

The Sexual and Reproductive Health Needs of Very Young Adolescents Aged 10–14 in Developing Countries: What Does the Evidence Show?



Vanessa Woog and Anna Kågesten

Key Points

- This report draws on analyses of national survey data and literature review results to provide an overview of the evidence on key aspects of sexual and reproductive health among very young adolescents aged 10–14 living in developing regions.
- Early adolescence is a period of rapid physical, social, emotional and cognitive changes. As such, it is a critical time to lay the foundation for positive sexual and reproductive health outcomes.
- Many developing countries have national policies and curricula that support comprehensive sex education (CSE) in primary schools; however, available data tell us little about the extent to which 10–14-year-olds are actually receiving CSE, or about the quality of such education.
- While most very young adolescents report that they have never experienced sexual intercourse, some have begun to explore intimate relationships and to engage in noncoital sexual activities, such as kissing, hugging, fondling, and oral and anal sex.
- For many, first sexual intercourse happens as a result of coercion or violence. Between 3% and 23% of adolescent females aged 13–17 report experience of sexual violence in the past year; it is 0–13% among adolescent males.
- The proportion of adolescent females married before age 15 varies by country—from less than 1% to 24%—as well as by region, residence and wealth.
- Very young adolescent females had an estimated 777,000 births in 2016; 58% of these births took place in Africa, 28% in Asia and 14% in Latin America and the Caribbean. Slightly more than one-third of births to mothers younger than 15 in developing countries were unplanned.
- Delivering CSE, continuing to reduce levels of child marriage and sexual violence, emphasizing equitable gender norms, and providing financial incentives in education are some examples of strategies to support sexual and reproductive health among this age-group.



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ACKNOWLEDGMENTS

This report was written by Vanessa Woog of the Guttmacher Institute, and Anna Kågesten, independent consultant. It was edited by Haley Ball. The authors thank the following Guttmacher Institute colleagues: Ann Biddlecom, Heather Boonstra, Megan Donovan, Ann Moore, Taylor Riley and Gustavo Suarez for their review and comments; and Suzette Audam, Vivian Gor, Meghan Ingerick, Fatima Juarez and Elena Prada for research assistance. In addition, the authors are grateful to the following reviewers: Michelle Hindin, Johns Hopkins Bloomberg School of Public Health; Rebecka Lundgren, Institute for Reproductive Health; Katharine McCarthy, Population Council; Caroline Moreau, Johns Hopkins Bloomberg School of Public Health; and Joyce Mumah, African Population and Health Research Center.

This report has been made possible by UK Aid from the UK Government and a grant from The Children's Investment Fund Foundation. The views expressed are those of the authors and do not necessarily reflect the positions and policies of the UK Government or The Children's Investment Fund Foundation.



The Guttmacher Institute gratefully acknowledges the unrestricted funding it receives from many individuals and foundations—including major grants from the William and Flora Hewlett Foundation and the David and Lucile Packard Foundation—which undergirds all of the Institute's work. Additional support was provided by the Guttmacher Center for Population Research Innovation and Dissemination (NIH grant 5 R24 HD074034).

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Suggested citation: Woog V and Kågesten A, *The Sexual and Reproductive Health Needs of Very Young Adolescents Aged 10–14 in Developing Countries: What Does the Evidence Show?* New York: Guttmacher Institute, 2017, <https://www.guttmacher.org/report/srh-needs-very-young-adolescents-in-developing-countries>.

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Addressing the Sexual and Reproductive Health Needs of Very Young Adolescents

The sexual and reproductive health needs of very young adolescents aged 10–14 in developing countries require increased attention. The number of very young adolescents is large, and their numbers are projected to grow. While the short window of time that comprises early adolescence is generally considered one of the healthiest life stages, it is also one that can encompass many social, physiological and cognitive changes, including those related to sexual and reproductive health, that have implications for well-being in later adolescence and young adulthood. Further, more than half of all adolescents live in countries where poverty contributes to widespread ill-health, including poor sexual and reproductive health.¹ With a new international development agenda that acknowledges the sexual and reproductive health needs of all individuals and recognizes links between health, gender equality and girls' empowerment, a current look at what we know about the sexual and reproductive health needs of very young adolescents is in order.

A large and growing age-group

Defined as those aged 10–14, very young adolescents account for about half of the 1.2 billion adolescents aged 10–19 worldwide and represent 8% of the total world population.² The vast majority of very young adolescents reside in developing countries where achieving good sexual and reproductive health can be challenging for all; additional barriers constrain adolescents, especially girls.

As of 2016, there are an estimated 545 million 10–14-year-olds living in developing regions: 63% in Asia* (346 million), 26% in Africa (143 million) and 10% in Latin America and the Caribbean (56 million). There are an estimated 22 million more 10–14-year-olds than 15–19-year-olds, mainly due to especially high population growth in Africa.

The very young adolescent population in the developing world is projected to grow by 5% from 2016 to 2030. Most of this growth will take place in Africa, where the very young adolescent population is projected to grow by

34%, from 143 million to 193 million by 2030 (Figure 1, page 5). In Asia, the large size of this age-group will likely stabilize and even dip slightly over this period, reaching 355 million 10–14-year-olds in 2030. Latin America and the Caribbean is projected to experience a 6% decrease, reaching 52 million very young adolescents in 2030.

An opportune life stage for instilling healthy behaviors

Early adolescence is considered a relatively healthy period of life: Compared with other age-groups, young adolescents are least likely to experience disability or premature mortality.³ It is also a critical time to lay the foundation for positive sexual and reproductive health outcomes. Intervening at this relatively early life stage, when attitudes and behaviors are being formed, presents a unique opportunity not only to safeguard health in the short-term, but also to prepare very young adolescents in ways that will ultimately improve their well-being throughout their lives. Many health-related behaviors starting in early adolescence affect the burden of disease in adulthood.⁴

The ages of 10–14 represent a period of rapid individual transformation that encompasses physical, social, emotional and cognitive changes. The ecological context of these changes include influences on all levels—individual, interpersonal (e.g., family and peers), community (e.g., school and media) and macro (e.g., the economy, systemic inequity)—that interact to shape the health, including sexual and reproductive health, of very young adolescents (see the ecological framework for early adolescence developed by Blum et al. 2014).⁵ Although many factors influence the sexual and reproductive health of very young adolescents, we focus here on some of the most salient influences that shape their lives.

A key change for very young adolescents is the onset of puberty and sexual maturation. Girls' age at puberty has decreased over time in many developing country settings,^{6,7} and in some contexts this has been accompanied by an increase in the age of marriage,⁸ thereby extending the time during which girls and young women may be engaged in premarital sexual relationships. In some contexts, very young adolescent girls experiencing puberty are perceived as being old enough to begin sexual relations, marry and bear children.

*Data for Oceania are not shown separately and are included in the Asia region.

Early adolescence is also a time of social changes. An important macro-level influence is the system of cultural beliefs and norms around gender and what it means to be a boy/man or girl/woman. These norms regulate gender interactions, and how very young adolescents process these messages will affect their behaviors and ultimately shape their sexual and reproductive health outcomes. Very young adolescents are in the critical formative years when the expectation to adhere to gender roles and norms begins to intensify;^{9,10} they are also agents in reinforcing (or shifting) these norms through their own interactions. In many settings, early adolescence is when girls are expected to embody the traditional role of women; they are assigned household tasks and lose their freedom to go outside the home or to have leisure time. At the same stage, boys in developing-country settings tend to have fewer household responsibilities and more liberty to leave the home for leisure time, but they also face higher exposure to risk-taking practices such as substance use, violence and unsafe sex.¹⁰ They have more pressure to be independent and autonomous, as well as to engage in income-generating activities to ultimately become breadwinners.

It is during the early adolescent period that some boys and girls begin to experiment with sexual feelings and behaviors; they may also experience unwanted or coerced sexual experiences. Inequitable sexual norms typically govern these early expressions of sexuality. In developing countries, boys tend to be pressured to demonstrate their manhood by becoming sexually active early on, while girls are generally expected to abstain from sexual relations until marriage.^{10,11} Given that early adolescence is a critical point of gender socialization, it is a unique opportunity to address harmful gender attitudes and behaviors before they become entrenched.¹⁰

Education is an important influencing factor in the lives of very young adolescents, and strong evidence shows that investment in schooling improves young people's sexual and reproductive health.^{5,12} Greater educational attainment has been shown to be associated with better sexual and reproductive health outcomes, including delays in marriage, sexual initiation and childbearing, and increased likelihood of contraceptive use.^{13,14}

One of the most profound social changes for very young adolescents in the developing world has been the push to ensure universal access to primary education. This has increased school attendance for very young adolescents overall, and it has decreased girls' disadvantages at the primary school level—in some settings, reversing the gender gap. As of 2016, in the majority of developing countries, fewer than 20% of very young adolescents are not in school; this proportion was considerably higher—50%—in 2006.¹² As countries move toward universal

primary enrollment, the school becomes an increasingly valuable setting for the provision of correct and comprehensive sexual and reproductive health information to very young adolescents.

On the other hand, secondary school enrollment and completion tends to be low in many developing countries. Girls are still less likely than boys to make the transition to secondary school.¹² Regardless of country income level or region, the gender gap in attendance rates is minimal among 10–14-year-olds but becomes larger among 15–19-year-olds, especially in Africa.¹⁵

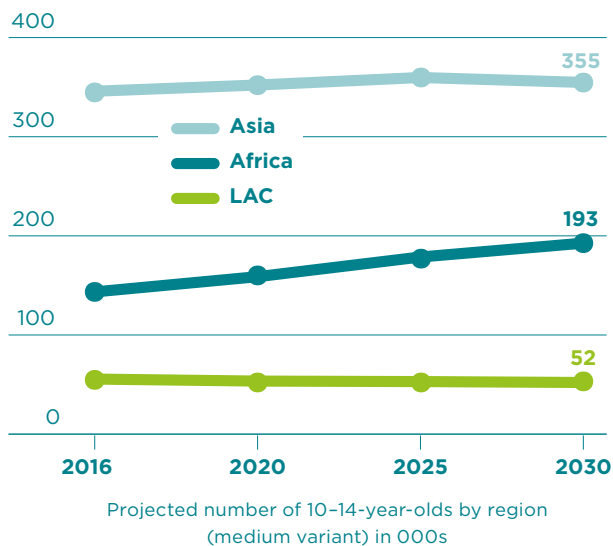
There is some evidence that the onset of puberty coincides with girls' beginning to drop out of school.¹² While some research indicates that school absenteeism might be linked to menstruation, and in particular to the lack of menstrual hygiene management in schools (e.g., absence of private toilets, running water, sanitary pads), the evidence of the role of menstruation in school drop-out in developing countries is mixed.^{16,17} Still, stigma around menstruation exists and may limit the kind of information girls receive to manage their menstruation and impact their inclusion in daily activities, such as domestic tasks and participation in religious activities.

In some settings, school policies require pregnant girls to drop out of school. Some countries have supportive

FIGURE 1

GROWING POPULATION

In developing regions, the population of 10–14-year-olds is projected to reach 600 million in 2030.



NOTE: Asia includes developing countries in Oceania.
SOURCE: reference 2.

reentry policies; however, these are not consistently implemented or monitored.¹⁸ Barriers such as school fees; strong cultural norms favoring boys' education; and negative classroom environments, where girls may face violence, may further limit girls' ability to attend school.¹⁹

Poverty status and sexual and reproductive health are intimately related. Poverty is both a cause and a consequence of poor sexual and reproductive health outcomes. Economic deprivation is associated with early marriage, early childbearing, reduced opportunities for education and labor force participation, and reduced opportunity to contribute to a household income.²⁰ For instance, dropping out of school is associated with negative outcomes (such as early marriage and early childbearing) that decrease girls' economic potential and compromises their employment opportunities (among other negative effects), thereby perpetuating the cycle of poverty.

Families and peers are also influential for the health of the very young adolescents, including their sexual and reproductive health. Living with both parents and having positive family relationships, connectedness and family cohesion have all been associated with reduced pregnancy risk and later age at sexual debut.^{5,14} There is evidence that adolescents' sexual behaviors tend to be very similar to those of their peers,²¹ and a meta-analysis of peer sexual norms and adolescent sexual behaviors found that adolescents who perceived their peers as more sexually active, more approving of sexual activity and to be exerting more pressure on them to engage in sex, tended to be more sexually active themselves.²² In addition, perceived peer sexual risk-taking (unprotected sex, contracting STIs, having a pregnancy) was related to adolescents' own sexual risk behavior. The findings indicated that these effects increased with age, which supports the idea that early adolescence is an important time when peer sexual norms start to become influential.

Taken together, factors at multiple levels protect or undermine the sexual and reproductive health outcomes of very young adolescents, and understanding the context of their lives is critical to meeting their needs.

Adolescent sexual and reproductive health on the global agenda

The 1994 International Conference on Population and Development (ICPD) and the resulting Programme of Action, adopted by 179 countries, was forward-looking in bringing attention to the sexual and reproductive health needs and rights of young people, including adolescents. It called for "meeting the educational and service needs of adolescents to enable them to deal in a positive and responsible way with their sexuality."²³ Shortly thereafter, in 1995, the United Nations strengthened its commitment to

young people by adopting an international strategy—the World Programme of Action for Youth—providing a policy framework and practical guidelines to address the challenges young people face, including sexual and reproductive health.²⁴ Through regular meetings and events, the UN continues to strongly encourage governments to uphold the principles of the World Programme of Action for Youth and to formulate national youth policies to improve the lives of young people, including policies to meet their sexual and reproductive health needs.

