Early antenatal care visit: a systematic analysis of regional and global levels and trends of coverage from 1990 to 2013

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Summary

Background The timing of the first antenatal care visit is paramount for ensuring optimal health outcomes for women and children, and it is recommended that all pregnant women initiate antenatal care in the first trimester of pregnancy (early antenatal care visit). Systematic global analysis of early antenatal care visits has not been done previously. This study reports on regional and global estimates of the coverage of early antenatal care visits from 1990 to 2013.

Methods Data were obtained from nationally representative surveys and national health information systems. Estimates of coverage of early antenatal care visits were generated with linear regression analysis and based on 516 logit-transformed observations from 132 countries. The model accounted for differences by data sources in reporting the cutoff for the early antenatal care visit.

Findings The estimated worldwide coverage of early antenatal care visits increased from 40·9% (95% uncertainty interval [UI] 34·6–46·7) in 1990 to 58·6% (52·1–64·3) in 2013, corresponding to a 43·3% increase. Overall coverage in the developing regions was 48·1% (95% UI 43·4–52·4) in 2013 compared with 84·8% (81·6–87·7) in the developed regions. In 2013, the estimated coverage of early antenatal care visits was 24·0% (95% UI 21·7–26·5) in low-income countries compared with 81·9% (76·5–87·1) in high-income countries.

Interpretation Progress in the coverage of early antenatal care visits has been achieved but coverage is still far from universal. Substantial inequity exists in coverage both within regions and between income groups. The absence of data in many countries is of concern and efforts should be made to collect and report coverage of early antenatal care visits to enable better monitoring and evaluation.


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Introduction

The health of women and children remains an unfinished agenda and a global challenge. Efforts and investments are needed to sustain and accelerate progress if countries and the international community are to prevent maternal and child morbidity and reach the related Sustainable Development Goals (SDGs).1–3

Antenatal care is defined as the routine care of pregnant women provided between conception and the onset of labour. Antenatal care is an opportunity to provide care for prevention and management of existing and potential causes of maternal and newborn mortality and morbidity. The new WHO antenatal care model recommends that the first antenatal care visit takes place within the first trimester (ie, gestational age of <12 weeks) and an additional seven visits are recommended.4

The timing of initiation of the first antenatal care visit is paramount for ensuring optimal care and health outcomes for women and children. Globally, there has been a change in the pattern and type of obstetric outcomes, as a greater proportion of deaths and morbidities are related to complications of pre-existing medical conditions, namely indirect conditions, in a phenomenon described as the obstetric transition.5

An early antenatal care visit gives the opportunity to provide screening and tests that are most effective early in the pregnancy (ie, correct assessment of gestational age to allow for accurate treatment of preterm labour, screening for genetic and congenital disorders, provision of folic acid supplementation to reduce the risk of neural tube defects, and screening and treatment for iron deficiency anaemia and sexually transmitted infections). Additionally, the visit can potentially capture non-communicable diseases such as diabetes and provide guidance on modifiable lifestyle risks such as smoking, alcohol consumption, drug abuse, obesity, malnutrition, and occupational exposures.6–7 All these conditions can be detected and treated if early, timely, and high-quality antenatal care is provided, but beyond the content the antenatal care services need to be available, accessible, and acceptable.

The SDG targets 3.1 (by 2030 reduce the global maternal mortality ratio to less than 70 per 100000 livebirths) and
3.2 (by 2030), end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1000 livebirths and under-5 mortality to at least as low as 25 per 1000 livebirths4 are supported by several global initiatives and strategies such as the Global Strategy for Women’s, Children’s and Adolescents’ Health 2016–2030, the Global Financing Facility in Support of Every Woman, Every Child,5 the Strategies toward Ending Preventable Maternal Mortality,6 and Every Newborn: An Action Plan to End Preventable Deaths.7 Thus, it is important to ensure coverage of early antenatal care services starting from the first trimester as one component to achieve these targets.

The initiation of antenatal care in early pregnancy is assessed in population-based surveys such as Demographic and Health Surveys (DHS)8 and Multiple Indicator Cluster Surveys (MICS, round 5 only)9 and other national household surveys, collected by routine health management information systems in high-income countries and in special perinatal surveys. Global estimates of the coverage of early antenatal care visits, combined with the content and quality of antenatal care, are crucial metrics for every programme and policy aiming to improve maternal and child health at both the local and global levels.10 Since little evidence has been collected on the coverage of early antenatal care visits globally, our objective was to examine and assess trends in coverage of early antenatal care visits across regions and income groups.

Methods

Reporting rationale and data sources

We followed the Guidelines for Accurate and Transparent Health Estimates Reporting (GATHER) statement in developing the database, analysis, and presentation of the study (appendix pp 3, 4).11 We did a search to identify national-level data on coverage of early antenatal care visits (appendix p 5). The sources can be divided into two main categories: routine management health information system reports from ministries of health (MoHs) and official publications from MoHs or national statistics offices (NSOs); and population-based household surveys such as DHS, MICS round 5,12 Reproductive Health Surveys (RHS).13

See Online for appendix
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