Educational differences in health expectancy in Madrid and Barcelona

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Abstract

Educational differences in Health Expectancy (HE) among residents older than 24 years of age in Madrid and Barcelona are evaluated. Death records were linked to the 1991 Population Census and self-perceived health from the National Health Interview Survey was used. Differences between the higher and the lower educational groups in HE at 25 years were: 7.5 years in men and 5.58 years in women in Madrid and 9.5 years in men and 13.4 years in women in Barcelona. Since HE combines mortality and health status, results presented may have important implications for health policy. © 2001 Elsevier Science Ireland Ltd. All rights reserved.

Keywords: Educational level; Health expectancy

1. Introduction

Nowadays, the benefit of using Health Expectancy (HE), a set of indicators which combines mortality and some measurement of health of the individuals, in Health Monitoring and Health Policy is beyond all doubt. One of the main concerns of Health Monitoring is the study of socio-economic differences in health status. Although in recent years there has been increasing evidence of differences in

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mortality and in the frequency of health problems among socio-economic groups [1], rarely these differences in HE have been shown among these groups [2,3]. In this study we have evaluated the socio-economic differences in HE in Madrid and Barcelona using educational level as an indicator of socio-economic position.

2. Subjects and methods

This analysis is based on Madrid and Barcelona cities mortality records for the period from 1993 to 1994 and the 1991 Population Census data. Deaths of people older than 24 year according to sex, age group and educational level were provided by the Department of Statistics of the town council for Madrid. For Barcelona, we used the estimates of death published by the Department of Statistics of the town council [4]. Data on population resident in both cities from the Population Census were provided by National Institute of Statistics (INE).

Self-perceived health was the health indicator used to calculate HE. Information on self-perceived health was taken from the National Health Interview Survey (NHIS) carried out by the Ministry of Health in 1993 over a representative 21120-person sample of the non-institutionalized Spanish population of 15 years and over. The NHIS obtained this information via the question: During the past 12 months would you say your health has been very good, good, fair, bad or very bad?. In this analysis we use the samples of people older than 24 years of age living in Madrid and Barcelona. Educational status was classified as lower (up to 11 years of school) and higher (12 years or more of school).

We calculated Life Expectancy (LE) and Life Expectancy in good perceived health as indicator of HE by the Sullivan method [5]. It consists of subtracting from the years lived by a theoretical cohort of 100 000 people under current mortality conditions, the age-specific years lived in less-than-good-perceived general health (fair, bad and very bad). We used specific life tables by educational level in men and women. Life tables used started at age of 25. People in younger age groups were excluded because they have not completed their education.

Estimates of life expectancy in good perceived health corresponds to the average number of years a cohort subject may hope to live in good health. As in other period life tables, calculations are hypothetical representations of what happens to a birth cohort of a fixed size that experiences the actual age-specific mortality rates and prevalences of less-than-good-perceived health. Besides LE and HE, we have estimated the number of years lived in bad health as the difference between LE and HE, at the ages of 25, 45 and 65 in both level of education.

3. Results

HE differences between the higher and the lower educational groups at 25, 45 and 65 years of age are 7.5, 5.2 and 3.6 years in men and 5.6, 3.6 and 3.0 in women, and 9.5, 6.5 and 2.7 years in men and 13.4, 10.0 and 6.5 year in women in Madrid and Barcelona respectively (Table 1).
Fig. 1 shows the number of years lived in bad health at 25 years old according to educational level in both cities. The higher the educational level the lower the number of years lived in bad health both in men and women. Life expectancy in bad health in lower educational level was very similar in the two cities, while it was higher in Barcelona than in Madrid for higher educational level.

4. Discussion

Results presented here shown greater differences across educational level in HE than in LE. They also show greater educational differences in LE in Madrid than in Barcelona, while it happen just the opposite for HE.

We have found that differences between the higher and the lower educational level in HE are still evident at 65 years of age, although the magnitude of these differences is smaller than in younger people. The fact that among the more disadvantaged groups only the very healthy people reach old ages while among the more advantaged groups some vulnerable people may do it, since they have had better socio-economic conditions at early and middle age, might possibly be an

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Fig. 1. Life expectancy in bad health (*) at 25 years old by educational level in men and women. Madrid and Barcelona, 1993–94. (*) Life expectancy in bad health = life expectancy-health expectancy.

explanation for the smaller socio-economic differences in the elderly. On the other hand, the theory of compression of morbidity described by Fries [6] may also be relevant, since the preventable health problems of modern societies are increasingly concentrated on people of lower socio-economic status in middle and early old age. This theory holds that the postponement of chronic illness would compress the amount of disability into a shorter period of time before death, and the end of the period of adult vigour will come later than it used to. This will result in rectangularization not only of the mortality curve but also of the morbidity curve. If prevention efforts are placed on disease eradication through controlling risk factors among old people and improving lifelong health behaviours and lifestyles among young people, the morbidity and disability curves will shift toward the mortality curve, at the same time that life expectancy converge on a fixed, pre-determined limit to human life [7].

If the higher educational groups are approximating this utopian scenario, with levels of morbidity and functional disability low until quite late in life, while the lower educational groups experience these states from middle age, differences between educational groups would be still present although less marked in the elderly.

Being HE an indicator which combines mortality and health status, it has an enormous potential to identify differences between populations and populations subgroups, including social differences. Thus, these results suggest a need to address attention to the mechanisms responsible for the social differences in both the risk of mortality and the prevalence of bad perceived health.
Finally it is necessary to point out the use of educational level in this study as a proxy of socio-economic position. Availability of this variable at both, Population Census data and NHIS, has been one of the raison to use it. Moreover, in several studies education levels produce a gradient similar that produced by social class, so education rather than social class is used as indicator of socio-economic position in many countries. Education not only influences health behaviours during adulthood but acts as a marker of material conditions during childhood and adulthood, and either or both of these may be influencing adult health [8].

References