Commitments to improving the sexual and reproductive health of adolescents have been underscored through different international fora. These include formal governmental bodies (e.g., the United Nations Commission on Population and Development), cross-country initiatives (e.g., the Global Strategy for Women's, Children's and Adolescents' Health), and international conferences and scientific commissions (e.g., the Lancet Commission on adolescent health and well-being). In addition, the successful achievement of the Sustainable Development Goals—most notably on health (Goal 3), education (Goal 4) and gender equality (Goal 5)—will depend in part on improvements in the lives and health of very young adolescents.

These various institutions, strategies and partnerships have recognized and brought to the forefront the specific sexual and reproductive health needs of adolescents, and the benefits of investing in addressing those needs and the costs of not doing so have been widely documented.^{25–28} The needs of very young adolescents, however, have often been ignored in favor of a focus on the needs of 15–19-year-olds, or the two age-groups have been merged, despite their disparate needs and characteristics. In addition, because it is considered one of the healthiest life stages, the years between the ages of 10 and 14 have garnered relatively little attention. As a result, research and programs targeting the sexual and reproductive health of very young adolescents is fairly sparse, in comparison with that focused on older adolescents. However, given that many behaviors, including sexual and reproductive health behaviors, known to cause diseases later in life begin during this time, this period is a window of opportunity to prevent these diseases and promote optimal health in the future.

The developmental needs of this group are different than those of older adolescents and merit attention on their own;²⁹ therefore, this report does not consistently draw comparisons between the two age-groups. As much as possible, given the evidence base, we try to present a diverse overview of these very young adolescents, recognizing that they are not a homogeneous group.

Contribution of this report

Thanks to key organizations in the field of sexual and reproductive health who have argued for greater visibility for 10–14-year-olds, there is emerging evidence on the needs of this population. Recent overview publications focusing on very young adolescents include reviews of the determinants of their health and well-being;¹² advocacy for investing in research and programs to address the relative dearth of information on this age-group;¹¹ examples of successful programs, research results, curricula, advocacy materials and other resources useful for working with very young adolescents;³⁰ and identification of research gaps on this group.^{29,31}

This report contributes to the current available evidence by providing:

- 1) An overview of studies on 10–14-year-olds conducted over the past 15 years that cover the following topics: access to comprehensive sexuality education, sexual and reproductive health knowledge, child marriage, sexual behaviors, contraceptive use and sexual violence.

- 2) Updated analyses on sexual debut, marriage and childbearing before age 15 among adolescent females aged 15–19.[†] Our estimates mainly draw on data from Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS) from more than 100 developing countries between the years 2002 and 2015. We also provide data by residence (urban versus rural) and by wealth quintiles to better understand how sexual debut, marriage and childbearing by age 15 vary by subgroup within and across countries. We present data on births among very young adolescents as a whole and at each year of age between 10 and 14, as well as fertility

rates among those aged 10–14 and the intention status of births before age 15.

- 3) Recommendations summarizing the most urgent needs and level of need for sexual and reproductive health information and services among very young adolescents, highlighting promising interventions and identifying gaps and opportunities in research focusing on very young adolescents.

Guide to this report

This report is organized into five main sections. The following section provides detailed information on the methodology of the literature review and of a quantitative analysis performed using national surveys. In the third section, we provide an overview of the available evidence from the literature and the results of our quantitative analysis. Next, we outline gaps in the research on the sexual and reproductive health of very young adolescents and the challenges and opportunities for doing research with this group. The final section offers programmatic recommendations to address the needs of the very young adolescents and highlights key promising programs.

[†]Although we recognize that very young adolescent boys are an important part of this group of adolescents, we did not include them in the estimation of these indicators because very few boys are married and have children before age 15. In addition, early marriage and parenthood disproportionately affect adolescent girls and typically have more deleterious consequences for adolescent girls than for adolescent boys.

Methodology of Literature Review And Analysis

To capture the most reliable and up-to-date data on the sexual and reproductive health of very young adolescents in developing regions, we used two strategies: The first was to review and summarize relevant literature on the subject, and the second was to analyze sexual and reproductive health data from recent national surveys. The purpose of the review was to provide an overview of very young adolescents' outcomes, experiences and awareness related to sexual and reproductive health.

Literature review

A literature review on the sexual and reproductive health of 10–14-year-olds in developing countries was conducted using the Popline and PubMed databases. Searches of key terms in Google Scholar were also performed to find additional literature and to identify organizations involved in work related to very young adolescent sexual and reproductive health. The review also included data from two large-scale representative surveys fielded in many developing countries, as these cover a segment of the age range of very young adolescents, however neither include data on 10–12-year-olds: the Global School-Based Student Health Surveys (GSHS) and the Violence Against Children Surveys (VACS). Details on the methodology of these surveys are presented in Box 1, page 9.

The searches were conducted in February and May 2016 and used a combination of targeted keywords: “developing countries” AND “adolescents 10–14” OR “very young adolescents” OR any combination of “ages 10/11/12/13/14” AND any of the following phrases: reproductive health, sexual and reproductive health, early marriage, sexual behavior, sexual experience, sexual activity, early sexual debut, sexual initiation, sexuality education, sexual coercion, sexual violence and sexual abuse. Studies of all designs conducted in developing countries and published in English between 2000 and 2016 were considered for inclusion. The reference lists of articles and reports selected for review were systematically checked to capture additional studies that had not been found through our electronic searches. Resources did not permit an extensive search of the gray literature.

The searches generated 940 records. We eliminated duplicate records, and studies deemed relevant on the basis of their title and abstract were retrieved for full-text

review. During the full-text evaluation, we included articles that focused on 10–14-year-olds, provided disaggregated data for all or parts of this age range or focused on a mean age within the 10–14 age range. Articles on populations aged 10–19 were also considered if they included 10–14-year-olds and provided data on outcomes occurring before age 15. To be included, studies had to provide data on very young adolescents related to at least one of the following sexual and reproductive health topics: sexuality education, sexual and reproductive health knowledge, sexual activity (noncoital or coital), age at first sex, contraceptive use, pregnancy, early marriage, sexual coercion or sexual violence. Editorials and brief communication pieces were excluded. In total, we included 17 articles and six reports (Appendix Table 1, page 36). In addition, we summarized data from 57 GSHS fact sheets with available data on 13–15-year-olds and from eight VACS country reports with data on 13–17-year-olds.

The literature review was not intended to provide an exhaustive, systematic review of the sexual and reproductive health of very young adolescents, and therefore we did not assess the quality of the included studies. Some aspects of sexual and reproductive health (such as menstrual hygiene management and body literacy) and social and contextual influences (like gender norms and attitudes, physical and psychological violence, and migration), though relevant for this age-group, were beyond the scope of the review. They were not specifically searched out, but some of these factors are discussed in this paper to contextualize the main topics of focus. The recent report *Investing When It Counts* by the Population Council¹² provides an excellent overview on some of the topics that are not included in the current review.

Quantitative data sources and analysis

The quantitative analysis provides an overview of the extent to which certain sexual and reproductive health behaviors are common and offer an indication of the risks girls are exposed to and the level of need for services. The 110 countries covered in the quantitative analysis include 49 countries in Africa, 31 in Asia, 25 in Latin America and the Caribbean, and five in Oceania. Countries are organized in Appendix Tables 4–6 according to UN subregion designation. For each country, we

used data from the most recent nationally representative survey available at the time of analysis; all were published between 2002 and 2015. For 62 countries, we drew on data from the individual survey of the DHS; for 41 countries, we drew on the highly comparable MICS; and for five countries, we drew on the CDC Reproductive Health Survey (RHS). Since DHS, RHS and MICS studies are not carried out for Mexico or Brazil, we used data from independent nationally representative surveys using comparable measures: the 2014 Encuesta Nacional de la Dinámica Demográfica and the 2006 Pesquisa Nacional de Demografia e Saúde da Criança e da Mulher, respectively.

These surveys retrospectively interview youth aged 15–19 on earlier life experiences. The measures considered in our analysis were adolescent females' age at first sex, age at first marriage and age at first birth before age 15. The

findings are also presented by socioeconomic subgroups, including urban or rural residence and household wealth (divided into quintiles). For some countries, data are only collected for ever-married women. As a result, for these data sets, factors for adjusting ever-married samples to estimate statistics based on all women were applied.

The majority of the results from the quantitative analysis come from tabulations conducted by the Guttmacher Institute of the survey microdata. The remaining results were obtained from published country reports. The cutoff date for including new surveys was September 18, 2016. Therefore, some countries have newer surveys that may have become available since the publication of this report.

Population and birth data for 2016 come primarily from the United Nations *World Population Prospects, 2015 Revision*. The survey data were also used to estimate the

BOX 1

Large-scale surveys included in the literature review

Global School-Based Student Health Surveys

Conducted by the World Health Organization in collaboration with UNICEF, UNESCO and UNAIDS, and with technical assistance from the Centers for Disease Control and Prevention (CDC), the main purpose of the GSHS is to provide data on health behaviors and protective factors among students aged 13–17.³² The GSHS is based on a self-administered, anonymous questionnaire that, to date, has been administered to more than 450,000 students using multistage cluster-based sampling. Based on the information available online at the time this report was written, 94 countries had participated in completing the survey.

The GSHS core questionnaire contains five questions on sexual activity,[‡] but not all data are published for the specific group of students aged 13–15. Survey results are available online in different

formats, including country reports, country fact sheets and databases. While data are available for analysis, it is beyond the scope of the current project to analyze these data. Rather, we are reporting only on selected countries with available information on the sexual behavior of students aged 13–15 published in country fact sheets (based on surveys between 2003 and 2015). The fact sheets are available for more than 90 countries; however, only 57 developing countries present information on sexual activity. Results from these surveys do not represent all very young adolescents because the sample age range only partially aligns with the very young adolescent age range, and because data from these surveys may be incomplete in countries where school attendance is low or dropout rates are high (e.g., areas with large rural and low-income populations). Therefore, readers should be cautious in interpreting the results from these surveys.

Violence Against Children Surveys

The VACS provides data on emotional, physical and sexual violence against children and youth aged 13–24 in eight countries: Cambodia, Haiti, Kenya, Malawi, Nigeria, Swaziland, Tanzania and Zimbabwe.³³ Led by the CDC and UNICEF, in collaboration with country governments and other institutions, VACS was administered first in Swaziland in 2007 and most recently in Nigeria in 2014. The VACS is a multistage, national cluster-based survey administered via face-to-face interviews in households. The surveys include both male and female respondents and cover the following topics: victimization and perpetration of physical, emotional and sexual violence (defined as unwanted touching; unwanted attempted sex; and pressured, coerced or forced vaginal, anal or oral sex), as well as health outcomes, risk and protective factors, and service-seeking and utilization.

‡In 2013, the questionnaire was expanded to explore aspects of sexual abuse, forced sex, sexual harassment and reasons for having sexual intercourse. However, these data are not yet available.

number of births to those younger than age 15 (according to single year of age) and to estimate the number of such births in the three years preceding the survey that were unplanned—meaning they were either mistimed (occurring earlier than intended) or unwanted (occurring when no children, or no more children, were desired). Fertility rates come from an unpublished report by ICF.³⁴

Gaps and limitations in data and coverage of this report

Data on males. Although data on boys' health are integral to understanding any population's overall sexual and reproductive health, and we strongly recommend that future work focus on this important population's needs, we have omitted adolescent males from the quantitative analysis for two reasons. First, too few boys report that they are married and have children before age 15 to allow for in-depth analysis. Second, early marriage and early parenthood have more deleterious consequences for adolescent girls than for adolescent boys. Although the literature review includes studies conducted with boys, more data are generally available for girls.

Data on unmarried women. Seven countries' national surveys do not include unmarried women. In 24 countries, unmarried women are included but are not asked questions related to sexual activity.

Data for India and China. The national data for India are included in the analysis but have the drawback of being 12 years old, and, given the reported shifts in marriage patterns in the country, newer data would be beneficial in understanding the changes affecting such a large population. Although an India fact sheet is available for 2015–2016, data on the indicators of interest among 15–19-year-olds are not available. China is not included in the analysis because no age-specific national data are available on the indicators of interest.

Age range of samples. While we aimed to only include studies for the full 10–14-year-old age-group in the literature review, the reality is that few studies have been conducted with this specific age-group. For this reason, we also use findings from the GSHS and VACS surveys because they provide representative, large-scale estimates for segments of the very young adolescent population, including retrospective reports on behaviors that occurred during the ages of 10–14. However, it is important to note that because these surveys include older adolescents the prevalence of some outcomes (such as sexual behaviors) may be higher than would be found among the 10–14 group only.

Social desirability bias and self-reporting of sensitive behaviors. The surveys used in our report and the studies reviewed rely mainly on retrospective self-reports of sexual and reproductive behaviors, some of which may be underreported because they are stigmatized. Such underreporting may be especially common among unmarried women who may not want to admit to having had premarital sex.³⁵ As a result, age at first sex may be misreported by some adolescent women. In contrast, there is some evidence adolescent males tend to exaggerate their sexual experiences due to cultural masculinity norms promoting sexual prowess among young men.¹⁵

Data on LGBT youth and nonheterosexual behavior. Almost no data are available that address the full spectrum of sexual experiences adolescents may be participating in. Most studies either specify behaviors as occurring between females and males or make no explicit mention of nonheterosexual behaviors.

