

VISUOMENĖS SVEIKATA

Healthy life expectancy – an important indicator for health policy development in Lithuania

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Key words: healthy life expectancy, health indicator, Lithuania.

Summary. The aim of the study was to assess the changes in healthy life expectancy of the Lithuanian population between the years 1997 and 2001 and to explore the differentials of this combined mortality and subjective health measure in males and females.

Material and methods. The data about the Lithuanian population and the deceased were available from the Lithuanian Department of Statistics, life tables for 1997 and 2001 were created and life expectancy estimated. The method presented first by D. F. Sullivan was applied for the assessment of healthy life expectancy. The data on self-perceived health of the Lithuanian population were acquired from the surveys of the health behavior of a randomly selected sample of the adult population of Lithuania, carried out by the Lithuanian Center for Health Education.

Results. Healthy life expectancy at birth increased from 52.7 in males and 52.6 in females in 1997 up to 53.7 in males and 55.3 in females in 2001. The proportion of healthy life expectancy in the total life expectancy at birth increased both in males and in females. Though the total life expectancy of males is 10–11 years shorter, females are expected to spend considerably more years in poor health, even though some positive changes were observed.

Conclusion. Increasing healthy life expectancy reflects improving health of Lithuanian population. This integrated health indicator should be periodically assessed and used for development health strategies to promote health in Lithuania.

Introduction

National health care system is supposed to contribute to the health of the population. World Health Organization defines health as “a state of complete physical, mental and social well-being and not merely the absence of diseases or infirmity” (1). This definition provides a basis for the broad perspective needed to analyze a population’s health. Health implies not only survival rates, but also a certain quality of life. However, up till now the major planning in health care is based upon “objective indicators”, such as mortality, morbidity or disability statistics. It is becoming obvious that one cannot merely use mortality or morbidity rates to define major objectives in health planning. A comprehensive index of the health status of a population should take into consideration how people feel about their health (2). Such an index should be based on data, which are easily obtainable, should be subject to disaggregation along with the principal demographic, regional and social dimensions of interest, and should

be distributed to policy makers and planners. Over the years, many general indicators of health have been proposed, although relatively few have actually been applied. The combination of the mortality figures and subjective health experience, such as healthy life expectancy, or measures of disability, such as disability-free life expectancy, provides meaningful health indicators at population level that can be compared between countries or regions within countries (3). In 2001, the World Health Organization described healthy life expectancy at birth as the equivalent number of years in full health that a newborn child can expect to live based on the current mortality rates and prevalence distribution of health states in the population (4). The proposed terminology for the indicator of health expectancy is based on one’s self-perceived status of health. Self-perceived health is commonly obtained from health surveys. It reflects how people experience morbidity and its consequences within their own environment (5, 6). Through self-perceived health people exp-

ress their position on the health/illness continuum (7). The use of health expectancy as a measure of health has become more and more common: estimates have been published for the increasing number of countries (3, 8, 9). The actual use of such results for policy making is increasing.

The aim of this article is to assess the changes in healthy life expectancy of the Lithuanian population between the years 1997 and 2001 and to explore the differentials of this combined mortality and subjective health measure in males and females.

Materials and methods

The calculation of healthy life expectancy involves bringing together mortality data from vital statistics and data on self-perceived health status available from questionnaires. According to the data about the Lithuanian population and the deceased available from the Lithuanian Department of Statistics, life tables for 1997 and 2001 were created and life expectancy estimated. The data concerning the self-perceived health of the Lithuanian population were acquired from the surveys of the health behavior of a randomly selected sample of the adult population of Lithuania (N=4763 in 1997 and N=3215 in 2002). These surveys, which were representative of the entire adult population in Lithuania, were carried out by the Lithuanian Center for Health Education. A question about one's self-perceived health status was included in the questionnaire. Self-perceived health was measured with the question: "how would you assess your health?" The response cat-

egories were: "very good", "good", "fair", rather poor", and "poor". Those responding "rather poor" and "poor" were regarded as having poor self-perceived health. Since data on the self-perceived health of children and adolescents was missing, information about the distribution of children into groups according to health status was obtained from the Lithuanian Health Information Center. Children in the health groups III, IV, and V (those having diagnosed chronic health problems) were classified as unhealthy.

