Age-disaggregated data on early childbearing in developing countries for development

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Long abstract:

Background
Adolescent fertility is considered an important measure of reproductive health and was consequently chosen as an indicator for Goal 5—improving maternal health—of the United Nations Millennium Development Goals. Adolescent pregnancy and childbearing have well-known adverse effects at global, societal and personal levels. Early childbearing is not only associated with health risks to both the young mother and her child, but can also have grave and long-lasting economic and social consequences such as missed opportunities at school and work, and the consequent intergenerational transmission of poverty.

In addition, adolescent pregnancy and childbearing are associated with child marriage (marriage before age 18) in many countries, which is considered a violation to many human rights, including the right to education, freedom from violence, reproductive rights, right to employment, freedom of movement, and the right to consensual marriage.

Each year, about 16 million adolescent women aged 15–19 give birth in the world, with 95 per cent of births by adolescents occurring in low- and middle-income countries. Adolescent childbearing has declined but remains high in some regions (sub-Saharan Africa, and Latin America and the Caribbean). Even in countries and regions where adolescent birth rates are lower (e.g., Asia), the sheer size of the youth population (due in part to young age structures) makes the number of births produced by their adolescent girls and women very significant still. Thus, adolescent fertility continues to be a major concern.

Although pregnancies and births pertaining to adolescents aged 10 to 14 years are relatively rare events in most countries, they can be substantial in some sub-Saharan African countries. It has been shown that the deleterious health consequences of and human rights violation from adolescent fertility are more severe for younger adolescents (especially those under age 15) than for older ones. In addition, the contexts within which adolescent pregnancies occur vary widely. In some countries, becoming pregnant at a young age outside of marriage or a union is not uncommon. Yet, births to unmarried adolescent mothers are far more likely to be unintended and are more likely to end in induced abortion. In addition, the reproductive health needs of unmarried adolescents tend to be largely unmet. By contrast, in many countries, adolescents younger than 18 may face social and family pressure to marry and have children soon after marriage. More than 30 per cent of women in low- and middle-income countries marry before they are 18.

Hence, more targeted information (data on adolescent fertility by single year of age among adolescents, and fertility data to girls under age 15) that are comparable across countries and regions are needed to help Governments and programmes better track progress and plan

interventions by focusing on subgroups that are most at risk. Unfortunately, such data are lacking.

Purpose

The first purpose of this study is to contribute to the need for disaggregated data on adolescent fertility by producing the following age-specific fertility birth rates (ASFR):

(a) ASFR(15), ASFR(16), ASFR(17), ASFR(18) and ASFR(19) (i.e., ASFRs for single year age groups);
(b) ASFR(11-14), ASFR(15-17) and ASFR(18-19);
(c) ASFR(15-19) by marital status (married vs. unmarried) of the mother.

A second goal of the study is to quantify the potential impact of delaying early childbearing on fertility levels and contraceptive prevalence at the national level.

Data sources

The data used in this study come from the Demographic and Health Surveys (DHS). Only those countries where the most recent data were collected in 2000 or later are included in the analyses to ensure that the data are recent enough to depict current levels of adolescent fertility.

Trends in adolescent fertility from the early 2000s to the late 2000s/early 2010s will also be shown based on the subset of countries where at least two surveys have been conducted.

Methods

The ASFRs presented in this study are computed from the DHS individual recode files. The rates are based on births that occurred within the 4-year period before the survey. This period was chosen because all the other classic periods that have been used with the DHS data (1-, 3- and 5-year periods) are known to present some problems: 1-year periods before the survey suffer from over-reporting of births; 3-year and 5-year periods before the survey suffer from shifting of events because of additional questions asked about events occurring in these two periods. No DHS has used a 4-year cut-off for additional questions so a 4-year period for computing ASFRs will minimize misreporting. Births occurring in the month of interview are excluded because this month does not represent a full month but is censored by the date of interview.

To obtain the numerator of the rate, births are tabulated according to the period of birth and the age of the mother at the time of birth. A birth is included in the numerator if it occurred 1-48 months before the survey and if the age of the mother at the time of the birth is between 11 and 19 years. To obtain the denominator of the rate, women-years of exposure are calculated for all women (whether they gave birth during that period or not). The "exact exposure" method is used, which is to compute, for each woman, the number of months lived within each age during the four-year period before the survey. The ASFR for each age (or age group) is computed by dividing the sum of all the births belonging to that age or age group (i.e., if the mother belonged to that age or age group at the birth of the child) to the sum of all the women-years lived by all women in that age or age group.

To compute the ASFRs by marital status, births occurring within the 4-year period before the survey are first tabulated according to the age of the mother at the birth and the marital status (married vs. unmarried) of the mother at the time of the birth. Events are assumed to take place in the middle of the month they are reported. Then, the women-years of exposure

within each marital status (married vs. unmarried) and each age group are calculated for each woman. The 48 months (4-year period) before the survey are disaggregated into the number of months during which she was unmarried in each age group and the number of months during which she was married in each age group. Because DHS data do not indicate the time spent between or after unions without recourse to the calendar data, it is assumed that a woman who is unmarried at the time of the survey was always unmarried during the 4-year period before the survey. If a woman is married at the time of the survey, her age at marriage is given by the DHS data so the number of months that she spends in each state (unmarried or married) within each age group during the 48 months before the survey can be computed.

To assess the quality of the age-disaggregated data obtained here, the single year adolescent fertility rates will be compared with the results of a modelling approach that converts ASFRs by 5-year age groups into single age ASFRs.

To assess the potential impact of delaying early childbearing on fertility level in developing countries, all births occurring to (very) young women are assumed to be averted (i.e., ASFR(15-17) = 0 or ASFR(15-19) = 0) and the resulting decrease in total fertility rate (TFR) for the 4-year period before the survey will be computed. To assess the potential impact of delaying early childbearing on contraceptive prevalence in developing countries, every woman giving birth while she was an adolescent is supposed to be currently using a method of contraception (even if she is not using in reality), and the resulting increase in contraceptive prevalence for all women aged 15-49 at the time of survey will be computed.

Results

This paper will show which specific age and marital groups suffer the most from high adolescent fertility rates, and determine the countries and regions where a decrease in adolescent fertility will really matter for fertility and contraceptive use. The disaggregated data on adolescent fertility presented here will play a major role in developing effective interventions aimed at improving the reproductive health of adolescents in developing countries in general, and in sub-Saharan Africa and Latin America and the Caribbean in particular where levels of adolescent fertility are the highest in the world. Also, early pregnancies outside of marriage (which are much more likely to be unintended) tend to be more prevalent in Latin America and the Caribbean.