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World Health Organization

Policy brief

Policy brief

2.6
million stillbirths in 2009

National, regional, and worldwide estimates of stillbirth rates in 2009 with trends since 1995

Background

The need for accelerating progress towards the Millennium Development Goals (MDGs) 4 and 5 has increasingly been of concern to the international community as recognized within the recent *Global Strategy for Women's and Children's Health* launched by the United Nations Secretary-General in September 2010 *(1)*. A related condition, stillbirths, although not included in MDG tracking, are related to maternal mortality and with the care received during pregnancy and delivery *(2)*. Improved data on pregnancy outcomes including stillbirths are crucial to guiding programmes and investment towards progress in achieving the MDGs.

In 2006, the first two sets of global, regional and country-specific stillbirth rates were published – one by the World Health Organization (WHO) *(3)* and one by Saving Newborn Lives/Initiative for Maternal Mortality Programme Assessment (IMMPACT) *(4)*. These exercises generated estimates of just over 3 million stillbirths – 3.3 million and 3.2 million (with wide uncertainty: 2.5–4.1 million), respectively, for the year 2000.

WHO and partners undertook an updated analysis of national, regional, and worldwide stillbirth rates estimates and numbers for 193 WHO Member States for 2009 and trends since 1995. This analysis used the definition of stillbirths as late fetal deaths weighing at least 1000 grams or occurring at or beyond 28 weeks gestation *(5)*.

Study methods

Methodological details of the systematic analysis have been published elsewhere *(6)*. Briefly, estimates of stillbirth rates for 193 WHO Member States were analysed by systematically searching and reconciling data from countries with high-quality vital registration systems and estimates derived from a statistical model for countries with other types of data or no existing data.

The input dataset for the regression model was compiled from three sources: vital registration data, nationally representative population-based surveys (Demographic and Health Surveys (DHS) and Reproductive Health Surveys (RHS)), and published studies identified through systematic literature searches. Studies with a midpoint of data collection of 1995 or later met inclusion criteria if the report documented more than 10 stillbirths and if a stillbirth rate was given or could be calculated. Both population-based and facility-based data were part of the dataset – data from specialized studies, e.g. for diabetes, hypertension, intrauterine growth restriction, or specific subpopulations or ethnic groups were excluded. Sources using other definitions than the international definition of stillbirth of fetal death were also included and accounted for in the modelling process.

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A statistical model was developed to predict comparable national stillbirth rates from 1995 to 2009. The following covariates were included in the final model: neonatal mortality rate (NMR), low birth weight (LBW) and Gross National Income per capita at purchasing power parity (GNI PPP), type of data source used, definition of stillbirth, and region.

The preliminary estimates, together with an explanation of the methodology including the statistical model and data sources identified and used for each country estimate were circulated to WHO Member States as part of the country consultation. Countries were asked to review the preliminary estimates and data points, and provide any relevant additional data and comments. At the conclusion of the country consultation, the input dataset was revised and the model was re-run prior to finalizing the stillbirth estimates.

In the final estimates, reported rates were used for 33 countries assessed to have high-quality vital registration systems and where the stillbirth data were available for cases weighing at least 1000 grams or occurring at or beyond 28 weeks gestation; and model-based estimates for 160 countries.

Key findings

- Vital registration data from 79 countries, 69 nationally representative surveys from 39 countries, and 113 studies from 42 countries met inclusion criteria and were included in the analysis.
- The estimated number of global stillbirths was 2.6 million (uncertainty range 2.1–3.8 million) in 2009 compared with 3.0 million (uncertainty range 2.4–4.2 million) in 1995.
- The worldwide stillbirth rate has declined by 14%, from 22.1 stillbirths per 1000 births in 1995 to 18.9 stillbirths per 1000 births in 2009.
- Two thirds of all stillbirths occur in just two regions: South-East Asia and Africa.
- The greatest reductions in stillbirth occurred in the Western Pacific Region, with a 3.8% annual decline between 1995 and 2009, but in the African Region there was only an annual decline of less than 1% (0.7%).

Conclusions

Worldwide, the stillbirth rate has declined by 14%, from 22.1 stillbirths per 1000 births in 1995 to 18.9 stillbirths per 1000 births in 2009 (about 1.1% per year). The estimated trend lags behind the progress in under 5 mortality rate (2.3% per year) *(7).*

Most stillbirths are avoidable, as evidenced by the low stillbirth rate for developed countries of 3 per 1000 births in contrast to the stillbirth rate of 28 per 1000 births in sub-Saharan Africa. Increased data and expanded use of data are vital to improving the understanding of the burden and magnitude of stillbirths. However, these data alone will not result in a decrease in stillbirth without the implementation of policies that address preventable measures.

This study highlights the scarcity of reliable data in the regions where most stillbirths occur. In these regions, where a considerable proportion of births take place at home, the inadequacies in registration limit the availability and calculation of precise estimates; hence the reliance on household surveys and statistical models.

Policy implications

The stillbirth rate is higher in countries where women have less access to good-quality reproductive health care including pregnancy and childbirth care. Comprehensive efforts should be made to strengthen the capacity of health services to provide such care.

