Regarding articles about Cali Cancer Registry 2

Dear editor: With great interest we read the reports on incidence, mortality and particularly survival trends for breast, cervical, colorectal and prostate cancer in Cali, Colombia reported in the September/October 2014 issue of *Salud Pública de México*.[1-4] We applaud the intention of the authors in their attempts to provide, besides the standard measures, indications of survival by socioeconomic status. This is a topic of interest of many countries, but particularly in Latin America which is the continent with largest socioeconomic differences and Colombia within the continent being one of the most unequal countries.[5] Since information on the population distribution of the social strata (SS) by age, sex and calendar years is not available for the different municipalities in Colombia, it is unfortunately not possible to provide incidence or mortality differences by SS. For the same reason it is not possible to construct life-tables by SS, inhibiting providing SS-specific relative survival rates (RSR). The authors of the articles have provided RSR by SS, using the general population life-tables, which however conceal substantial differences in all-cause mortality between the different strata, as is shown on macro level by the differences in life-expectancy for the different departments in the country, which show differences of more than 10 years in male life-expectancy for the period 2000-2005.[6] Unfortunately, using relative survival methods to show differences in survival by socioeconomic levels, without using separate life tables for the different socioeconomic level causes has been shown to cause bias in the estimates.[6] Since socioeconomic differences in life-expectancy are large, the bias may be substantial as well. Relative survival based on average probabilities of dying, regardless of SS, will result in overestimates of survival of the highest SS, and underestimates of survival of the lowest SS. However, as the lower SS is in the majority, the survival estimates for the lower SS will be probably less biased than those of the highest SS.

The data based on the Cox proportional hazards models, as presented in the papers, does not suffer from this problem, but seem to be based on cancer-specific survival, which is highly dependent on quality of death certification, which likely varies by social class. In fact, in the absence of specific life-tables by SS, it is recommended to use cancer-specific survival.[7] However, the hazard ratios by SS presented in the paper are not reliable, as the proportional hazards assumption was violated in one or more of the SS for colorectal, prostate, and breast cancer. In order to obtain valid estimates, time-dependent or stratified Cox models should have been used. In the case of highly aggressive cancers, even general survival may give a good reflection of the existing differences, as most patients will die soon after diagnosis, and most likely because of their cancer.

The Cali cancer registry has shown with the published papers already to be able to collect information by SS for a large majority of their patients but because of the lack of population information by SS this information is of little use. It is unfortunate and difficult to understand that in Colombia, no reliable data on population distribution by SS or other socioeconomic indicators, such as social security type, are known, even though SS is a measure used by governmental institutions for all kind of reimbursement systems and the country is supposed to have the "universal" health system. We would applaud the Colombian authorities for making an effort in reliably collecting and providing these data to cancer registries and other institutions to be able to monitor socioeconomic differences in health. This would also allow evaluation of policies and regulations, including the evaluation of the effects of the introduction on the universal health insurance on socioeconomic differences in health and mortality.

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References

1. Bravo L, García L, Carrascal E, Rubiano J. Burden of breast cancer in Cali, Colombia: 1962-2012. Salud Publica Mex 2014;56(5):448-456.
2. Cortés A, Bravo L, García L, Collazos P. Incidencia, mortalidad y supervivencia por cáncer colorrectal en Cali, Colombia, 1962-2012. Salud Publica Mex 2014;56(5):457-464.
3. Muñoz N, Bravo L. Epidemiology of cervical cancer in Colombia. Salud Publica Mex 2014;56(5):431-439.
4. Restrepo J, Bravo L, García-Perdomo H, García L, Collazos P, Carbonell J. Incidencia, mortalidad y supervivencia al cáncer de próstata en Cali, Colombia, 1962-2011. Salud Publica Mex 2014;56(5):440-447.
5. Lopez JH, Perry G. Policy Research Working Paper 4504: Inequality in Latin America: Determinants and Consequences. The World Bank Latin America and the Caribbean Region. Office of the Regional Chief Economist [accessed on February 2008]. Available at: https://openknowledge.worldbank.org/bitstream/handle/10986/6368/wps4504.pdf
6. DANE. Proyecciones de población 2005-2020. Colombia. Tablas de mortalidad nacionales y departamentales 1985-2020. Bogotá, Colombia: DANE, 2007.
7. Dickman PW, Auvinen A, Voutilainen ET, Hakulinen T. Measuring social class differences in cancer patient survival: is it necessary to control for social class differences in general population mortality? A Finnish population-based study. J Epidemiol Community Health 1998;52(11):727-734.

Response to Dr. de Vries

Dear Dr. de Vries: We appreciate your interest in our work and are grateful for your valuable contributions and comments to clarify the methodology