Review on the Sexual and Reproductive Health of Very Young Adolescents

Providing a picture of the sexual and reproductive health of very young adolescents aged 10–14 is critical to understanding the needs of this group and to tailor age-appropriate information and services to better meet those needs.

This section provides an overview of the results from the literature review on the sexual and reproductive health of very young adolescents in developing countries; see the methodology above for more details on how literature was selected. In addition, this section presents nationally representative data on sexual intercourse, marriage, and childbearing before age 15 based on retrospective reports by adolescent females aged 15–19. The results from the literature review and the quantitative analysis drawing on national survey data indicate that, overall, evidence on the sexual and reproductive health and needs of very young adolescents in developing countries is quite limited. Most available data draw on retrospective reports by young people aged 15 and older. Little research has been done on the factors that contribute to vulnerability among 10–14-year-olds and resulting health outcomes. Nonetheless, a growing body of work has contributed to an increased recognition and understanding of the sexual and reproductive health needs of very young adolescents.

Access to and quality of sexuality education

The *International Technical Guidance on Sexuality Education*, which builds on the original work of the ICPD and reflects the views of a group of major international organizations, embraces a holistic approach to comprehensive sexuality education (CSE) and defines it as an “age-appropriate, culturally relevant approach to teaching about sex and relationships by providing scientifically accurate, realistic, nonjudgmental information.”³⁶ Many different terms are, however, used to refer to sexuality education in national curricula, such as family life education, HIV education and life skills education. CSE encompasses all of these aspects and is grounded in internationally recognized human rights and in the responsibilities of governments to provide young people with sexuality education that is both unbiased and scientifically accurate.³⁷

The extent to which very young adolescents in

developing regions are being offered sexuality education is unclear, as is the nature and quality of any existing education on this topic. Most indicators refer to policies on CSE in primary school, which may serve as proxy estimates of the availability of sexuality education for very young adolescents.

A 2015 review by UNFPA of national CSE curricula and policies across 48 developing countries in Africa, Asia-Pacific, Eastern Europe, Central Asia, and Latin America and the Caribbean indicated that the majority of countries have policies that support CSE in schools.³⁷ Thirty-seven (77%) of these countries have national policies or curricula that support CSE in primary school, and among these, 30 countries state that CSE should be mandatory. About two-thirds of the 48 countries for which there are data have curricula that meet international standards on CSE, which require coverage of life skills, sexuality, sexual and reproductive health, and HIV-prevention. However, reliable standardized measures on what is being taught are lacking, and no information is available with regards to access to CSE among the 10–14 age-group, specifically.³⁷

A similar analysis conducted by the Guttmacher Institute and the International Planned Parenthood Federation in 2013 showed that 23 out of 30 countries, most of which are in developing regions, include skills-based HIV education, skills-based general health education or both in their national curricula for primary school.³⁸ Information on the proportion of schools that are actually teaching this content in primary schools are only available for four countries: Tanzania (63%), Ukraine (59%), Nepal (8%) and Guatemala (1%). Additional data are available for Latin America and the Caribbean from a 2013 assessment on the state of CSE in 19 countries conducted by UNFPA. Eleven countries mandate sexuality education at all levels of the educational system, and three (Chile, Mexico and Peru) mandate it at the primary and secondary level.³⁹ Similar to the other reviews, no data are available on actual implementation.

Indeed, it is important to note that the presence of a national policy or curriculum that supports CSE does not necessarily equate to effective implementation of CSE or access to programs, especially for 10–14-year-olds. In some settings, delivering age-appropriate CSE to very young adolescents can be a challenge because of the high

number of students that repeat grades or are otherwise behind in school relative to their age. Because such circumstances are common in many developing countries,⁴⁰ and are especially common among children from poor households,⁴¹ some very young adolescents may be attending lower grades than those at which CSE targeted to their age-group is being taught. Curricula that are designed for 10–14-year-olds may also be inadequate for 15-year-olds who are behind in grade for their age.⁴² In addition, none of these reviews tell us about the consistency or quality of CSE in schools, the type and level of CSE training provided to teachers, or the level of access to CSE among very young adolescents who are out of school.

Given that primary school is compulsory in almost all countries in the world and that 10–14-year-olds are more likely than their older peers to be enrolled in school, schools remain one of the most effective venues for reaching very young adolescents with sexuality education.^{37,43} Even in countries where school attendance is low or where attendance drops by secondary school, a substantial proportion of primary school students can still be reached.

Among the included studies in the literature review, only one study, from 2007, provides data on access to sexuality education; the findings, which were published in two articles, are highlighted in Box 2.

Summary

- Many developing countries have national policies and curricula that support comprehensive sex education (CSE) in primary schools.
- However, available data tell us little about 10–14-year-olds' access to and receipt of in-school CSE, or about the quality and nature of such education.
- Age-appropriate CSE is important throughout early adolescence, but because school attendance is generally high among this group, primary school programs may reach the greatest numbers of students.
- Data on access to CSE among out-of-school very young adolescents is lacking.

Sexual and reproductive health awareness and knowledge

The extent to which very young adolescents are knowledgeable about basic sexual and reproductive health issues is one of several major factors in determining the extent to which they are able to make informed decisions about contraception, pregnancy, and prevention of HIV and other STIs.

In the four-country Sub-Saharan African study described in Box 2, both male and female 12–14-year-olds had high levels of awareness about HIV/AIDS and pregnancy prevention, but more in-depth knowledge was

BOX 2

Sexuality education in schools across four Sub-Saharan countries

Protecting the Next Generation, a large-scale study that used nationally representative household-based survey data collected in 2004, shed light on school-based sexuality education in four Sub-Saharan African countries (Burkina Faso, Ghana, Malawi and Uganda). Data from more than 8,000 12–14-year-olds showed that most (68–86%) of those who ever attended school agreed that it is important to teach sexuality education in school.⁴⁴ In addition, 48–68% indicated that

despite what many adults believe,⁴⁵ the provision of sexuality education in schools does not encourage young people to have sex. However, the majority of 12–14-year-olds in the study reported that they did not receive family life or sex education.⁴⁶ Fewer than 20% of all very young adolescents in Burkina Faso and Malawi indicated that they received family life or sex education[§] in school, while a larger proportion did so in Ghana (41% of girls and 28% of boys) and Uganda (34% of girls

and 22% of boys). Among the very young adolescents who received sex education, almost all reported receiving it before first sex. Very young adolescents who reported receiving sex education in schools were also asked whether they had received information on each of four specific topics: how pregnancy happens, contraception and pregnancy prevention, abstinence and STIs. Most adolescents who received sex education got information on all four topics.

§The study by Bankole et al.⁴⁶ referred to “family life and sex education”; whether this corresponds to CSE is unclear.

limited.⁴⁶ The study found that detailed knowledge about pregnancy prevention** was lowest in Burkina Faso (2% among boys and 3% among girls), followed by Ghana (6% and 12%, respectively), Malawi (8% and 15%) and Uganda (11% and 20%). Similar patterns were found in relation to in-depth knowledge about HIV, which was also lower in Burkina Faso (5–9%) than in the other three countries (18–24%).

These findings parallel those from a 2016 study of 941 students aged 10–14 in northern Uganda, which indicated high awareness about HIV/AIDS (94%) and condoms (83%) and moderate knowledge about pregnancy risk (about half responded correctly to three in four questions about the risk of pregnancy at first sex and during certain menstrual cycle days).⁴⁷ There were also notable gender differences in knowledge: Males were less likely than females to provide correct responses to most questions and less likely to have someone to go to for information about sexual and reproductive health matters.

In Kenya, findings from the 2013 Transitions to Adulthood study, conducted with 12–22-year-olds in two slum settlements, showed that almost all 12–14-year-olds had heard about HIV/AIDS.⁴⁸ However, knowledge of the menstrual cycle and fertility was low: Fifty-one percent of 12–14-year-old females were aware of the existence of a fertile period, but among that group, only 14% accurately stated that pregnancy is most likely to occur halfway between menstruations. Greater knowledge about HIV than about the menstrual cycle was also found in the 2015 Adolescent Girls Initiative–Kenya baseline survey, carried out with more than 4,500 girls aged 11–14 in an urban area (Kibera slum, Nairobi) and a rural area (Wajir county) of Kenya.⁴⁹ While older girls aged 13–14 in Kibera demonstrated higher knowledge about HIV than their younger peers aged 11–12, only 14% in both age-groups correctly identified the fertile period. Both measures of sexual and reproductive health knowledge were lower among girls in rural Wajir, and fewer than 1% of 11–12-year-olds and 8% of 13–14-year-olds were able to identify the fertile period. In a 2008 Senegal study, awareness of contraceptive methods was 41% among 10–14-year-olds.⁵⁰

Only one identified study outside of the African region provided data on sexual and reproductive health knowledge among girls in our target age-group. In Iran, a 2003

study with 1,893 girls aged 12–14 indicated low levels of knowledge: The majority of girls had never heard about family planning (71%) or that girls are able to reproduce once they get their period (72%).⁵¹ High proportions reported that behaviors such as bathing (77%) and participating in sports (83%) during menstruation are harmful, and 73% did not know that HIV is sexually transmittable.

Summary

- The available data on sexual and reproductive health awareness and knowledge indicate that while very young adolescents have typically heard of HIV, in-depth knowledge of the topic is generally low.
- Pregnancy prevention awareness and detailed knowledge about pregnancy are even lower.

Experience of sexual activities

Whether or not they have the knowledge or skills to do so safely, some proportion of very young adolescents in any context will begin to explore their sexuality. Understanding the types and prevalence of sexual behaviors and the experiences of very young adolescents provides a window into the kind of support, including information and services, these adolescents might need to develop a healthy and positive sexuality. Here we present prevalence estimates of sexual activity, while the context of sexual activity—including coercion, sexual violence and child marriage—is addressed in subsequent subsections.

Noncoital sexual activities. Noncoital sexual activities were explored in four of the included studies (Table 1, page 14).^{††} A detailed summary of the studies (design, methods, sample and results) is available in Appendix Table 2, page 41.

In the Protecting the Next Generation study, almost one-third of females and males aged 12–14 in Uganda, one-third of males in Malawi, and about one in 10 males and females in Burkina Faso and Ghana reported some form of sexual activity.⁴⁶ Among those who reported that they had never had sexual intercourse, 2–9% had ever kissed and 2–18% had ever fondled someone. In Kenya, a 2010 study on transitions into first sex in Nairobi found that 10% of females and 12% of males aged 12–19

**Adolescents were defined as having detailed knowledge on pregnancy risk and prevention if they knew when in her cycle a woman is most likely to get pregnant, were aware of at least one modern method of contraception and were able to reject two common misperceptions: a girl cannot get pregnant the first time she has sex and she cannot become pregnant if she has sex standing up. Adolescents were defined as having detailed knowledge on HIV transmission and prevention if they were able to correctly answer five questions about whether HIV transmission can be reduced by having sex with only one, faithful, uninfected partner or by using condoms; whether a healthy-looking person can have HIV; and whether a person can get HIV from mosquito bites or by sharing food with someone who is infected.

††Three of the studies also included measures related to romantic relationships such as having boyfriends/girlfriends or crushes. The topic of romantic relationships was not part of our search, and because sexual behaviors may or may not occur within romantic relationships, we do not present these data. More information related to the nature of sexual relationships may be available.

(mean age 14) who had never had sexual intercourse reported having ever engaged in noncoital sexual activities (kissing, fondling, foreplay or heavy petting).⁵² In Taiwan, a 2010 study among a sample of 12–14-year-old girls (more than 99% of whom had not had sexual intercourse) found that 14% reported having engaged in the past year in kissing and 3% in fondling.⁵³ Noncoital activities were also explored in Cape Town, South Africa: In a 2013 study with 12–15-year-old students (among whom 9% of females and 30% of males reported having had vaginal intercourse), kissing was the most commonly reported behavior (71% females, 88% males), followed by light petting (29% females, 45% males) and heavy petting (12% females, 20% males).⁵⁴

Sexual intercourse. Table 2 presents an overview of the proportion of adolescents reporting ever having had

sexual intercourse across 11 studies conducted with samples that include all or part of the 10–14 age-group. Among the reviewed studies, a large-scale 2003 study with more than 15,000 adolescents aged 10–18 in nine Caribbean countries^{††} reported the highest estimates of ever having had sexual intercourse: 22% among those aged 12 or younger and 35% among those aged 13–15.⁵⁵ In contrast, in the Transitions to Adulthood study, very few of the 12–14-year-olds in Nairobi slums reported that they ever had sexual intercourse (3%).⁴⁸ Similarly, 2% of girls aged 11–14 in the Adolescent Girls Initiative–Kenya baseline study in the Kibera slum of Nairobi reported having had sexual intercourse.^{§§51} Low levels of sexual intercourse were also found in other studies conducted in Sub-Saharan Africa: 4% among 10–14-year-olds in Senegal,⁵⁰ 7% among 12–14-year-olds in urban Ghana,⁵⁶ 9% among 10–14-year-olds in Tanzania⁵⁷ and 10% among 10–14-year-olds in Zambia.⁵⁸ In the Taiwan study, among 12–14-year-old girls, 0.5% reported that they had ever had sexual intercourse.⁵³

Results from studies that present data by sex indicate that the reported levels of sexual intercourse in general are higher among males than females. In the Protecting the Next Generation study, males were more likely than

††Antigua, Bahamas, Barbados, British Virgin Islands, Dominica, Grenada, Guyana, Jamaica and St. Lucia.