The methodologies used to calculate healthy life expectancy differ in many studies (10). In our analysis the methodology proposed by D. F. Sullivan was applied (11). It consists of subtracting the years lived in an "unhealthy" state from the years lived by a theoretical cohort of 100,000 people under current conditions. To calculate healthy life expectancy, D. F. Sullivan modified the life tables by dividing the number of years lived in ill health and the number lived in good health. This was simply done by multiplying the years lived at each age by the prevalence of ill health. The new figure for life expectancy represents the health expectancy. Comparative analysis of life expectancy and healthy life expectancy for males and females for the years 1997 and 2001 was performed. As with other period life tables, the calculations here are hypothetical representations of what happens to a birth cohort of a fixed size that experiences the age-specific mortality rates in 1997 and 2001, and they include the prevalence of self-perceived poor health observed in the mentioned years. Consequently, these calculations do not

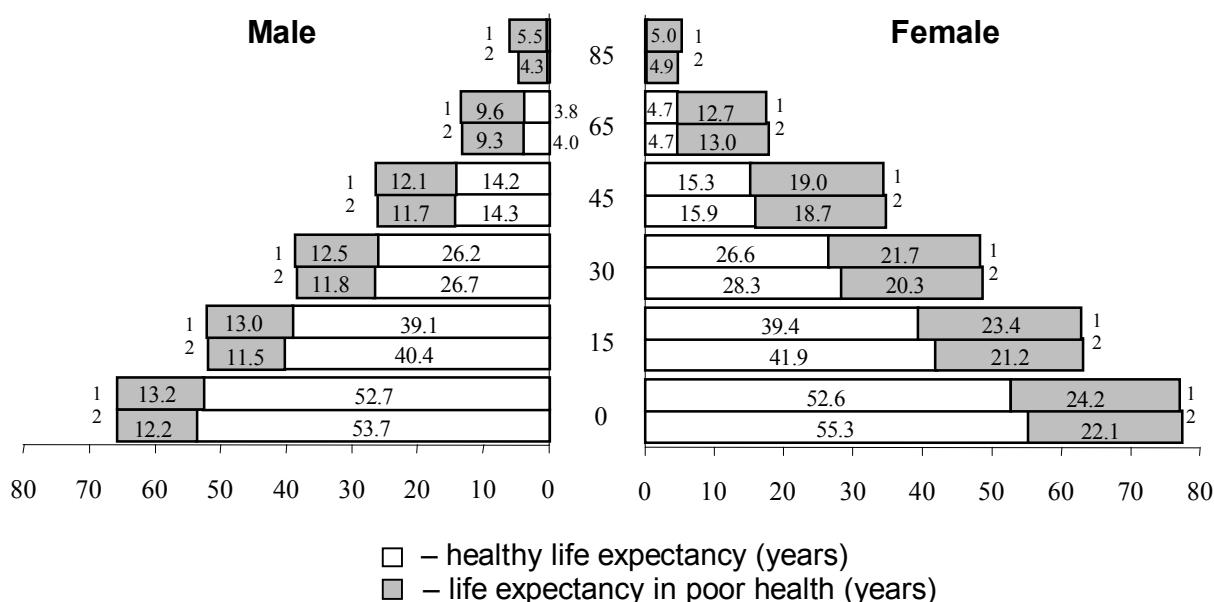


Fig. Healthy life expectancy and life expectancy in poor health of Lithuanian population in 1997 (1) and 2001 (2)

pretend to reflect the actual experience of any real birth cohort.

