CONTRIBUTION OF HIGHER EDUCATION TO PUBLIC HEALTH: tackling health inequalities through health policy development in Lithuania

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Introduction

Equity in health and solidarity in action through participation and accountability for continued health development are those fundamental values on which the health for all strategy in 21-st century for Europe is based (1). A large body of research carried out over last two decades throughout the world had clearly indicated that socioeconomic inequalities are responsible for large inequities in health among different populations and various population groups (2-7). It is well documented that among socioeconomic variables education is the major contributor to existing inequities in health – as lower educational level as worse health status is as measured by various indicators (8-10). Educational attainment is a composite socioeconomic variable, reflecting various influences on health status and mortality. It is closely associated with occupation, income, many other characteristics related to social support systems, affecting access to various resources, health services included, which consequently influence health and longevity (11).

The purpose of this chapter is to present importance of education and some other related variables for population health, based on research data carried out so far in Lithuania, and by this to demonstrate Lithuania’s efforts to address equity in health issue in developing its national health policy.

Research in health inequalities

Already prior to the 1990-ies national researchers had demonstrated socioeconomic inequalities in health in Lithuania, a rather homogeneous country. For instance, the World Health Organization (WHO) coordinated Kaunas-Rotterdam Intervention Study, carried out in 1971 – 1974, demonstrated large inequalities in self-
reported health by level of education in middle-aged men (12) and mortality of middle-aged men by educational level of their spouses (13). However, it was only through the stimulating role of WHO that systematic research effort into health inequalities began in 1997. Under the auspices of this collaboration Lithuania joined the Health Inequalities project (7). The data from the National Health Information Centre, the Ministries of Education, Health, Social Welfare and Labour, combined with the datasets from a number of research projects – Countrywide Integrated Noncommunicable Disease Intervention Programme (CINDI), Health Behaviour Monitoring in Adult Population (FINBALT HEALTH MONITOR), Health Behaviour Monitoring in Schoolchildren (HBSC) National Household Survey, Newborn Register, Accessibility to Health Care Project – constituted the database for a joint analysis (14-17). The results of this analysis showed that education, socioeconomic group, family income and place of residence were significant predictors of health inequality. Higher education, higher income and urban residence were strongly positively related with self-reported health status as well as such health behaviours like less of smoking, alcohol consumption, healthier nutrition. Up to 50 percent of all-cause mortality in Lithuania can be attributed to tobacco, alcohol abuse, with a smaller proportion contributed by traffic accidents. Large inequalities in neonatal health by the mothers educational level and marital status were discovered, with maternal smoking, alcohol and drug abuse accounting for a large proportion of the observed differences. Finally, socioeconomic inequalities were found in accessibility to healthcare, lower socioeconomic status predicting worse access to services (18).

**Education and risk of ill-health**

The extent of socioeconomic inequalities in health in Lithuania varies depending on the set of health and socioeconomic indicators selected. According to the data from the national mortality register, the Lithuanian population experiences large mortality
inequalities by different educational groups. University education looks like significant protector against premature mortality from all causes in both men and women. The largest mortality difference was observed in youngest groups of Lithuanian population (Fig.1), reaching 8.5 to 12.5 times in the age 25 and 30.

![Fig. 1. Comparison of age specific mortality between group with University and primary education (mortality of university education group equals 1)](image)

Similarly, the differences in life expectancy by educational categories at different age using life tables methodology were computed for Lithuanian males and females. As it is seen from the data presented in Fig. 2, the life expectancy of males with university education was significantly longer than the national average for that age in all age groups up to 70 years. Males with primary education had shorter than the average life expectancy for that age up to 45 years of age. It is very impressive that differences in life expectancy are largest in the youngest males, e.g. reaching 11.72 years in the age group of 25. There were no significant differences in life expectancy in males of secondary education.
Although inequalities between national average life expectancy for different age groups and that by educational category in Lithuanian females had similar tendencies to those of males, real differences by age were much smaller. As it can be seen from Fig. 2 statistically significant differences in female group with primary education were observed up to the age 45, while in the group with university education at the age 25 only.