Research should continue on the epidemiology of stillbirths especially on causes and determinants.

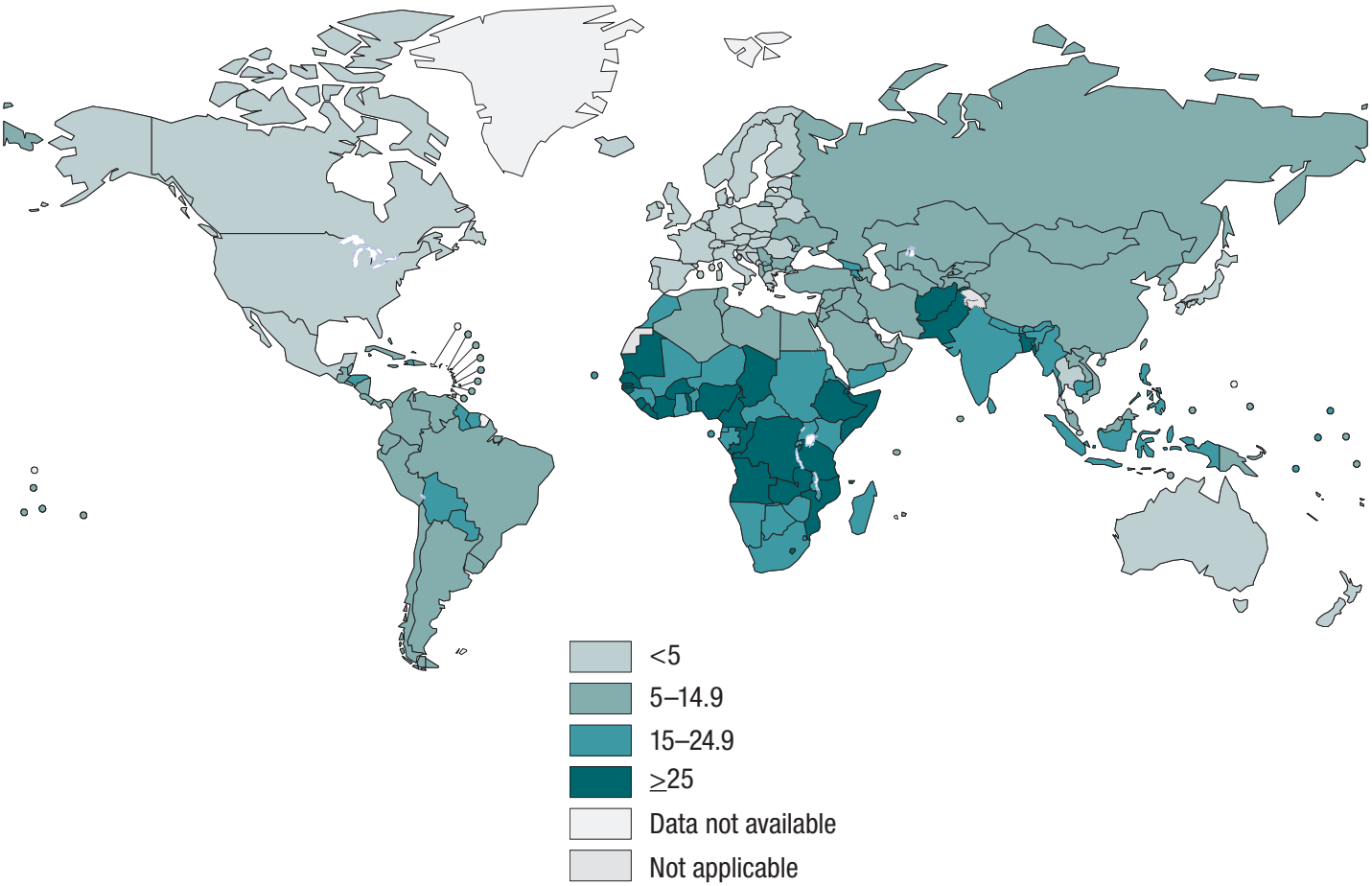
Future estimates of national, regional, and global stillbirth rates will be enhanced by improved quality and quantity of input source data. Systematic collection of stillbirth data is required to better understand the scale of the problem and prioritize actions.

Efforts should be undertaken to strengthen national vital registration systems and inclusion of stillbirths, including appropriate training on the completion of standard death certificates as linked to the International Classification of Diseases coding.

WHO regional summary of stillbirths 1995 to 2009

WHO Region	Number of stillbirths 1995	Number of stillbirths 2009	Stillbirth rate per 1000 births 1995	Stillbirth rate per 1000 births 2009	Per cent annual rate of change 1995–2009
African Region	778 790	897 850	31.0	28.1	0.7
Region of the Americas	158 236	111 330	9.8	7.0	2.4
Eastern Mediterranean Region	438 051	454 820	29.7	27.2	0.6
European Region	90 669	67 910	8.1	6.3	1.9
South-East Asia Region	1 062 611	850 160	25.9	22.0	1.2
Western Pacific Region	502 941	259 950	17.4	10.2	3.8
Total	3 031 298	2 642 020	22.1	18.9	1.1

Stillbirth rate in 2009 (per 1000 births)



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