Results

Total life expectancy of males was 65.9 years and of females – 76.9 years in 1997. It remained at the same level in males and slightly increased in females (77.4) in 2001. At that time, healthy life expectancy at birth increased from 52.7 in males and 52.6 in females in 1997 up to 53.7 and 55.3 respectively in 2001 (Fig.). The highest life expectancy and healthy life expectancy both for males and females was observed at birth and infancy. These figures decreased with an increase in age. In all age groups healthy life expectancy increased in 2001 in comparison to the year 1997. The highest life expectancy in poor health, estimated as the difference between total life expectancy and healthy life expectancy, was noted at birth as well, and it decreased gradually in elder ages, because of the decrease in total life expectancy. In the year 2001, life expectancy in poor health was shorter both in males and females in all age groups (except females of 60–70 years of age), in comparison to 1997.

The ratio between healthy life expectancy and total

life expectancy could be considered as very informative indicator, demonstrating the proportion of healthy years to the total life expectancy. It is obvious that the highest proportion of healthy life expectancy is in childhood and young ages, while, with the increase of age, especially after 30–35 years, this proportion starts to decrease significantly. As demonstrated in Table 1, at the age of 45–50 in males and even earlier in females almost half of total life expectancy is accompanied by poor health. Nevertheless, some positive changes have been observed in 2001, compare to 1997. The proportions of healthy years in the total life expectancy increased both in males up to the age 70 and in females in all age groups, except 65 years.

The proportion of healthy life expectancy to the total life expectancy was higher in males than in females, especially in young and middle ages. Only in 2001, at the age of 75–80 this proportion became slightly higher in females.

Comparison of life expectancy and healthy life expectancy of males and females demonstrated that the total life expectancy of females was higher in all age groups, and difference increased in 2001, compare to 1997 (Table 2). Healthy life expectancy of males

Table 1. Proportion of healthy life expectancy to the total life expectancy of males and females

Age	Healthy life expectancy / life expectancy (%)			
	Males		Females	
	1997	2001	1997	2001
0	79.94	81.54	68.51	71.43
1	78.70	80.50	67.51	70.64
5	77.62	79.57	66.02	69.36
10	76.40	78.60	64.18	67.85
15	75.00	77.85	62.69	66.42
20	73.71	75.61	61.10	64.43
25	71.17	72.76	58.12	61.73
30	67.65	69.37	55.01	58.16
35	64.00	64.92	51.26	54.45
40	59.27	60.69	48.20	50.36
45	54.11	55.02	44.53	45.88
50	47.65	49.00	40.30	41.06
55	41.00	43.22	35.64	37.73
60	34.90	37.06	31.21	32.05
65	28.33	30.20	26.82	26.49
70	23.20	22.41	21.17	21.23
75	18.64	15.67	16.70	17.32
80	12.68	10.74	12.41	13.69
85+	6.54	8.2	6.24	6.66

Table 2. Comparison of total life expectancy and healthy life expectancy for males and females

Age	Difference in life expectancy		Difference in healthy life expectancy		Difference in life expectancy in poor health (years)	
	1997	2001	1997	2001	1997	2001
0	10.9	11.6	–0.1	1.6	11.0	10.0
1	10.8	11.4	–0.1	1.6	10.9	9.8
5	10.8	11.4	–0.1	1.6	10.9	9.8
10	10.7	11.3	–0.1	1.6	10.8	9.7
15	10.6	11.2	0.3	1.5	10.3	9.7
20	10.5	11.0	0.4	1.8	10.1	9.2
25	10.0	10.6	0.2	1.8	9.8	8.8
30	9.6	10.1	0.4	1.6	9.2	8.6
35	9.2	9.6	0.3	1.6	8.9	8.0
40	8.6	9.1	0.8	1.5	7.8	7.6
45	8.0	8.5	1.1	1.5	6.9	7.0
50	7.1	7.7	1.2	1.4	5.9	6.3
55	6.2	6.8	1.1	1.5	5.1	5.3
60	5.1	5.7	1.0	1.0	4.1	4.7
65	4.0	4.4	0.9	0.7	3.1	3.8
70	2.8	3.2	0.4	0.6	2.4	2.7
75	1.7	2.2	0.1	0.5	1.6	1.6
80	0.5	1.2	0.1	0.4	0.4	0.8
85+	0.3	0.6	0	0	–0.3	0.6

and females did not differ significantly in 1997, while in 2001, it became 1.6 years longer in females at birth and even 1.8 years at age 20–25. The differences in life expectancy of males and females in poor self-perceived health were large at birth and childhood, reaching 11 years in 1997 and 10 years in 2001. They decreased with the increase of age. Differences in males and females life expectancy in poor health decreased in all age groups till the age 45, while in elder ages they slightly increased.

