compared to Poland (183 vs. 123 deaths per 100,000 population). Mortality rate from a sedentary lifestyle was higher in Poland than in Albania in both 1990 and in 2019. Conversely, mortality rate from air pollution was higher in Albania than in Poland in both 1990 and in 2019 (Table 2).

The main risk factor for the overall mortality in both countries in 1990 and in 2019 was the high systolic blood pressure (Fig. 1). In Albania, in both 1990 and 2019, the second main risk factor concerned the dietary factors, whereas the third leading risk factor was tobacco (responsible for about one in five deaths either in 1990 or in 2019). In Poland, in 1990, the second and third main risk factors for all-cause mortality concerned respectively dietary risks and tobacco, whereas in 2019 tobacco constituted the second main risk factor and dietary risks the third one (Fig. 1).

DISCUSSION

A main finding from this analysis comparing two former communist European countries consists of a similar NCD burden which comprises more than 90% of proportional mortality in both Albania and Poland. From this standpoint, healthcare systems in both countries should implement effective programmes for control and prevention of NCDs.

Overall, comparing cause-specific mortality between Poland and Albania can provide insights into the health status and health systems of these two countries, but it is important to interpret these comparisons in the context of differences in data collection and reporting methods, as well as broader social, economic, and political factors. The notable differences in health status indicators may reflect variations in risk factors, access to health care, and other contextual factors between Albania and Poland.

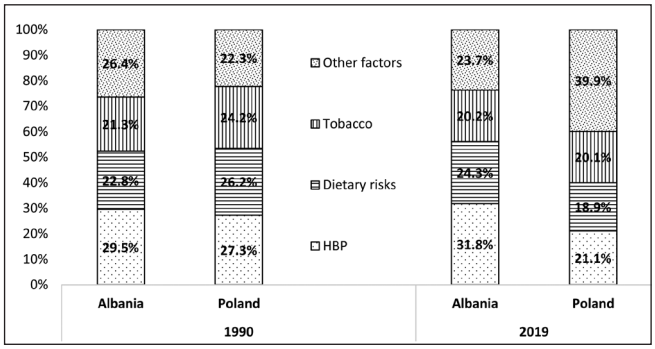

Fig. 1. *Proportional mortality attributable to the main risk factors in Albania and Poland in 1990 and 2019.*

Age-standardized estimates from IHME.

In both countries, cardiovascular diseases are the leading causes of death, highlighting the importance of cardiovascular health as a priority area for public health interventions. Furthermore, high systolic blood pressure is the main risk factor for all-cause mortality in both countries, being especially prominent in the Albanian population. As a matter of fact, notwithstanding the high prevalence, awareness about control and prevention of hypertension is rather low in the Albanian general population (10).

This analysis may have some limitations. All indicators included in this analysis were retrieved from a prestigious source that is the Institute for Health Metrics and Evaluation. In addition, the age-standardized estimates were employed in order to inform a fair comparison between the two countries involved. IHME's data and its analyses are widely used by policymakers, health practitioners, and researchers worldwide, and this institution has become a leading voice in the global health community. However, the validity of selected health indicators may be limited, especially for Albania whose health information system needs substantial strengthening and improvement. Of note, measurement of behavioural risk factors including especially diet and physical activity in GBD studies is challenging both in terms of data availability and quality (11). Thus, reliable and comprehensive dietary and physical activity data are often lacking, especially for Albania (12). Therefore, the assumption of homogeneity (application of uniform risk estimates) applied by GBD studies may not reflect the true relationship between selected behavioural risk factors and health outcomes (11, 13).

Despite these limitations, comparing the health status of Poland, an EU member, with Albania, an aspiring EU member, is essential for guiding Albania's integration into the EU, improving healthcare systems and public health outcomes, and fostering collaboration and exchange of best practices between European countries. Understanding the health-related criteria and requirements for EU accession will help Albania prioritize reforms and investments in healthcare infrastructure, human resources, and public health initiatives. Importantly, a comparative analysis with Poland can highlight the steps taken by a successful EU member state to meet these requirements and guide Albania's accession process. As a matter of fact, Albania would benefit from EU membership in terms of its improvement of population health status (14, 15).

CONCLUSIONS

In conclusion, this analysis provides useful information about the current health status of two populations pertinent to the former Communist Bloc in Central and Eastern Europe (Poland and Albania). While health indicators can provide important information about the differences in health status between the populations, it is important to interpret these indicators in the context of the specific challenges and limitations facing each country. In particular, in the case of Albania, it is important to continue working towards improving the quality and availability of health data in order to ensure that health indicators are as valid, accurate and representative as possible.

Overall, comparing the health status of Poland and Albania is essential for understanding the complex interplay of factors influ-

encing population health, guiding policy decisions, and fostering collaboration to improve health outcomes and well-being for all.

Conflicts of Interest

None declared

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Received March 25, 2023
Accepted in revised form February 25, 2024