§§While the Adolescent Girls Initiative baseline study was also undertaken in the rural Wajir county, sexual intercourse was only reported by a small subset of ever-married or cohabitating girls (n=21) in this setting, and proportions could therefore not be estimated.

TABLE 1

Proportion of very young adolescents reporting having engaged in noncoital sexual activities, by study

Data source	Sample size	Location	Age	Type of noncoital sexual activities	% who have engaged in noncoital sexual activities	
					Females	Males
Bankole et al., 2007	N=8,882	Burkina Faso, Ghana, Malawi, Uganda	12–14	Ever kissed*		
				Burkina Faso	2	2
				Ghana	2	2
				Malawi	2	2
				Uganda	9	3
				Ever fondled*		
				Burkina Faso	2	4
				Ghana	4	4
Malawi	5	8				
Uganda	18	5				
Gevers et al., 2013	N=474	South Africa (Cape Town)	12–15 (mean age=14)‡	Ever kissed†	71	88
				Ever light petting (touching upper body)†	29	45
				Ever heavy petting (touching genitals)†	12	20
Kabiru et al., 2010	N=2,134	Kenya (Nairobi)	12–19 (mean age=13.8 females, 13.9 males)*, ‡	Any noncoital activity (kissing, fondling, foreplay, heavy petting)*	10	12
Pai et al., 2010	N=372	Taiwan (rural South)	12–14	Kissing (in past year)	14	u
				Fondling (in past year)	3	u

*Among those who had never had sexual intercourse. †Among those who had ever had sexual intercourse. ‡Age-group includes adolescents older than 14, so estimates may be higher than if these older adolescents had not been included in the sample.

females to report having ever had sexual intercourse in Burkina Faso (6% of males and 2% of females), Malawi (19% and 3%) and Uganda (15% and 8%); the difference was not significant in Ghana (2% and 1%).⁴⁶ Reporting having ever had sexual intercourse was also more common among 12–15-year-old male students (30%) than among female students in that age-group (9%) in the Cape Town study, and this pattern held true for experience with oral sex (14% and 4%, respectively) and anal sex (11% and 1%).⁵⁴

It should be noted that both the Cape Town study and the Caribbean study included 15-year-olds, which may partly explain the higher levels of sexual experience reported in these settings.

Almost all of the studies reviewed focused on countries from Sub-Saharan Africa. While most measured whether adolescents had ever had sexual intercourse, the studies used different designs, sampling techniques,

populations and age ranges, making the estimates difficult to compare across sites.

A source of data on sexual intercourse among adolescents that is more comparable across multiple countries is the school-based GSHS. However, the GSHS includes 15-year-olds and does not survey 10–12-year-olds; therefore, estimates of sexual intercourse might be higher than if the same survey had been conducted with 10–14-year-olds only. And given that the GSHS is conducted with students, survey results are not representative of out-of-school adolescents.

According to 2003–2015 GSHS data, sexual intercourse is common among 13–15-year-old students, yet varies widely across regions and among the 57 countries with available data (Appendix Table 3, page 43).³² The proportion of students who report ever having had sexual intercourse is highest in Latin America and the Caribbean (ranging from 13% in Guatemala to 47% in Dominica). Next highest is Africa

TABLE 2

Proportion of very young adolescents who ever had sexual intercourse, by study

Data source	Sample size	Country	Age-group	% who had ever had sexual intercourse		
				Females	Males	Total
Austrian et al., 2015	N=2,394 (girls only)	Kenya (Kibera Nairobi)*	11–14	2	u	u
Bankole et al., 2007	N=8,882	Burkina Faso	12–14	2	6	4†
		Ghana	12–14	2	1	1.5†
		Malawi	12–14	3	19	11†
		Uganda	12–14	8	15	11†
Beguy et al., 2013	N=4,058 aged 12–22 (baseline)	Kenya (Nairobi)	12–14	3	3	3
Diop & Diagne, 2008	N=1,293 aged 10–19 (baseline)	Senegal	10–14	u	u	4
Exavery et al., 2011	N=612	Tanzania (Kigoma, Kilombero, Rufiji, Ulanga)	10–14	u	u	9
Gevers et al., 2013	N=474	South Africa (Cape Town)	12–15‡	9	30	26†
Glover et al., 2003	N=704 aged 12–24	Ghana (Takoradi, Sunyani, Tamale)	12–14	u	u	7
Gonçalves et al., 2015	N=4,325 adolescents (1993 birthcohort)	Brazil (Pelotas)	10–14	16	21	19
Halcón et al., 2003	N=15,695 aged 10–18	Antigua, Bahamas, Barbados, British Virgin Islands, Dominica, Grenada, Guyana, Jamaica, St. Lucia	≤12	u	u	22
			13–15‡	u	u	35
Magnani et al., 2002	N=2,328 aged 10–19	Zambia (Lusaka)	10–14	10	10	u
Pai et al., 2010	N=372	Taiwan (rural South)	12–14	0.5	u	u

*The Wajir sample is excluded because very few (N=21) reported having had sexual intercourse and this experience was restricted to ever-married or cohabitating girls. †The measure was only presented by sex. We calculated the total by adding the number of males and females who reported ever having had intercourse and dividing this by the total sample size. ‡Age-group includes 15-year-olds, so estimates of sexual intercourse may be higher than if these older adolescents had not been included in the sample. Note: u=unavailable.

(ranging from 10% in Harare region, Zimbabwe to 38% in Zambia), followed by the Western Pacific region (excluding Samoa; ranging from 4% in Vietnam to 32% in Nauru). Samoa, in 2011, had the highest proportion of students reporting that they had ever had sexual intercourse (56%); disaggregated by sex the proportion was 69% among males and 45% among females.

Similar to the Sub-Saharan African studies described earlier, GSHS data indicate that male students are more likely than female students to report having had sexual intercourse. Among the African countries, ever having had sex is reported by between 18% (in Harare region, Zimbabwe) and 45% (in Kenya and Zambia) of male students and between 4% (Harare, Zimbabwe) and 29% (Zambia) of female students aged 13–15. Among Western Pacific countries, the proportion of students reporting having ever had intercourse ranges widely from 4% among males and 3% among females in Viet Nam to 69% and 45%, respectively, in Samoa. The proportion of students reporting sexual intercourse in the three Southeast Asian countries with data are 0.5% among males and 0.2% among females in Indonesia, 7% and 6% (respectively) in Thailand, and 14% and 4% (respectively) in Bangladesh. In Latin America and the Caribbean, Guatemala has the lowest proportion of adolescent students reporting sexual intercourse (18% among males and 8% among females), while Dominica has the highest (57% and 37%, respectively).

While these numbers indicate that males may be more likely than females to initiate sexual intercourse at early ages in developing regions, there is evidence that adolescent males tend to overreport their sexual activity, while adolescent females (especially those who are unmarried) tend to understate it; this is likely due to the pervasive sexual double standard that emphasizes sexual prowess as a way for boys to demonstrate their masculinity, while stigmatizing the same for girls.^{15,35} That said, many very young adolescents, male and female alike, may underreport sexual behavior due to stigma associated with early sexual activity, in which case the overall reported levels of sexual intercourse may be lower than is accurate.

Nationally representative data on sexual experience before age 15

National quantitative data show sexual debut before age 15 among females is common in some countries and indicate that not all sexual activity occurs within the context of marriage (Figure 2, page 17). These data come from the most recent large-scale surveys available and were published between 2002 and 2015.⁵⁹

- In more than one-third of countries, between 10% and 20% of adolescent females aged 15–19 report having

had sex before age 15 (Appendix Table 4, page 45).

- Countries with the highest levels of sexual experience before age 15 are concentrated in Western and Middle Africa. In 10 countries (all in Africa), more than two in 10 adolescent females report having had sex before age 15, reaching levels of close to three in 10 in Equatorial Guinea. In only four countries in Africa are levels below 5%.
- Surveys in a number of countries in Asia exclude unmarried women; so for some countries data are based on samples of ever-married women only and adjusted to account for unmarried women. In this region, an overwhelming majority of adolescent females report not having had sex before age 15. However, adolescent sexual experience is much higher than average in two countries (both of which have high rates of early marriage): Bangladesh (15%) and India (8%).
- In Latin America and the Caribbean, the proportion of adolescent females who report having had sex before age 15 ranges from 4% in Belize to 17% in Brazil and the Dominican Republic.
- In Oceania, proportions having sex before age 15 are: 1% in Tonga, 4% in Papua New Guinea, 8% in Vanuatu and 15% in the Solomon Islands.
- Sexual activity by age 15 is more common among adolescent females in rural areas than those in urban areas, reflecting marriage patterns. For example, in Niger, 28% of adolescent females in rural areas have sex before age 15, compared with 5% in urban areas. However, rural-urban differences in age at first sex are generally less pronounced in Latin America and the Caribbean than in other regions.
- With respect to household wealth, disparities are most pervasive in Africa and Latin America and the Caribbean. For example, in Costa Rica, 23% of adolescent girls from the poorest households have had sex before age 15, compared with 6% of those from the richest households.

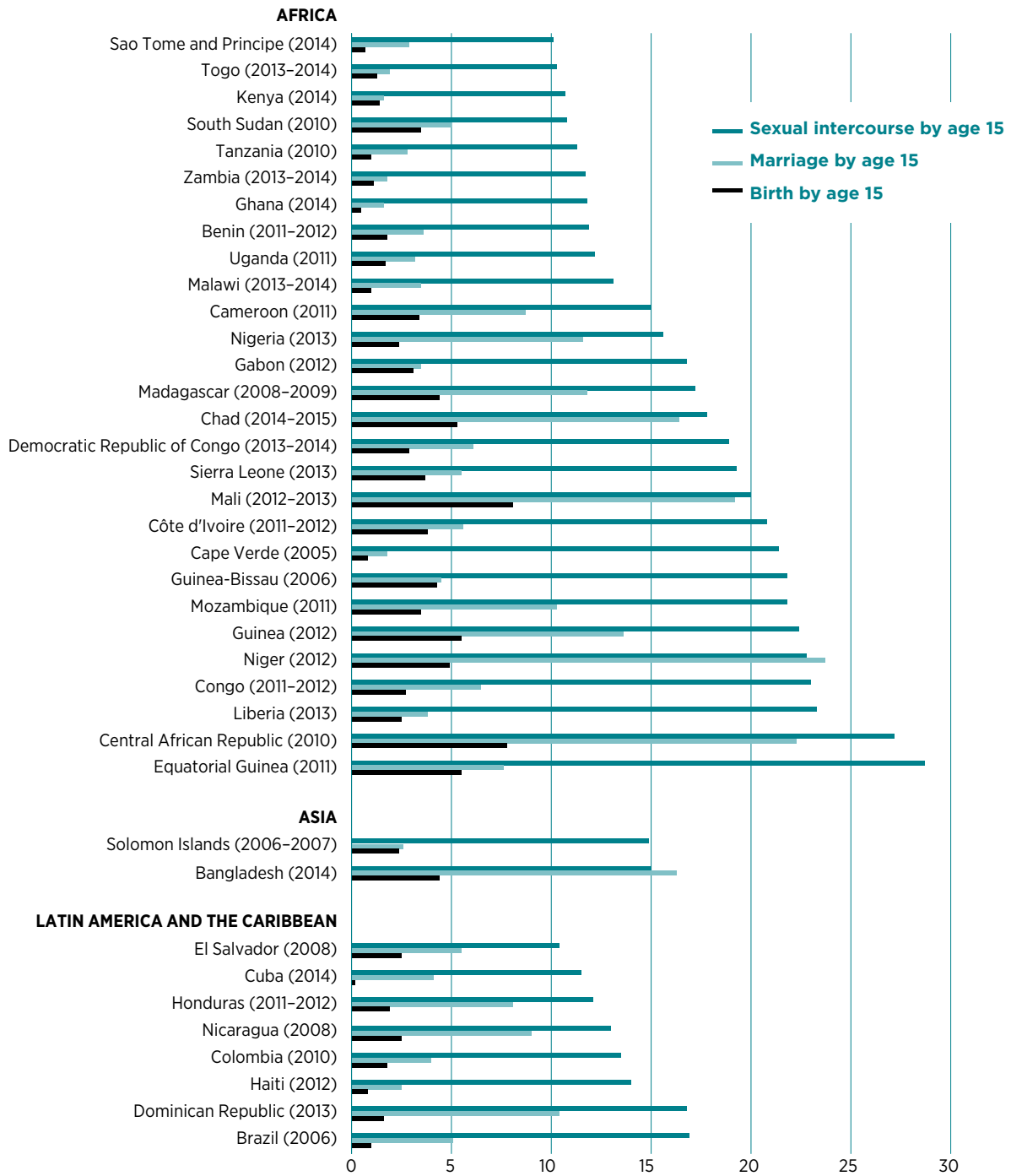
Summary

- While the majority of very young adolescents have not initiated sexual intercourse, some have begun to explore intimate relationships.
- Data indicate that some very young adolescents who report not having had vaginal sexual intercourse have engaged in various noncoital sexual activities, such as kissing, hugging, fondling or petting, as well as oral and anal sex.
- Self-reports of ever having had sexual intercourse vary between 1% and 20% in the studies included in the literature review; these studies used different samples. The GSHS found proportions ranging from 4% to 56% among 13–15-year-old students.
- According to national quantitative data, the proportion

FIGURE 2

ADOLESCENT BEHAVIORS

The proportions of adolescent women who experienced first sex, marriage and birth before age 15 varies by country.



