



TURKEY
NATIONAL MATERNAL MORTALITY STUDY
PRESS RELEASE
8th DECEMBER 2006, ANKARA

European Union funded Turkey National Maternal Mortality Study (NMMS) is a Turkish Ministry of Health study conducted from October 2004 to December 2006. The NMMS was implemented by a Consortium of ICON-INSTITUT Public Sector GmbH (Germany), the Institute of Population Studies, Hacettepe University (Turkey) and BNB Consulting (Turkey). The study comprised five parts:

- New field work to conduct the National Maternal Mortality Research (NMMR), This used village headmen and cemetery officials to identify all burials by age and sex, and a further team to investigate all female deaths aged of 12-50 using hospital records where these were available and verbal autopsies where not. This Reproductive Age Mortality Study (RAMOS) design then identified maternal deaths from among the female deaths of reproductive age.
- Qualitative Research, using in-depth interviews and focus group discussions to look at issues related to completeness of reporting and registration.
- Further Analysis of the Turkish Demographic and Health Survey, 2003 and of the General Census of Population, 2000 to provide a comparison group and data for the indicator denominators and the models.
- Model-Based Estimation of Maternal Mortality Indicators to measure levels of mortality at the province level
- Comparative Analyses of Existing Reporting and Recording Systems to see how they performed relative to our system.

The concept and all research materials were pre-tested in Antalya in January 2005. The main field work was conducted from June 2005 to May 2006 in 29 provinces.

The main indicators which had to be determined were the ratio of pregnancy related deaths (PRDs) and the ratio of maternal deaths per 100,000 live births. The ratio of pregnancy related deaths includes direct maternal causes, indirect maternal causes as well as coincidental causes of PRD. For the period June 2005-May 2006 the overall ratio of pregnancy related deaths was found to be 38.3 (\pm 2.8 in the 95 percent confidence interval) per 100,000 live births. It was 28,2 per 100.000 live birth in urban areas and 53,7 in rural areas. For the same period, the country wide estimate for the maternal mortality ratio was 28.5 (\pm 2.5 in the 95 percent confidence interval) per 100,000 live births, 20.7 in urban and 40.3 in rural areas. The NMMS results show that 58.4 percent of all pregnant women died from direct maternal causes, 15.8 percent from indirect causes and 23.2 percent from co-incident causes. The remaining 2.4 percent were deaths for which the kind of pregnancy relation could not be specified.

A Programme implemented with technical assistance from

PUBLIC SECTOR



Hacettepe University
Institute of Population Studies





The leading cause of death (17 percent of all pregnancy-related deaths) was haemorrhage, followed by hypertensive disorders of pregnancy (pre-eclampsia or eclampsia) (14 percent of all pregnancy-related deaths). Twelve percent died of other ante-, intra- or post-partum conditions such as embolism, ruptured uterus or causes directly related to a surgical procedure. Among the indirect maternal causes, the biggest group (8 percent of all PRDs) were deaths due to diseases of the circulatory system, followed by neoplasm (2 percent), other causes of death (2 percent) and suicide (1 percent). The most common coincidental cause-of-death was road traffic accidents (11 percent).

More than one-third of the women (37 percent) died before giving birth to their child. Most of these were PRDs from coincidental causes. A further 9 percent of women died during delivery, the majority (54 percent) however in the post-partum period. Almost half of these pregnancies ended with a live birth, though some of the babies died post-partum (5 percent). Thirteen percent were stillbirths. In 32 percent the pregnancy ended with an intra-uterine death or was aborted due to the death of the mother.

Over 65 percent of all maternal deaths were to women with obvious biomedical risk factors. Twenty eight percent occurred to women aged above 34 or below 18. Almost the same number of women presented with a parity above 4 as a risk factor. Diseases of the circulatory system including hypertensive disorders accounted in 18 percent as risk factors. Delays in recognising the problem and delayed health-seeking by the family attributed to 30 percent of all pregnancy related deaths. Health service provider factors were noted as contributors to maternal deaths in about 14 percent. The contribution made by a deficient health service provision, in terms of availability of staff, equipment, supplies or pharmaceuticals, was with 2 percent encouragingly low.

The levels and patterns of causes of maternal death do neither resemble a typical developing country nor the situation which can today be found in Western Europe or North America. There is no doubt that the maternal mortality ratio compares well with other countries in transition. The distribution pattern of causes for maternal deaths however is more complex. Infections, unsafe abortion and obstructed labour, which are common causes of maternal death in developing countries, play only a very limited role. However, the pattern with eclampsia and severe bleedings is where the situation in Turkey resembles more developing countries. This suggests that the health services – mainly on the primary and secondary level - are not always sufficiently prepared to cope with conditions which cause death rapidly if not immediately treated.

The experience of the survey demands for two main recommendations for improving vital registration in the country: The revision of the duties of the muhtars and the better integration of the health services into the death registration system, which will automatically also improve the registration of pregnancy related deaths. As a rule each death should be certified by a medical doctor. The death certificate must include details on the cause of death to be recorded in line with ICD-10 standards.

A Programme implemented with technical assistance from

PUBLIC SECTOR



Hacettepe University
Institute of Population Studies



A Programme implemented with technical assistance from

PUBLIC SECTOR



**Hacettepe University
Institute of Population Studies**

