Use of socio-economic factors and healthcare resources to estimate cancer survival in European countries with partial national cancer registration

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ABSTRACT

Background and aims. Cancer is a chronic disease whose clinical history has a strong relationship with socio-economic indicators, and it could be defined as a real "social disease". For this reason, socio-economic factors can be used to project survival rates by means of ecological models. The present study had two main aims: to generalize to all adult patients study of the association between survival and socio-economic and healthcare technologies and related medical resources factors; to provide insights on the possible bias in giving national meaning to survival rates based on pools of regional cancer registries where national coverage is not available.

Material and methods. The EUROCARE 3 Study provided age-standardized survival rates at 5 years from the diagnosis for 10 major cancer sites collected by 52 cancer registries from 21 European countries for the period 1990-1994. For each area and country, socio-economic and health-related variables were collected for the period 1993-1995. Multiple linear regression models were used to compute predicted survival rates in countries totally covered by registration, starting from the correlation between socio-economic and health-related variables and observed survival rates. For those areas not totally covered by cancer registry activity, a correctional parameter coming from the previous linear regression models was computed in order to estimate survival at a national level also in these countries.

Results. Predicted survival rates were very close to the observed rates for countries totally covered by cancer registries. The estimates were also good for nations with partial national cancer registration, with less convergence in results for countries where socio-economic differences between the whole territory and the covered area were relevant.

Conclusions. In the light of these findings, evaluation of the role of socio-economic and health-related factors and the estimation of survival is of utmost importance in order to evaluate healthcare outcomes and to support planners in allocating resources in a more effective and egalitarian way.