NOTE: Countries shown are those where at least 10% of adolescent women report having had sex by age 15 and where data are available for all three indicators. SOURCE: reference 59.

of females who experience sexual debut before age 15 ranges from 0% to 29%, with great variation by region, residence and wealth.

Multiple sexual partners

Only 18 GSHS countries, most of which are in Sub-Saharan Africa, have data on the number of sex partners students aged 13–15 have had in their lifetime.³² These data indicate that among students who have had sexual intercourse, the proportion reporting having had two or more sexual partners is highest in Sub-Saharan Africa but ranges widely within the region; it is lowest in Asia. Among male students in Sub-Saharan Africa who have had intercourse, reports of having had multiple sexual partners are most common in Namibia (79%) and Mauritius (49%), and they are lowest in Harare, Zimbabwe (10%), although rates are higher in other parts of the country (15% in Bulawayo and 22% in Manicaland). Levels in other Sub-Saharan African countries (Botswana, Djibouti, Ghana, Senegal, Seychelles, Swaziland, Uganda and Zambia) range from 10% to 25%. In the three Asian countries with available data, reports of multiple sexual partners among male students range from 0.7% in Indonesia and 3% in Tajikistan to 10% in Thailand.

The same regional pattern is observed among female students. In Sub-Saharan Africa, the highest proportions of females who have had sex and who report having had multiple sexual partners are in Namibia (58%) and Mauritius (45%), and the lowest are in Harare, Zimbabwe, at 1.7% (although this proportion increases to 8.6% in Manicaland). The other Sub-Saharan African countries with data fall in the 3–23% range. In Asia, the proportion of females reporting multiple sexual partners was overall low, ranging from 0.2% in Indonesia to 1.8% in Thailand. Among those who report having had sex, male students are more likely than their female counterparts to have had multiple sexual partners in almost all countries for which data are available, except in Ghana and Zambia, where about 20–25% of all 13–15-year-old students indicate they have had two or more sexual partners.

While no GSHS data are available for Latin America and the Caribbean, the nine-country Caribbean study found that very high proportions of 10–15-year-olds reported having had multiple sexual partners.⁵⁵ Among adolescents who have had sexual intercourse, two-thirds of both 10–12-year-olds (65%) and 13–15-year-olds (68%) indicated that they had had two or more sexual partners; 18% of the 10–12-year-olds and 35% the 13–15-year-olds reported six or more lifetime partners, respectively. Similarly, in the Brazil birth cohort, about half (47%) of 10–14-year-olds who had ever had sexual intercourse reported that they had two or more lifetime sexual partners, and these

reports were more common among males (64%) than females (28%).⁶⁰

Summary

- Available data indicate that among very young adolescents who have ever had sexual intercourse, the proportion reporting two or more lifetime sexual partners is higher in Sub-Saharan Africa and Latin America and the Caribbean than in Asia for both males and females.
- Male students aged 13–15 who have had sex are more likely than their female peers to report two or more lifetime sexual partners in almost all countries for which data are available.

Condom use

Various biological, behavioral, social and structural factors contribute to adolescents' vulnerability to HIV and other STIs. These include but are not limited to gender norms that govern sexuality, gender-based violence and poverty—all of which may undermine the ability of very young adolescents to protect themselves. Data are not available on the prevalence of STIs among 10–14-year-olds, but we know that treatable STIs are most common in people younger than 25.⁶¹ In terms of HIV, 630,000 adolescents aged 10–14 were living with HIV as of 2015.⁶² As of 2013, HIV/AIDS was the leading cause of death for adolescents aged 10–14 worldwide.⁶³

Condoms, when used correctly and consistently, are a key method in the prevention of HIV and other STIs. They are also a means for preventing pregnancy when more reliable methods are not available and they tend to be more easily accessible to adolescents than other methods. Structural barriers and cultural sanctions may, however, make it challenging for very young adolescents, especially females, to obtain condoms. For example, in rural areas, access to contraceptives tends to generally be more limited than in urban areas, as contraceptive services may be unavailable or providers may be difficult to reach.⁶⁴

Few of the included studies offer information on condom use at first sex, and those that do indicate that use is relatively low. Further, most studies do not directly measure condom use during anal sex, and the data in this section refer only to heterosexual intercourse. In the Transitions to Adulthood study, among the very few 12–14-year-old males interviewed in Nairobi slums who had ever had sex, none reported having used a condom at first sex, and 5% had used other contraceptive methods; 15% of females reported that they used some form of contraception at first sex.⁴⁸ Analyses using the same data set found that about one-third of 12–16-year-olds who experienced sexual debut before age 15 reported using a condom at first sex, and two-thirds either used none or

used a traditional method; very few females (3%) used another modern method.⁶⁵ Findings from other studies with available data on condom use or other method use were not disaggregated by age-group.

Reports of condom use at last sex seem to be relatively common among male students aged 13–15 who had ever had sexual intercourse. According to GSHS survey data from 36 countries, condom use at last sex among males in Latin America and the Caribbean ranged from 51% in Chile to 87% in Uruguay; in Africa, it ranged from 26% in Tanzania to 66% in Namibia, and in the Western Pacific region, it ranged from 26% in Kiribati to 64% in Nauru.³² Data are only available for two countries in Southeast Asia: Bangladesh (61%) and Thailand (68%).

Among 21 GSHS countries with data on female students aged 13–15 who ever had sexual intercourse, condom use at last sex in Latin America and the Caribbean ranged from 48% in Guatemala to 81% in Uruguay, and in Africa, it ranged from 40% in Mauritius to 70% in Namibia. For two countries with available data in the Western Pacific estimates are 45% in Nauru and 49% in Samoa; Thailand is the only country in Southeast Asia with data (56%).

The GSHS data are, however, not representative of the entire population of very young adolescents in these countries but of those who are in school—a group who may be more likely to have access to information and resources than the full population of very young adolescents.

Findings from the nine-country Caribbean study, which was also conducted among students, indicate condom use is lower among very young adolescents than among their older peers. Condom use at last sex among those who ever had sexual intercourse was lowest for the 10–12 age-group (26%), compared with 13–15-year-olds (52%) and 16–18-year-olds (71%).⁵⁵ The youngest adolescents were also less likely to report always using birth control (18%) than were 13–15-year-olds (25%) and 16–18-year-olds (34%). Similarly, in the Tanzania household survey, condom use at last sexual intercourse among 15–19-year-olds who ever had sexual intercourse was nearly five times that among similar 10–14-year-olds.⁵⁷ The Zambia study also assessed condom use at last sex among those who had ever had intercourse.⁵⁸ Among males, 12% of 10–14-year-olds reported using a condom at last sex, compared with 35% of 15–19-year-olds; corresponding numbers among females were 26% for 10–14-year-olds and 28% among 15–19-year-olds. Higher reports of condom use were found in the Pelotas, Brazil birth cohort in which 86% of 10–14-year-olds who had ever had sexual intercourse (89% of males and 82% of females) indicated that they used a condom at last sex.⁶⁰

Summary

- Among the studies that explore contraceptive use among very young adolescents, most provide data on condom use at last sex.
- Some data indicate that condom use at last sex is relatively high among 13–15-year-old sexually experienced students; however, other studies indicate lower usage.
- Few studies offer information on condom use at first sex; among those that do, use is relatively low.
- Overall, very young adolescents appear to be less likely than older adolescents to have used a condom at last sex.

Sexual violence

Sexual violence is a serious public health issue that infringes on human rights. According to the World Health Organization, sexual violence is defined as “any sexual act, attempt to obtain a sexual act, or other act directed against a person’s sexuality using coercion, by any person regardless of their relationship to the victim, in any setting. It includes rape, defined as the physically forced or otherwise coerced penetration of the vulva or anus with a penis, other body part or object.”⁶⁶ Although other forms of violence against adolescents occur, such as intimate partner violence, physical violence and school violence—all widespread and critical to address—this section focuses on data specifically related to sexual violence. Sexual violence, ranging from different types of coercion, such as verbal harassment and threats, to forced penetration, can occur early among adolescents in developing countries—particularly among females.

According to data from the Violence Against Children Surveys (VACS) conducted since 2007 in eight countries, the prevalence of sexual violence*** in the past year among all 13–17-year-olds was highest in Malawi (reported by 23% of females and 13% of males) and lowest in Cambodia (3% of females, 0.1% of males).³³ In other countries, it ranged from 4% in Kenya to 19% in Haiti among females, and from 2% in Zimbabwe to 11% in Haiti among males. It is important to note that VACS included older adolescents and results were not disaggregated for 13–14-year-olds, making it difficult to draw conclusions about the prevalence of past-year sexual violence among very young adolescents in these countries. Past-year sexual violence among 10–14-year-olds was only measured in one of the studies included in the literature review, which focused on males. In this school-based study of more than 125,000 male students aged 10–19 in South Africa, one in 10 males aged 10–14 at the

***Defined as unwanted touching, unwanted attempted sexual intercourse, and coerced or forced sexual intercourse.

time of the enquiry reported having been forced to have sexual intercourse in the past year; the younger the age at first sex, the more likely it was reported as forced.⁶⁷

Data on coercion at sexual initiation show that first sex often is an unwanted experience for both male and female adolescents, including very young adolescents. According to VACS data from three countries, two-thirds of females who had ever had sex in Swaziland, and about half of those in Malawi and Zimbabwe, reported that their first sexual intercourse was unwanted (defined as the adolescent having been forced, pressured, tricked or threatened).³³ Corresponding proportions for males are available only for Malawi (17%) and Zimbabwe (4%). Similarly, the Adolescent Girls Initiative–Kenya baseline survey conducted in the Kibera slum of Nairobi found that 63% of 11–12-year-old girls who had ever had sex, and 34% of those aged 13–14, reported that their first sex was unwanted (term not defined).⁴⁹ These estimates parallel the high levels of forced first sexual intercourse^{†††} found in the nine-country Caribbean study: 43% among 10–12-year-olds who had ever had sexual intercourse and 38% among 13–15-year-olds who had ever had sexual intercourse.⁵⁵ Lower numbers were found in the Zambian study, where 18% of 10–14-year-olds who ever had sexual intercourse reported that their first experience was forced.⁵⁸

Coerced first sex was also found to be common among 12–14-year-olds in a study using the Protecting the Next Generation data, in which adolescents were defined as having experienced coercion if they reported being “not willing at all” when they had sexual intercourse for the first time. Among the small numbers of sexually active females whose sexual debut occurred before age 12,^{‡‡‡} 62% in Ghana, 32% in Malawi and 28% in Uganda reported their first sexual intercourse as coerced; and the same was true for 21–28% females initiating sex between the ages of 12 and 14.⁶⁸ In a subsequent study focusing on males aged 12–14, the proportion with sexual debut before age 12 who reported coerced first sex ranged from 6% in Uganda to 13% in Malawi; corresponding numbers among those with debut between ages 12–14 ranged from 5% in Burkina Faso and Uganda to 13% in Ghana.⁶⁹

Summary

- Between 3% and 23% of adolescent females aged 13–17 report having experienced sexual violence in the

†††The type of force used (e.g., physical or psychological) was not specified in the Caribbean study.

‡‡‡N=13 in Ghana, 28 in Malawi and 60 in Uganda; the study covered Burkina Faso, but the N was too low there to report a percentage. Proportions reporting coercion could be higher as those categorized as “somewhat willing” were not considered to have been coerced for the purposes of this study.

past year; proportions range from 0% to 13% among adolescent males.

- Data indicate that for many very young adolescents—both females and males—first sexual intercourse happens as a result of coercion rather than choice.

Child marriage

Child marriage, defined as marriage occurring before the age of 18, exists in every geographical region and across many cultures and religions. While both boys and girls can be subject to child marriage, the practice affects girls disproportionately: Worldwide, girls are approximately 10 times as likely as boys to be married before age 15.⁷⁰ Despite encouraging declines in child marriage, UNFPA estimates that 50 million girls in developing countries could still be at risk of being married by age 15 within the current decade.⁷¹ And declines are not uniform across regions: Progress in reducing marriage before age 18 has been more dramatic in North Africa and the Middle East than in other regions, while no significant change has occurred in Latin America and the Caribbean; in South Asia, the decline has mainly involved girls who marry before age 15.⁷⁰

Poverty and lack of education are key drivers of child marriage. In many contexts, girls are viewed as economic burdens or commodities to their families until the day they are married, and many parents marry off their daughters in hope of securing a better future both for her and for the family.⁷¹ This may be further exacerbated in humanitarian and conflict settings. Child marriage robs girls of their childhood and denies them the right to choose whether, with whom and when to marry.⁷² It also endangers their sexual and reproductive health, as girls often find themselves powerless to negotiate sexual initiation and contraceptive use with their (often much older) husbands and thus are vulnerable to HIV and other STIs. Many girls are under pressure to become pregnant soon after marriage, even though pregnancies that occur before physical development is complete constitute a major risk to both mother and baby.⁷³ Marrying early also substantially increases the risk of intimate partner violence and forced sexual intercourse.⁷¹

The most recent country-level quantitative data, published between 2002 and 2015, show broad patterns of marriage before 15 among adolescent females aged 15–19 in each developing region and by rural or urban residence and socioeconomic status (Appendix Table 5, page 48).⁵⁹

- In most African countries, the proportion of females married before age 15 ranges from 1% to 10%. The countries with the highest proportions are in Western and Middle Africa: Central African Republic (22%), Chad (16%), Mali (19%) and Niger (24%). In five

other countries—Guinea, Madagascar, Mauritania, Mozambique and Nigeria—proportions range from 10% to 14%. Child marriage is least prevalent in eight countries located in Eastern, Northern and Southern Africa, and where fewer than 1% are married by age 15.

