

Session 2: Socioeconomic deprivation and cancer

16:20 - AVOIDABLE DEATHS DUE TO CANCER AND OTHER CAUSES BY ELIMINATING THE MORTALITY DIFFERENCES BETWEEN EDUCATIONAL LEVELS OF CANCER PATIENTS

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Objectives

The aim of this study is to give a method for estimating crude death probabilities and estimate the “potentially” avoidable deaths due to cancer and other causes by eliminating the mortality differences between patient groups.

Methods

Patients diagnosed in Finland with cancer at 27 sites in 1971-2005 were linked with population censuses made every five years in 1970-2000 to obtain patient's educational level. The educational level was categorized into three depending on highest attained educational degree: basic (less than 10 years), secondary (10-12 years) and high (13 years or more). The cause-specific 5- and 10-year net survival probabilities were derived using the life table method. Theory of competing risks of death (Chiang 1968) was used to obtain the crude probabilities of death. The numbers and proportions of avoidable deaths were calculated for each period and site by assuming that the age and sex specific hazards of dying were equal to those in the high educational category by cancer site and cause of death.

Results

By assuming the cancer mortality of high education group for all, 6% of the cancer deaths in patients diagnosed at ages 25-89 years during first five years after diagnosis in 1971-1985 would be theoretically avoidable. For periods 1986-1995 and 1996-2005, these proportions were even higher, 7 and 9% respectively. With the other-cause mortality of high educated for all, a large proportion, 22-23% deaths due to other causes would have been avoided in 1996-2005. This proportion would, however, be lower, 17-19%, by assuming both the cancer and other-cause mortality of high educated for all.

Conclusions

The crude death probabilities derived using the Chiang's method can be used to estimate the avoidable deaths by eliminating the mortality differences between education levels of cancer patients. Many deaths saved from one cause will not be saved because of other cause. As the deaths will not be saved for long time, person-years savings are more important.