Colombia Mortality during 1998-2011 and health situation at the frontier municipalities

Methods

An analysis of mortality for 1998-2011 period from the official information reported to the National Institute of Statistics (DANE) was performed. All deaths were classified according to the groups of Global Burden of Disease study (142 groups of events). In addition, a detailed analysis of the leading causes of death was carried out, based on the annual crude death rates at national and departmental levels. To ensure comparability between mortality rates, age- and sex-adjusted mortality rates were estimated by event, controlling the possible confounding effect of the population structure. We also present individual analysis for cardiovascular disease, diabetes mellitus, and injuries (including death for violence and road accidents).

The analysis of infant and maternal mortality trends also includes a literature review for the identification of research about it in Colombia, as well as an inventory of public policies, for an initial exploration of its impact.

In order to make an understanding of the maternal mortality phenomenon, a qualitative analysis was performed through the documentary analysis methodology, using documents resulting from the analysis of maternal death at the local level, in addition to virtual interviews with professionals of the departmental health secretaries. For the borders’ analysis, the information reported to National surveillance system (Sivigila) in 2012, we developed an analysis of the health situation based on mandatory notification events occurred in the municipalities located in the Colombian borders. Occurrence and rates mortality at the municipal level were also estimated, presenting the information grouped by countries with which each municipality shares borders with. The estimated rates were also compared against the national rate of occurrence estimated from all reported data.

Finally, an approximation to knowledge management in public health concept coordinated by the ONS was made. For the definition of the knowledge network the ONS implemented the neural network approach, we began by identifying all actors with influence over or related to the participation in public health decision-making and policy implementation processes. Each stakeholder has been characterized based on several variables tabulated in a characterization matrix. According to the features identified in the knowledge network, the stakeholders are mapped based on the interactions between them and their possible roles in the network. A graph of a neural map proposed for the ONS knowledge network is presented.
Results

During 14 years period included in the analysis, the overall mortality rate has decreased in Colombia. Basically, ten leading causes of death are unchanging. During the period we reported the rise of ischemic heart disease, now in the first place of causes of death, increase of mortality from other digestive diseases, colorectal cancer, HIV/AIDS and the GBD group of other neoplasms. There are differences between Departments. Cardiovascular mortality predominates in over 75 years old population, while diabetes mellitus affects more frequently to women, especially after age 65. Departments of Caldas, Quindío, Risaralda, San Andrés and Providencia, North Santander and Valle del Cauca have higher mortality rates for cardiovascular disease and diabetes mellitus.

In the group of injuries, interpersonal-violence and road accidents were those who contributed with the largest number of cases. Deaths due to interpersonal violence and road accidents predominate in the male population over 15 years old. Valle del Cauca, Caquetá, Antioquia, Putumayo, Arauca, Quindío, Meta, Norte de Santander, and Risaralda have the highest mortality rates for violence, while Casanare, Cesar, Meta, Tolima, Huila, Valle del Cauca, Antioquia, Santander, Boyacá, Risaralda, and San Andrés reported higher mortality rates from road accidents. Infant and children mortality have seen a decline of 37.5% and 39.0%, respectively, meeting the millennium development goal, but inequalities among Departments still persist. On the other hand, declining for the maternal mortality has been discreet. The qualitative approach revealed numerous limitations of the health services to provide quality care that would prevent maternal deaths.

Conclusions

In Colombia non-communicable diseases and injuries have come to be the main causes of death. Differences in the leading causes of death among Departments should be considered for the health interventions prioritization.

The evidence of infant mortality decline may be associated with the promotion of public policies for children and although there are still gaps between Departments, these have decreased, possibly due to interventions that promote equity, such as universal free vaccination with an extended schedule. The pace of decline in maternal mortality in the country will not allow to reach the proposed goal by 2015 of 45 per 100,000 live births.

The maternal mortality fail is largely influenced by the significant inequalities between Departments, and the existence of multiple barriers to services access and lack of inter-sectorial and inter-agency actions, to ensure safe motherhood and the exercise of sexual and reproductive rights.