- In most countries in Asia, fewer than 2% of adolescent females are married before age 15. However, Southern Asia bears the greatest burden of child marriage in the region, with India and Bangladesh at 8% and 16%, respectively. In Afghanistan and Nepal, the proportion married before age 15 is 5%.
- In most Latin American and Caribbean countries, 1–5% of adolescent females are married before age 15. A few outliers exist: Dominican Republic, where 10% of adolescent females are married by age 15, and El Salvador, Honduras and Nicaragua, where proportions range from 6% to 9%. The lowest levels are in Jamaica (0.2%) and Trinidad (0.5%).
- In Oceania, the proportion of adolescent females married by age 15 ranges from 0.2% in Tonga to 3% in the Solomon Islands.
- In most countries, adolescent females residing in rural areas are more likely to be married by age 15 than their counterparts in urban settings. For example, in Nigeria, 12% of adolescent females are married before age 15. This proportion increases to 18% for adolescent females in rural areas and drops to 3% for those in urban areas.
- Marriage and household wealth are intricately related. In most countries, across all regions, adolescent girls from the poorest households are more likely to be married by age 15 than those from wealthier households.

Very few studies provide data directly from 10 to 14-year-olds. In fact, only two studies provided disaggregated data on 11–14 and 12–14-year-olds respectively, and one study

focused on 10–19-year-olds; all in the Sub-Saharan African region. In the Adolescent Girls Initiative–Kenya baseline survey, very few females aged 11–14 in the Kibera slum of Nairobi had married (0% of 11–12-year-olds, 0.3% of 13–14-year-olds). The level of marriage was slightly higher in the rural Wajir area but still very low (0.3% of 11–12-year-olds, 2.1% of 13–14-year-olds).⁴⁹ Similarly, the Protecting the Next Generation study found that 0.3% of 12–14-year-olds in Burkina Faso and 0.2% of those in Malawi were married, and none were married in Uganda and Ghana. In contrast, the study of 10–19-year-olds conducted in the Amhara region of Ethiopia in 2004 (Box 3), found that 29% of girls were married; among them, one in three had married before age 10.⁷⁴

Summary

- Data on the prevalence and experiences of marriage among 10–14-year-olds in developing countries indicate that, in some countries, marriage at these very young ages still takes place.
- While both boys and girls are subject to early marriage, it disproportionately affects girls.
- The proportion of very young adolescents experiencing child marriage ranges from less than 1% to 24%, with great variation across and within regions. Child marriage is more prevalent among girls who reside in rural areas than among their counterparts in urban areas and among those from the poorest households, compared with those from wealthier households.

Childbearing before age 15

Adolescent childbearing interferes with girls' ability to achieve high standards of health, education and future economic well-being. Compared with their wealthier, urban,

BOX 3

Child marriage in the Amhara region, Ethiopia

A study conducted in 2004 in the rural area of Amhara, Ethiopia, found that 29% of adolescent females aged 10–19 had ever married; among married girls, 88% were married before age 15 and 28% were married before age 10.⁷⁴ The study included 940 10–19-year-old girls; 58% of girls sampled were aged 10–14. Only 4% of ever-married adolescent males

were married by age 15. Girls who married very early (before age 10) typically remained in their parents' home, while those marrying at age 10 or older more often went to live with their husbands; only 5% knew their husband before marriage. Two percent of married girls participated in the decision to have sex for the first time, while 72% of girls reported their husbands made the

decision or were involved, and 29% reported in-laws were involved in the decision. The study found that among married girls, 8% reported having had sexual intercourse by age 10, 26% by age 12 and 70% by age 15; of those who had ever had sexual intercourse, 69% had not started menstruating when they had sex for the first time.

educated counterparts, poorly educated, impoverished and rural girls are more likely to become pregnant.⁷³ For most adolescents younger than 18, and especially for those younger than 15, pregnancies reflect social norms that perpetuate gender inequality and result in the denial of adolescent girls' human rights. Poverty frequently contributes to this cycle by reducing girls' and women's choices.

Although the literature has shown the risk of death from childbirth to be elevated among adolescents, more recent research is showing that this is not always the case.⁷⁵ Still, childbirth can be risky for adolescents, especially for girls younger than 16, who face a higher risk of maternal death than mothers in their late teens and early twenties.^{76,77} Early childbearing can also contribute to maternal morbidity by increasing the risk of complications such as obstetric fistula, which is common among girls who give birth before their bodies are physically mature.⁷⁸

Fertility rates for 10–14-year-olds

- The mean age-specific fertility rate among very young adolescents, estimated from unpublished data from 63 developing countries, is 5.9 births per 1,000 10–14-year-olds and the estimated median is 3.8.³⁴
- A study in Brazil found that the fertility rate among very young adolescent girls has not decreased at the same pace as the rate among 15–19-year-olds.⁷⁹

Childbearing before age 15

- Early marriage is strongly associated with early births. Like marriage before age 15, births before age 15 are highest in Africa, especially Middle and Western Africa (Appendix Table 6, page 51).⁵⁹ Proportions range in most of these countries from 3% to 8%. Proportions are lowest on the continent in Northern and Southern Africa, where fewer than 1% of adolescent females experience a birth before age 15. In Eastern Africa, proportions range from a low of 0.2% in Rwanda and Djibouti to 4% in Madagascar, Mozambique and South Sudan.
- In most Asian countries, fewer than 1% of adolescent females have had a birth before age 15. Proportions are 1–2% in four countries: Afghanistan, India, Laos and Palestine. Bangladesh has the greatest proportion of adolescents giving birth before age 15 in the region, at 4%.
- Compared with other subregions in Latin America and the Caribbean, Central America has the greatest proportion of adolescent females reporting a birth before age 15, ranging from 1% in Mexico to 3% in El Salvador and Nicaragua.
- Patterns of childbearing by residence and household wealth follow patterns of early marriage and sexual initiation: Adolescent females in rural areas are more likely to have had a birth before age 15 than those residing in urban areas. And, similarly, adolescent females from richer households are less likely to have had a

birth before age 15 than their counterparts from poorer households.

Number of births

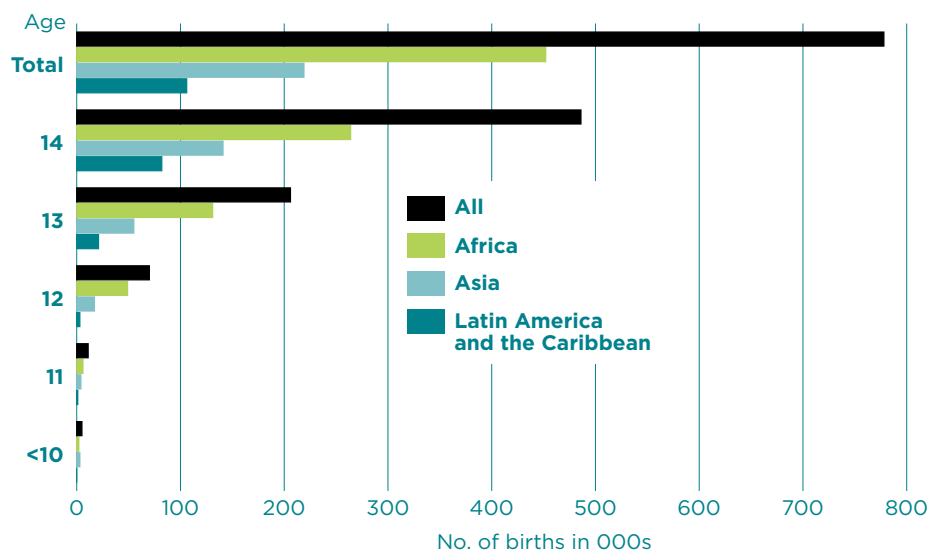
- In 2016, adolescent females younger than 15 in developing regions had an estimated 777,000 births,^{\$\$\$} the majority (58%) of which were concentrated in Africa (452,000 births).^{2,59} Twenty-eight percent, or 219,000 births, took place in Asia, and 14% or 106,000 births, took place in Latin America and the Caribbean.
- The data on births by single year of age show childbearing among very young adolescents is concentrated among those

\$\$\$By comparison, there were 12 million births among 15–19-year-olds.

FIGURE 3

EARLY CHILDBEARING

In 2016, very young adolescents in developing countries had 777,000 births, and nearly 500,000 were to 14-year-olds.



SOURCES: references 2 and 59.

aged 13 and 14, and between these two years of age, the number of births more than doubles from 206,000 to 486,000 (Figure 3, page 22). There are, however, an alarming number of girls who give birth at age 12 (70,000).

Intention status of births

- Slightly more than a third of births in the past three years to mothers younger than 15 in developing countries are unplanned—that is, the mothers would have preferred to have given birth either later or not at all (Figure 4).⁵⁹ In Latin America and the Caribbean, 65% of births in this age-group were unplanned, compared with 21% in Asia and 36% in Africa, where most births are reported as wanted due to social norms surrounding adolescent fertility.
- No data are available on pregnancy intentions among 10–14-year-olds in developing countries. However, about half (49%) of pregnancies to adolescent women aged

15–19 are unintended, and more than half of these end in induced abortion.²⁶ Given that most abortions in developing regions are unsafe,⁸⁰ this suggests that very young adolescents in developing countries may be at risk from unsafe abortion and its associated health consequences.

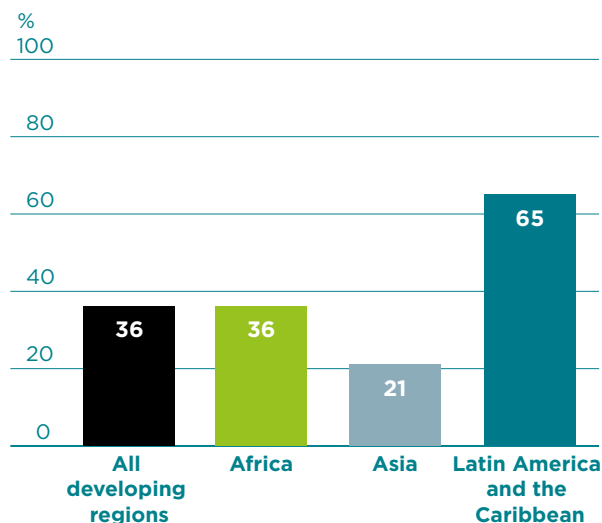
Summary

- The highest proportion of childbearing by age 15 is concentrated in Africa, mainly in the Middle and Western regions, ranging from 3% to 8%. Proportions are less than 2% in most Latin American and Caribbean countries, and less than 1% in most Asian countries.
- In 2016, adolescent females younger than 15 in developing regions had an estimated 777,000 births, the majority (58%) of which occurred in Africa.
- In developing countries, slightly more than a third of births in the past three years to mothers younger than 15 are unplanned.

FIGURE 4

UNPLANNED CHILDBEARING

Unplanned births to adolescents younger than 15 are far more common in Latin America and the Caribbean than in other developing regions.



SOURCE: reference 59.

Gaps, Challenges and Opportunities in Collecting Data on Very Young Adolescents

This literature review reveals a number of limitations with respect to research on very young adolescents in developing countries. Data on the sexual and reproductive health of this age-group is not only limited, it can be particularly challenging to collect. Yet overcoming these barriers would help bring increased attention and a better understanding of the needs of this group, with the intention of creating better policies and programs to address the sexual and reproductive health of very young adolescents.

Research gaps

Sample limitations

- Data on very young adolescents are generally not disaggregated from data on overall samples of adolescents or young people; in some cases, studies include only part of the 10–14 age-group (e.g., 13–15-year-olds) or include the full 10–14 range, but without disaggregating this group further. Given the multitude of developmental processes (biological, cognitive and social) that occur during early adolescence, data on narrower age ranges are needed, and where sample size allows it, data by single year of age may be warranted. In addition, data should be broken down by sex, given that sexual behaviors and related outcomes tend to differ for males and females.
- Despite the fact that girls are more likely than boys to experience negative outcomes related to early sexual activity, childbearing and marriage, it is also critical to understand very young adolescent males' sexual and reproductive health needs and their role in affecting outcomes among girls. There is a need for more data on boys' experiences with masculine norms, puberty, relationship formation, sexual practices and decision-making around contraceptive use.
- More data are needed on the most marginalized or vulnerable groups of very young adolescents, including—but not limited to—refugees and other displaced people, LGBTQ adolescents, out-of-school adolescents, adolescents exposed to transactional sex, those living with HIV and those with disabilities.
- Most of the studies reviewed focused on very young adolescents in Sub-Saharan Africa, and more research is needed on 10–14-year-olds in other developing regions. Few studies are from the Middle East, North Africa and Latin America.

Methodological constraints

- A few national-scale surveys exist, such as the DHS, MICS and RHS, but very young adolescents are generally not included in these surveys. Some retrospective data are available, but for a very limited number of measures. Small-scale studies provide some data specifically focused on very young adolescents, but measures and samples are usually not comparable across studies. Some data sources use multiple methods (parents' reports and retrospective self-reports) to learn about very young adolescents. Despite challenges conducting research with very young adolescents (discussed below), there is a need to use all existing data to learn what we can about this age-group while at the same time devising new methodologies and collecting new data. However, researchers need to be judicious in determining whether research with very young adolescents is warranted and appropriate (a more detailed discussion on how to make this determination can be found in the Population Council's 2016 report, *Investing When It Counts*¹²).