Discussion

Health expectancy adds new knowledge to health assessment compared with total life expectancy. Estimating healthy life expectancy using the method of Sullivan is sometimes criticized as not being very informative and only giving reliable results in a static environment (2, 12). The shortcomings of this method are well-known. Other authors suggest, however, that the estimates of health expectancy using this method are sensitive to the properties of the indicators of poor health and acceptable for monitoring trends of health expectations for populations. The calculation of number of years in ill health is based on the single question about self-rated health. A poor present self-perceived health status does not necessarily imply long-term ill

health. It is rather a measure of a combination of long- and short-term disability, and in that sense it is a more comprehensive measure of disability than functional disability or limiting long-standing disease (13). An alternative to healthy life expectancy would have been disability-free life expectancy (1, 14). Nevertheless, healthy life expectancy is related to the prevalence of a range of chronic conditions that can be influenced by health care and prevention, while disability-free life expectancy is primarily related to disorders of the musculoskeletal system (15).

When estimating healthy life expectancy, the assessment of self-perceived health differs in various studies. As in our study, five response categories are most commonly used; however, respondents considering themselves to have “fair” health are considered “unhealthy” in some investigations and “healthy” in others. We support the more common opinion (7, 13) that those responding as having “fair” health should not be classified as “not healthy”. Because of the absence of complete data on self-perceived health of children and adolescents, the distribution of this age group according to their state of health as assessed in preventive investigation was used. It is not an indicator of self-perceived health; nevertheless, comparisons of information acquired in preventive investigations and

the data on self-perceived health demonstrated very similar results. For example, 9.4% of children at the age of 7–14 were registered as having poor health (health status groups III–V) in preventive investigations in 1997, while a survey of self-perceived health reported that approximately 12% of children at this age did not consider themselves to be very healthy (16).

Our data suggested that life expectancy and the proportion of healthy life expectancy to the total life expectancy was lower in Lithuania than in some European countries, where this indicator has been assessed (7, 15). A comparison of the self-perceived health of the Lithuanian population to other countries demonstrated that Lithuanians assess their health worse. The study of Kaunas-Rotterdam (1973) demonstrated that only 11% of males in Kaunas considered themselves to be in a “good health”, while in Rotterdam this figure was 51% (17). The study Health Behaviour among Lithuanian Adult Population suggested that in 2002 the proportion of population assessing their health as good and reasonably good was 49.2% in males and 45.9% in females. This proportion increased since 1998, when good or reasonably good health was reported by 41.7% of males and 36.8% of females (18). The shorter healthy life expectancy of Lithuanians is influenced not only by lower proportions of good self-perceived health in the population, but also by considerably higher mortality rates and shorter life expectancy. International comparison of healthy life expectancy demonstrated that although the total life expectancy at birth in many developed countries is high, the proportion of healthy life expectancy is lower than in developing countries with relatively low total life expectancy, and the proportion of healthy life expectancy of females, having longer total life expectancy, is lower than that of males (8, 19). So, although in 1997 the total life expectancy at birth for females exceeded that for males by slightly more than 10 years, this lead was entirely cancelled out by the greater number of years, which females spent in poor health. This finding is based on the fact that females of almost all ages report a higher prevalence of poor self-perceived health than males do. This is common situation in majority of surveys nevertheless the difference between self-perceived health of Lithuanian males and females is significantly higher. The situation improved slightly in 2001, demonstrating indirectly improving quality of life of Lithuanian females, however considerably smaller proportion of healthy years of life in the total life expectancy of Lithuanian females in comparison to males, requires particular attention. An analysis of trends in healthy life

expectancy in many advanced European countries suggests that the proportions of healthy life expectancy to the total life expectancy are decreasing (19). In Lithuanian case, promising situation was reported in 2001, compare to 1997: even though the total life expectancy did not change significantly, the proportion of healthy expected years increased by 1.6% in males and 2.9% in females.