It is also important to mention that large gender inequalities by educational category were observed in Lithuanian population, again, the largest being recorded in the youngest segments of the population. For example, at age 25 life expectancy in males with primary education was 12.12 years shorter than in females of same age, while in males with university education this difference was 4.71 years only. The observed gender differences in life expectancy were gradually decreasing with age in all educational categories.

Education as a social phenomenon plays important role through-out the human life. Its impact is significant from the very birth and even before the birth.
According to Lithuanian research data (Fig.3) the educational level of the mother is significant contributor to the health of the newborn (17). Mothers with university education are delivering low birth babies (< 2500 g.) substantially less frequently that those in lower educational category. It is well known that low birth babies are exposed to all kinds of health risks more frequently than those of normal.

**Education and health behaviour**

Numerous research projects accumulated enough prove that alongside with socioeconomic determinants of ill-health and premature mortality certain life styles play a key role in the development of certain diseases, sometimes called as diseases of civilization (19). Most important among them are smoking, diet, alcohol consumption habits, lack of physical activity. The relationship between some of them and level of education computed from the data of research projects carried out by Kaunas University of Medicine are presented here, again, demonstrating significant risk inequalities by educational categories.

The smoking habits by educational level in Lithuanian population are presented in Fig. 4.
The data presented, first of all, demonstrate that Lithuanian males are more frequent regular smokers than females by each educational category. Second, low educational status is strong determinant of higher prevalence of smoking habit nationwide, e.g. males and females with university education smoke twice as less as those with primary education.

Similarly, as presented in Fig. 5, Lithuanian males with university education consume significantly less of alcohol as compared with those with primary education.
However, the opposite tendencies, although not statistically significant, were observed in Lithuanian female population.

**Changes in health behaviour in relation to educational level**

Since 1994 as part of FINBALT HEALTH MONITOR project Kaunas University of Medicine has introduced biannual national monitoring of health behaviours in adult Lithuanian population (15). For this purpose, national random samples of 3000 subjects aged 20-64 are interviewed by mail using a standardized questionnaire. Since the year 2002 this procedure became an integral part of larger international effort in health behaviour monitoring and is used for process evaluation purposes of national integrated programmes for the prevention of noncommunicable diseases (CINDI HEALTH MONITOR).

Lithuanian health behaviour monitoring data collected since 1994 demonstrate rapid and substantial changes in population behaviours, going different directions. In this chapter two examples are presented for illustration, one being a success story and another one indicating a certain failure as far as health consequences are concerned.

It is well documented that use of vegetable oils instead of animal fat for cooking is beneficial for health. Strategies to change this habit is of special importance in populations where use of animal fat is substantial part of daily diet. Lithuanian research data have shown that until 1990’s, contrary to internationally recommended 25%, around 40% of the energy from the consumed food was coming from fat, animal fat being the major source (20). Preventive research programmes involving intensive mass media campaigns as well as considerable increase in variety and choice of food has led to significant changes in nutritional habits. As presented in Fig. 6, the proportion of persons using mostly vegetable oil for cooking doubled between 1994 and 1998-2000 in both males and females.
Analyzing the above changes in relation to educational level of Lithuanian population it is worth to emphasize that these health behaviour changes occur earlier and are more pronounced in males and females with university education (Fig. 7).

Fig. 6. Trends in proportion of persons using mostly vegetable oil for cooking in Lithuanian population aged 20-64 between 1994 and 2000

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Fig. 7. Proportion of persons using vegetable oil for cooking by educational level in Lithuanian population aged 20-64 in 1994 and 2000

However, some other behaviours did not change to the direction supportive to health. This, first of all, concerns smoking habits. As presented in Fig. 8, there was a
significant increase in proportion of regular cigarette smokers nationwide, especially in female population.