Limited scope of work

- Some topics (such as sexual behavior, knowledge and attitudes) are more easily and regularly surveyed than other topics (such as access to comprehensive sexuality education and exposure to and perpetration of sexual violence), and the tendency for research to focus on groups that are sexually active often precludes consideration of very young adolescents. Most studies on sexual behaviors have focused on intercourse and fewer have investigated noncoital sexual activities, which may be more relevant to the very young adolescent age-group. Most studies tend to focus on heterosexual relationships, and we found no studies on LGBTQ adolescents. Furthermore, in some cases, surveys do not include sexually experienced girls and women who are not in union or married. More information is needed to understand the sexual practices of very young adolescents, regardless of marital status.
- Existing data rarely provide information on whether very young adolescents have received sexuality education, how frequently they have been exposed to it, and its quality and nature.³⁸ More evidence is also needed on the kind of sexuality education that is most appropriate for this group and how it can best be implemented.

Challenges and opportunities

Research on very young adolescents presents unique challenges, but also opportunities to develop and utilize new methodologies.

Methodology issues. A major challenge in conducting research with very young adolescents is to come up with effective data collection approaches that are appropriate to the subjects' age and developmental stage. Research methods that have been successful in eliciting sensitive information from older adolescents are not necessarily appropriate for very young adolescents, who may need more assistance and probing from interviewers.⁸¹ Very young adolescents tend to respond to less-structured, participatory data collection modalities and techniques, such as participatory ethnographic evaluation and research, diary-keeping and game-based methodologies, and visually oriented techniques (e.g., photography and drawing).^{9,12,31} The 2016 *Investing When It Counts* report provides a thorough and informative overview of the research methods and tools available to conduct research with very young adolescents.¹²

Adolescents aged 10–14 typically answer questionnaires more slowly and have more difficulty reading, understanding and answering questions than do older respondents. Younger adolescents' self-reports of their attitudes and behavior may also be less reliable than those of older adolescents.³¹ Surveys and interview techniques must be adjusted accordingly; for instance, questions need to be short and worded in a way that is clear and appropriate to this age-group.⁸¹

Strengths and limitations of retrospective data. It is not always necessary to directly sample very young adolescents to obtain valid data on behavior during early adolescence. A World Health Organization review of research gaps relating to the sexual and reproductive health of young adolescents suggests that retrospective data obtained from older adolescents may be more reliable than data obtained from very young adolescents.³¹ However, retrospective analysis can be subject to recall bias and over- or underreporting of past behaviors.⁸²

Widely used surveys on sexual and reproductive health issues in developing countries, such as the DHS and the MICS, collect retrospective information on the extent to which youth engage in sexual intercourse, marriage and childbearing before age 15, but they generally do not sample adolescents younger than 15. Extending the age range to include very young adolescents in DHS surveys presents many constraints (including changes in DHS sampling and implementation procedures, integration of new data collection approaches and resulting increases in survey costs), and it is unlikely that all DHS surveys could

accommodate this change.⁸² It may, however, be feasible to selectively lower the sample age range for national surveys in countries where data already show sizeable proportions of young women beginning sexual activity and childbearing before age 15.⁸³

The use of adolescent-focused surveys may be more successful than adapting national fertility and health surveys to collect information from very young adolescents. This type of targeted approach was successful in the Protecting the Next Generation project, which conducted surveys among 12–19-year-olds that covered a wide range of topics related to adolescents' sexual and reproductive health and provided a wealth of data on this group.^{44,84} That said, researchers implementing the survey were forbidden in some countries to ask questions on particularly sensitive topics, such as anal sex. The Global Early Adolescent Study (discussed below) is another multicountry effort currently underway using adolescent-focused surveys.

Ethical concerns. A host of ethical concerns must be addressed in conducting research with very young adolescents. They include institutional review board approval, parental consent, sharing of sensitive information (such as ongoing abuse and violence), consent among youth participants, confidentiality and participants' privacy during data collection. Individual countries' laws may also be a consideration: For instance, there may be statutory rape laws that would require researchers to report underage sexual intercourse to authorities. See *Investing When It Counts* for helpful resources addressing ethical issues in research with this age-group.

Ongoing data collection efforts focused on very young adolescents. There is a need for ongoing data collection efforts that focus specifically on the needs of the very young adolescents. We are aware of a few such efforts, and while findings from these initiatives are not yet available, they will begin to fill some of the research gaps identified in this report. The following multicountry and country-specific examples are among the research efforts targeting this age-group.

- The Global Early Adolescent Study (www.geastudy.org), led by the Johns Hopkins Bloomberg School of Public Health and partners is a multicountry longitudinal study focused on young adolescents in low-income urban settings globally. The first phase of the study developed instruments to assess gender attitudes; healthy sexuality; mental, sexual and reproductive health; empowerment; and gender-based violence among very young adolescents and over the course of adolescence. The longitudinal phase of the study, which will begin in 2017 and will include at least four countries in Africa and one

each in Europe, South America and North America, will look at individual, peer, family and community-related influences on such outcomes.

- The PHIA Project (population-based HIV impact assessments), led by the International Center for AIDS Programs and its partners, is a multicountry initiative to measure the reach and impact of HIV programs and to guide policy and funding priorities. The survey tool specifically targets 10–14-year-olds and covers a range of topics related to HIV (knowledge, prevention interventions, risk perception, testing and stigma), as well as sexual behavior, parental support, social norms, self-efficacy and violence. Data collection efforts are taking place in Lesotho, Malawi, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe, and results will be available in 2017.
- A set of papers focusing on the sexual and reproductive health needs of very young adolescents in refugee settings will be published in 2017 in *Conflict and Health*. These papers will seek to outline the unique sexual and reproductive health needs and risks of very young adolescents in select humanitarian contexts of Thailand, Lebanon and Ethiopia, and discuss how programs can address these groups' needs in each location.
- Country-specific efforts include the Zimbabwe Adolescent Pregnancy Prevention Survey, by UNFPA and the Zimbabwe Ministry of Health and Child Care, which is aimed at understanding pregnancy, fertility, contraception and sexual behavior among adolescents aged 10–19; and the Adolescent Girls Initiative–Kenya (a six year initiative ending in 2019), which is a randomized controlled trial testing interventions in health, violence prevention, wealth creation and education to determine which interventions improve very young adolescent girls' lives.

Programmatic Approaches to Better Meeting The Needs of Very Young Adolescents

The evidence shows that very young adolescents have sexual and reproductive health needs that are not being met. In this section, we present some promising approaches and recommendations aimed at providing this group with information and services that will support their healthy sexual development.

Comprehensive sexuality education

Findings indicate that while most very young adolescents in developing countries have not initiated sexual intercourse, many are exploring intimate relationships, and many are doing so without the information needed to make informed decisions about their sexual and reproductive health. Specifically, while some very young adolescents have relatively high awareness about HIV, in-depth knowledge about this topic is generally low, and knowledge about pregnancy prevention is even lower. These findings highlight very young adolescents' need for sexual and reproductive health information and education that is medically accurate, complete and age-appropriate.

Because most very young adolescents are just entering puberty and have not yet engaged in sexual activities, the years 10–14 provide an opportune window of time in which to provide comprehensive sexuality education (CSE) and thus prepare very young adolescents to make informed decisions about their and their partners' health once they initiate sexual relationships.³⁷ International standards and guidelines developed by UNESCO recommend that CSE begin in early childhood and continue throughout adolescence and adulthood, targeting those both in and out of school.^{37,43}

Research has shown that CSE does not encourage sexual activity; rather, it can increase knowledge and in some cases can have a positive impact on behaviors that protect sexual health.^{43,85–87} CSE programs that address issues of gender and power are more likely to have a positive impact on health outcomes, including reductions in STIs and unintended pregnancies.⁸⁸ High-quality CSE should encompass positive sexuality, including by empowering girls and boys to make healthy decisions, addressing how to negotiate safer sex, and promoting gender-equitable and trusting relationships. Core components of CSE include a firm grounding in human rights and framing sexuality as a natural part of human development. Sexuality education is an opportunity for very

young adolescents to explore interpersonal relationships, learn about their bodies, understand human reproduction, and develop a positive sense of self, all of which are key elements to healthy adolescent development, thereby laying the foundation for future sexual and intimate relationships.³⁶

Our review found no studies on the access to or quality of CSE for very young adolescents specifically. Some useful resources, however, do exist. For example, the *International Technical Guidance on Sexuality Education* provides technical guidance on the characteristics of effective sexuality education programs.^{36,43} Of particular interest is the second volume, which outlines a “basic minimum package” of sexuality education for participants aged 5 and older by detailing topics, learning objectives and ways of tailoring the course to different age levels and local contexts. In terms of sexuality education programs specifically for 10–14-year-olds, Deutsche Stiftung Weltbevölkerung developed a toolkit based on the piloting of a project in Uganda that aimed to create a supportive environment for sexuality education in primary schools by targeting various constituents in the community.⁸⁹ The toolkit provides concrete examples and best practices and discusses challenges for implementing future sexual and reproductive health projects of this nature.

Despite the commitments of many countries to age-appropriate sexuality education,⁹⁰ many very young adolescents are still not receiving the information they need (due, for example, to lack of funding and resources to implement programs, cultural controversies around CSE, parental concerns or lack of leadership).

Puberty education. Even though puberty- and hygiene-related education are not specifically reviewed as part of this report, they are central aspects of very young adolescents' sexual and reproductive health and key components of CSE. Given that puberty often occurs during the ages of 10–14 (especially among girls, who generally start puberty earlier than boys) it is an opportune time to educate young people about topics related to puberty. In many developing countries, girls and boys are unprepared for the body changes that happen with the onset of puberty; for example, research indicates that high numbers of girls have no idea of what is happening to them when they start menstruating.⁹¹ Indeed, evidence shows that presenting information about puberty at age 14 or older is too late.

Puberty education may include information about menstrual hygiene and management, male puberty (spermarche), fertility and body awareness.⁹¹ UNESCO recommends that puberty education be delivered in the context of CSE, which should be integrated into a broader developmentally appropriate skills-based health education curriculum that starts as early as age five and continues into young adulthood. Given that parents in many contexts can find it difficult to speak about puberty and issues related to sexuality with their children, schools have a key role to play in puberty education and it should be available at primary levels.

A few puberty education interventions targeting very young adolescents have been implemented, namely the Protecting Futures project in Ethiopia and the GrowUp Smart intervention in Rwanda, both of which have used multiple educational strategies to increase knowledge, change attitudes, and improve practices related to puberty and hygiene.^{92,93} The Ethiopia project targets female students in grades 4–6, and the Rwanda one targets very young adolescents both in and out of school; both also include parents and local communities.

Guaranteed access to services

Adolescents have a right to sexual and reproductive health services that are equitable, accessible, acceptable, appropriate and effective.⁹⁴ Early coital and noncoital sexual activity, experiences of forced sex, inconsistent condom use and unplanned births among very young adolescents point to the need for ensuring access to youth-friendly sexual and reproductive health services, including contraception. Very young adolescents also need access to STI-related services, including HIV testing, counseling and treatment and HPV vaccination.

Evidence shows that adolescents in developing countries face structural, cultural and legal barriers to obtaining sexual and reproductive health information and services. These barriers include inability to afford services, negative attitudes among providers, breaches of confidentiality and privacy, lack of knowledge about available services and where to find them, stigma and taboos around sexuality, and laws that exclude adolescents from obtaining the information and services they need.^{84,95–97} Policies unsupportive of adolescent sexual and reproductive autonomy, such as those that require parental consent to obtain contraceptives or HIV testing, impede very young adolescents' rights to gain access to needed services.⁶⁴ Yet given the young age of these adolescents, parents are usually key gatekeepers, and access to services will typically be challenging without the approval of parents or guardians.

Most of the evidence on barriers focuses on older

adolescents. However, given that services for older adolescents are fraught with controversy (due, in part, to the strong sanctions around adolescent sexuality in many settings) and access is frequently limited, we can presume barriers are even greater for very young adolescents. Changing community norms around adolescent sexuality is key to lifting barriers in access to services.

To increase uptake of sexual and reproductive health services among adolescents, four key complementary approaches have been identified in a review of evaluations⁹⁸:

- Train providers to offer nonjudgmental and youth-friendly services
- Create welcoming health facilities
- Inform adolescent girls and boys about services and encourage them to use them
- Establish community members' support for providing services to adolescents

These elements should be accompanied by community education about very young adolescents' needs and the consequences of not meeting those needs, free or reduced-fee services and supplies for young people, and access to a full range of contraceptive methods, including long-acting contraceptives (recommended from menarche on).

However, given the likelihood that obtaining access to sexual and reproductive health services in a facility will remain a challenge for many very young adolescents, non-facility-based public and private services should be expanded to fill this gap, and greater attention should perhaps focus on outreach strategies.

Prevention of sexual violence

Data on the circumstances of sexual behaviors among very young adolescents in developing countries indicate that sexual violence and coercion is not uncommon in early adolescence, particularly among females, and that for many the first sexual experience is unwanted. The harmful effects of sexual violence on the development, health and well-being of adolescents, including on their sexual and reproductive health outcomes, are well-known.^{99,100} Ensuring that very young adolescents enjoy a life free of sexual violence is necessary for their long-term well-being.