In recent years a growing number of studies have paid attention to the increased mortality risk of people who evaluate their health as poor, so it is an important determinant of health outcomes such as mortality and disability (20–22). Time trends in healthy life expectancy help to determine whether we are improving the nation's health, or just being more successful in preventing severely ill people from dying. The debate about performance of health care indicators has evolved from defining indicators for management information for health authorities to attempts at measuring performance in a broader sense (23). The World Health Organization's World Health Report 2000 is an important step in this (1). It defines health system performance in terms of not only objective health indicators but also of additional subjective indicators of the responsiveness and fairness of health care systems. In defining the performance of Lithuanian health care system, a number of problems can be avoided that occur when whole health care system is assessed. The major aim of the health care system is to contribute to producing long and healthy life. The indicator of healthy life expectancy reflects rather well holistic approach in the assessment of health of the population. The role of preventive care and non-health care inputs also deserve here particular attention. Healthy life expectancy could be used as an indicator in the planning of health resources and developing future health policy in Lithuania. Monitoring of healthy life expectancy might produce tools for the development of health care strategies and for achieving postponement of morbidity and disabilities for the total population.

Conclusions

1. Healthy life expectancy at birth increased from 52.7 in males and 52.6 in females in 1997 up to 53.7 in males and 55.3 in females in 2001.
2. The proportion of healthy life expectancy in the total life expectancy at birth increased both in males and females.
3. The difference in healthy life expectancy between males and females was not significant in 1997, while in 2001 females were expected to spend slightly more years in good health in comparison to males.

The advantage to females in terms of life expectancy is a disadvantage in terms of healthy life expectancy: they are expected to spend considerably more years in poor health, even though some positive changes were observed.

4. Health expectancy, as an integrated indicator of the health of the population should be used for

development health strategies to promote health in Lithuania.

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Vidutinė sveiko žmogaus būsimąjo gyvenimo trukmė – svarbus Lietuvos sveikatos politikos raidos rodiklis

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Santrauka. Darbo tikslas. Įvertinti ir palyginti Lietuvos vyrų ir moterų vidutinę sveiko būsimąjo gyvenimo trukmę 1997 ir 2001 metais.

Medžiaga ir metodai. Duomenys apie Lietuvos gyventojus ir mirusiuosius, reikalingi išgyvenimo lentelėms sudaryti, gauti iš Lietuvos statistikos departamento, o apie savos sveikatos vertinimą – iš Lietuvos gyventojų sveikatos žinių ir elgsenos tyrimų, atliktų 1997 ir 2001 metais Respublikiniame sveikatos ugdymo centre. Vidutinės sveiko žmogaus būsimąjo gyvenimo trukmė apskaičiuota naudojant Sullivan sukurtą metodiką.

Rezultatai. 1997 metais Lietuvos sveikų vyrų vidutinė būsimąjo gyvenimo trukmė buvo 52,7, o moterų – 52,6 metų. 2001 m. ji pailgėjo: vyrų iki 53,7 ir moterų iki 55,3 metų grupėse. Nors moterų bendroji vidutinė būsimąjo gyvenimo trukmė yra 10–11 metų ilgesnė už vyrų, tačiau vidutinė sveikų vyrų populiacijoje būsimąjo gyvenimo trukmė sudaro didesnę dalį negu moterų, taigi moterų nesveikų gyvenimo metų tikimybė yra žymiai didesnė.

Išvada. Didėjanti vidutinė sveiko žmogaus būsimąjo gyvenimo trukmė rodo gerėjančią Lietuvos gyventojų sveikatą. Šis integruotas sveikatos rodiklis turėtų būti periodiškai nustatomas bei naudojamas formuojant Lietuvos sveikatos strategiją.

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