One of possible explanations of these unfavourable trends could be very aggressive invasion of international tobacco monopolies since 1990-ies and deficiencies in national tobacco control legislation or, in many instances, simply failures of its implementation. Overall increase in smoking habits was mainly result of the increase of this habit in younger age groups, and in case of females – even in teenagers. It should be admitted that the data of last national health behaviour survey show some promising signs. By 2002 survey, statistically significant decline in smoking habits was recorded in both genders (unpublished data). This might be a reflection of introduction of total ban on tobacco advertisement by law which came into power in May 2000. However, further monitoring of these trends is required.

As it could be seen the above undesirable trends in smoking habits substantially differed when analysed by educational category (Fig.9).
The registered trends in smoking habits until 2000 in male population were mainly determined by increase in those with lower education. Among the University degree males there were even some signs of decline. However, that was not a case with university degree females although difference in overall smoking prevalence as compared with lower education females remained.

Tackling health inequalities through policy development

As a follow-up to earlier and more recent research data as well as stimulated by “Health for All” (HFA) movement coordinated by WHO, Lithuania initiated its national health policy development even before regaining its independence. Based on the research data available from population-based studies and national statistics, a new national concept of health was developed as a response to the resolution adopted by the re-established Lithuanian Medical Association in 1989. After a nationwide dialogue this concept was approved at the highest political level by a specific parliamentary decision in October 1991, thus becoming a policy document (White Paper) for the reform of Lithuanian health system. Largely influenced by the long-lasting collaboration with WHO this Concept was based on HFA principles, giving
due importance to equity in health, community participation, intersectoriality and balance in healthcare aspects (21).

In practical terms it has set the process of health policy implementation based on new health legislation, a participatory process including health profession, politicians, and the public at large, which culminated by bringing all interested parties together at the First National Health Policy Conference with international participation. A first objective health status analysis in postwar Lithuania with trend assessment and international comparison was produced for this Conference (21). Further efforts in health policy implementation (22-24) led to the development of Lithuanian health programme adopted by parliament in July 1998 (25). Three major objectives aiming to reduce mortality and increase average life expectancy, equality in health and health care and quality of life have been set. The programme contains a separate target on equity which states that “By the year 2010 differences in health and health care between various socioeconomic population groups should be reduced by 25 per cent”.

The first step in the strategy to achieve this is defined as follows: “By the year 2000 inequalities in health and health care between different socioeconomic groups should be assessed and indicators for monitoring proposed”. Further on, the problems of health inequalities have to be revised as stated: “By the year 2005, to supplement health policy by measures aimed at the reduction of inequalities in health and health care”. The strategy includes intersectoral collaboration and systematic evaluation of the impact of all legal Acts on health inequalities. Also in 1998, the National Board of Health was established by the parliament, which is the highest-level authority accountable to the parliament and responsible for monitoring of health policy implementation. Its first report on national analysis of health situation focused on social determinants and inequities in health (26). The report was distributed presented and discussed on several occasions at international, national, regional and municipal
levels. Following the presentation of this report, parliament adopted a resolution requesting that action should focus on ensuring equal rights of access to health for all (by decreasing health differences among rural and urban population, and populations with different education, income level and age groups) by active cooperation of the state regions, municipalities and non-governmental organizations. All the above means that the problem of inequalities in health is finally on the political agenda, issue of education included. Unfortunately, economic constrains, lack of intersectoral cooperation, and frequent changes in government have not allowed more structured development and implementation of strategies at systematically reducing inequalities in health. Nevertheless, the 3-rd National Health Policy Conference held in September 2000 concluded that considerable progress has been made in achieving major objectives and targets as formulated in the National Programme of Health (27-29).

Conclusions

1. As many others, Lithuanian research data clearly demonstrate that higher education is a significant contributor to population’s health.

2. Low education is one of composite variables predicting considerably higher mortality in youngest adult population segments and consequently lowering economic capacity of the nation due to illness, disability and premature mortality.

3. Higher education is associated with lower prevalence of health behaviour related risk factors for ill-health.

4. Positive changes in health behaviours over time are more pronounced and occur earlier in population group with university education.

5. Education should be given serious concern and a priority in tackling social inequalities both in developing and implementing national health policy as well as public policies at large.
References


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