Epidemiological Analysis of Causes and Patterns of Morbidity and Mortality in Afghanistan.

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Summary

This research investigates the causes and patterns of morbidity and mortality in Afghanistan. Diarrhoea and acute respiratory infections are responsible for about 36% of the childhood deaths in Afghanistan. Providing a good analysis and estimates for cause-specific mortality are essential for understanding the overall profile of disease in a population. It is a good idea to include all diseases and conditions that contributes to the death, this will provide more information about the underlying and associated cause of death. Such information are provided in the death certificate or in the vital registration system which are not available in some areas. The verbal autopsy has been used to estimate cause-specific mortality in a variety of methodological settings, the most common being in the context of an epidemiological study. This study focuses on verbal autopsies of deaths within a household up to seven years before the survey (2003-2010) in the national representative Afghanistan Mortality Survey (2010). The data includes verbal autopsies from 1105 neonatal, 997 perinatal and children, and 1831 adults. Preliminary results showed that about 65% of deaths in neonates includes complications of pregnancy, childbirth, and the puerperium. Because of these complications, babies are born before term; some due to early end of pregnancy (39%), premature (40.6%), few cases of malformation and 44% cases of low birth weight (as low as 0.1 kg). The major cause of deaths among the perinatal consists of diseases classified as infectious and parasitic diseases (e.g. diarrhoea, fever, cough and tuberculosis) which constitutes 88% of all deaths in this age group. While non-infectious/non-communicable and neoplasms diseases are the major causes of death among adults (about 98% of all adult deaths). The highest cause of deaths in neonatal is the single cause "complications of pregnancy, childbirth, and the puerperium" which occurred in 53% of all deaths. In perinatal the highest causes of deaths is the multiple causes; infectious and parasitic diseases and/or symptoms, signs, and ill-defined conditions (25%). Measuring cause-specific mortality rates is very difficult in this situation especially in developing countries. In some cases, death is a result of cumulative effects of different causes and some aliment may not directly contribute to the death process. The proportion of deaths related to each cause of death is explored and potential association of community-level

associated factors (e.g. distance to health facilities, remoteness index, wealth index) with individual health outcomes are analyzed. Risk factors for multiple cause of deaths were jointly analyzed and also the effect of the association among these causes over some demographic variables were estimated using trivariate probit model. As in most health outcomes, geographical variations cannot be ruled out and risk factors may vary geographically. Thus, this study extend the trivariate probit model to incorporate spatial information where the spatial dependency were handled through random effects.

KEY WORDS: Afghanistan; Mortality; Morbidity; Verbal autopsy; Afghanistan Mortality Survey; Multiple cause of death; Trivariate probit