There are increasing efforts to implement programs aimed at empowering girls and young women and working with young men to promote egalitarian gender norms to prevent or reduce the perpetration of sexual violence. A small number of these interventions have been rigorously evaluated, but the evidence base needs strengthening.¹⁰¹ A review of interventions to address intimate partner violence and sexual violence targeting young people aged 10–26 found that despite the relatively weak designs of

most studies and the lack of robust measures for behavioral outcomes, certain strategies offer promising results for preventing intimate partner and sexual violence, including interventions that involve parents in preventing child maltreatment and abuse, those that encourage gender-equitable attitudes at the community level and those focused on economic empowerment. Findings indicate that programs delivered over time had more favorable results than one-off awareness-raising or discussion sessions.¹⁰² However, the majority of the studies included in the review focused on developed countries, and most (53 out of 61 interventions studied) did not include very young adolescents. Very young adolescents, especially those out of school, are one of the groups identified at greatest risk of violence and often receive only a negligible share of youth-serving resources and programs.¹⁰⁰

Prevention of child marriage

Although child marriage has decreased overall globally, this positive trend masks the more limited gains achieved in certain regions and countries. Each year, child marriage violates the rights and health of millions of girls (and some boys), and the practice carries long-lasting repercussions at the individual, community and societal levels.¹⁰⁰

The evidence on the consequences of child marriage is clear. Child brides are a particularly vulnerable group for a number of reasons: They tend to experience social isolation and face limited opportunities for education and employment; they begin childbearing early, are at elevated risk for maternal morbidity and mortality, and are less likely than older married women to receive medical care while pregnant; they are vulnerable to HIV and other STIs and are often unable to negotiate safe sex; and they are at elevated risk of intimate partner violence and forced sexual intercourse.^{70,71,103} Girls who are poor or uneducated or who live in rural areas face the greatest risks of such adverse outcomes.^{70,104} Results from analyses in Sub-Saharan Africa indicate that with each year of early marriage, the prospect of secondary school completion decreases by 4–6 percentage points.¹⁰⁵ Because it decreases educational attainment, child marriage is indirectly associated with diminished earnings and reductions in young women's labor force participation.

Given recent coordinated efforts aimed at reducing child marriage, it is not surprising that the number and types of interventions implemented to date has grown dramatically. A systematic review of interventions to prevent child marriage in developing countries found that strategies such as cash transfers, school voucher programs, payment of school fees and life skills curricula can increase girls' age at first marriage.¹⁰⁶ Other approaches, including the provision of safe spaces for girls, community

mobilization and policy changes have been found to be effective in reducing child marriage.^{12,107}

A rigorously evaluated randomized controlled trial involving more than 9,000 girls aged 12–18 in Bangladesh—the BALIKA project—tested three intervention strategies over an 18-month period.¹⁰⁸ The interventions included education, gender-rights awareness training and livelihoods skills training, and results showed that each intervention significantly delayed child marriage by about one-third. Compared with girls in the control group, those who participated in the program were also more likely to be attending school.

Because child marriage is a form of gender-based violence, it is critical to address the structural and social root causes of violence, such as discriminatory gender norms that devalue girls and women (see below).¹⁰⁹

Promotion of equitable gender norms

As mentioned in the introduction, early adolescence is a period when young people become increasingly aware of gender norms related to the roles, capacities, values and power of men and boys, women and girls. Such norms have the power to promote or hinder healthy sexual and reproductive behaviors and attitudes.^{10,11} While the topic of gender norms was not reviewed as part of this report, a 2016 systematic review found that unequal gender attitudes have already begun to take root by the early adolescent period.¹⁰ Early adolescence is thus a fitting time to intervene to promote equitable gender norms, before harmful attitudes become firmly ingrained and begin to influence health-related behaviors and outcomes.¹⁰

There is evidence that programs that use what is known as a gender-transformative approach to encourage critical examination of dominant norms of masculinity and femininity can lay the foundation for improving sexual and reproductive health outcomes by raising awareness of harmful gender norms and modeling alternatives to encourage more equitable attitudes.^{110,111} Most of these programs have worked with young men and boys to call into question and transform masculine stereotypes; however, there is increased recognition of the potential benefits of including girls in such approaches, as both sexes contribute to the construction and upholding of gender norms.¹¹²

Several gender-transformative programs have been developed for the very young adolescent age-group over the past decade using a range of approaches, such as group-based curricula, to discuss gender norms. Evidence indicates the need for such programs to use an ecological model that targets parents, community members and other “gatekeepers” who play a key role in the lives of very young adolescents.¹⁰ One example of a program that used such an approach is the three-level curriculum called

Choices, Voices and Promises, which was developed by Save the Children to target very young adolescents, their parents and the community.¹¹³ An evaluation of Choices in Nepal revealed that the intervention was effective in contributing to more gender-equitable attitudes and behaviors among boys and girls.¹¹⁴ The curriculum has since been adapted in other countries, and preliminary results from an evaluation show the programs are more effective when the community is included in interventions than when it is not.¹¹⁵

Another program, called GREAT, targets adolescents aged 10–19 and members of their community with the aim of promoting gender-equitable attitudes and behaviors; it has reported positive changes in gender equity, partner communication, contraceptive use and attitudes toward gender-based violence in Northern Uganda.¹¹⁶ An adapted version of the GREAT program that includes the GrowUp Smart puberty education curriculum is currently being tested in the urban context of Kinshasa, Democratic Republic of the Congo.¹¹⁷ The beginning phase of the program will involve assessing the effect of early intervention by conducting rigorous longitudinal follow-up and expanding pilot programs such as these to scale.

Despite these promising initiatives, more rigorous evaluations of gender-transformative programs are needed to assess their short- and long-term impact on sexual and reproductive health outcomes in early adolescence and beyond, including their merit for scale-up within and across developing countries.

Providing a safe and supportive environment

Given the central role and influence that parents and families play in the lives of very young adolescents and evidence that parental connectedness and support can be protective against negative reproductive and other health outcomes (see conceptual framework by Blum et al.),⁵ including parents in interventions aimed at very young adolescents may offer great potential. Although there is ample evidence from interventions aimed at parents of adolescents in developed countries, a review concluded that few interventions have been implemented and rigorously evaluated in developing countries and few focus on parents of the 10–14 age-group.¹² More studies, especially those using large sample sizes, direct observation reporting methods, and rigorous evaluations and assessments of both parental and child outcomes, are needed.¹²

Although not all very young adolescents have access

to education, for most very young adolescents, school is central to their lives. Education and school attendance are associated with better health outcomes, and programs aimed at keeping very young adolescents in school—such as conditional and unconditional cash transfer programs, which have been shown to be effective in increasing school attendance—should remain a priority.^{118,119}

The education sector has a responsibility to protect the rights of girls—including those who are pregnant or are already mothers—and to support their remaining in school.¹⁸ In some contexts, girls who become pregnant are systematically expelled from school. In some African countries, “reentry policies” allow adolescent mothers to return to school after delivery. However, there are ongoing concerns about the poor implementation of such policies and their strict requirements, including that girls stay out of the education system for a certain period of time before reentry. A case study of two secondary schools in Zambia provides evidence on the factors that facilitate reentry after pregnancy.¹²⁰ These include parents’ understanding and support of the policy, their belief in the value of education versus the value of child marriage, close counseling and mentoring of the girl, and financial and parental support for the girl.

In addition, schools also have a responsibility to ensure that very young adolescents feel safe and are protected from sexual violence in the school setting.

Use of financial incentives

Economic deprivation underlies many of the negative health outcomes experienced by adolescents in developing regions, and it in many ways shapes the trajectory of these adolescents’ lives. Because poverty is linked to early marriage and childbearing, for example, it is vital to address this structural contextual factor.

Economic incentives (in the form of conditional or unconditional cash transfers) have emerged in recent years as a strategy for addressing structural barriers such as poverty, gender inequality and lack of educational attainment. They have been shown to improve sexual and reproductive health outcomes. A review of interventions to reduce adolescent pregnancy in developing regions identified four evaluations on cash transfers, and two of the interventions—one on 13–22-year-olds in Malawi and one on 12–19-year-olds in Pakistan—were shown to reduce fertility.¹²¹ Similarly, a 2016 review focused on pregnancy prevention programs among adolescents, including very young adolescents,^{***} found that conditional and unconditional cash transfers were especially successful approaches for reducing unintended pregnancy.^{31,122} Another 2016 review of interventions to prevent HIV and other STIs found that some conditional and unconditional

***The four studies that showed a positive impact covered a portion of the very young adolescent age range. Three sampled 12–24-year-olds, and one sampled adolescents younger than 21.

cash transfers had a positive impact on various outcomes, including STI diagnosis and risky sexual activities.^{106,123} For example, in a randomized controlled study in Zomba, Malawi, cash transfers linked to school attendance for female students aged 13–22 were found to reduce new HIV infections.¹²⁴

Although economic incentives have shown to be successful, questions about the cost and sustainability of such programs are important to consider for scale-up, as is their applicability to very young adolescents.¹⁰⁶

Use of mobile technology

A potentially promising mode for positively affecting the sexual and reproductive health of very young adolescents is the use of mobile phones to spread health-related information, an approach known as mHealth. Because access to technology has expanded rapidly in developing countries and mobile phone ownership has become the norm in many places, the use of the Internet, social media and mHealth initiatives may provide innovative ways to communicate reliable, up-to-date and confidential sexual and reproductive health information to adolescents, including those aged 10–14.^{97,125}

A 2012 review of interventions using new digital media to improve the sexual health of young people aged 12–24 found that the few interventions that had been evaluated (most of which were in high-income countries) showed a change in knowledge outcomes.¹²⁵ In addition, a 2016 systematic review of sexual and reproductive health interventions targeting adolescents aged 10–24 using mobile technology (mainly text message platforms), suggests that using text messaging in health promotion campaigns, in STI screening and follow-up, and to promote patient adherence to contraception or antiretroviral therapy may lead to improved sexual and reproductive health outcomes.¹²⁶ However, only three studies in the review reported evidence for developing countries: one Tanzanian and one Kenyan study involving a text message-based service to provide information about contraception (15% and 22%, respectively, of participants were younger than 19), and one study of a program in Democratic Republic of the Congo involving a radio show that encourages listeners aged 14–24 to interact using mobile phones.

However, the extent to which mHealth interventions could be effective with the very young adolescent age-group remains to be determined. While the privacy such interventions afford may be especially important to very young adolescents, the technology may be especially difficult to access, given that very young adolescents tend to have little autonomy from their parents or guardians. In addition, very young adolescents need to be equipped to deal with the unintended risks of internet access, such as

online predatory behavior and unsuitable internet content.¹² More evidence is needed to assess the relevance and impact of technology on sexual and reproductive health outcomes for the very young adolescents in the developing country context.

Conclusion

With adolescents at the forefront of global health and development agendas and the continued growth of this population, now is the time to spotlight and prioritize the sexual and reproductive health needs of the very young adolescents. The evidence from this report shows that some very young adolescents in developing countries are experiencing adverse sexual and reproductive health outcomes. The ages 10–14 offer an opportunity to intervene early by providing supportive policies, programs and interventions that give adolescents the tools they need to grow and thrive. Addressing and meeting their sexual and reproductive health needs is necessary to ensuring their well-being in the present and into adulthood.

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Appendix Tables

Summary of the literature review on very young adolescents in developing countries

Author and year	Site/country	Objectives	Study design	Sample	Data collection and analysis	Key findings
Anderson R et al., 2013	27 developing countries; 3 European countries	Help health care providers, educators and advocates in the field of sexual and reproductive health and rights better understand and use evidence on adolescents' knowledge and behaviors.	Mainly DHS; CDC surveys; demographic information from United Nations Population Division; other sources	30 countries	Survey, descriptive analysis	Most countries (23 out of 30) include skills-based HIV education and/or health education in their primary-school curricula. Data on the proportion of schools teaching this content in primary school are available for four countries: 1% in Guatemala, 8% in Nepal, 59% in Ukraine and 63% in Tanzania.
Andersson N and Ho-Foster A, 2008	South Africa	Document prevalence of male sexual violence among in-school youth.	Quantitative national school-based survey	N=269,705 students aged 10–19, of which 47% were male	Self-administered questionnaire, descriptive analysis	Study found endemic sexual abuse of male children, and many of the assaults were reported to have occurred in school. One in 10 male students aged 10–14 reported having had forced sex in the past year; the younger the age at first sex, the more likely it was reported as forced.
Austrian K et al., 2015	Kenya (Kibera slum in Nairobi and rural Wajir county)	Assess if and how combinations of initiatives—in health, violence prevention, wealth creation, and education—in early adolescence will impact girls' life chances.	Randomized controlled trial comparing impact of four different packages of interventions; report presents baseline findings	4,554 girls aged 11–14	Survey, descriptive analysis and linear regression models	Older girls (aged 13–14) in Kibera demonstrated higher knowledge about HIV than younger peers aged 11–12. Some 14% in both age groups correctly identified the fertile period. Sexual and reproductive health knowledge was even lower among girls in rural Wajir. About 2% of girls in Kibera reported ever having had sexual intercourse; 63% of 11–12-year-olds and 34% of 13–14-year-olds reported that their first sex was unwanted. One in four girls aged 13–14 had ever used modern contraceptives, compared with 6% of 11–13-year-olds. Consistent condom use was 11%.
Bankole A et al., 2007	Burkina Faso, Ghana, Malawi, Uganda	Investigate young adolescent's sexual behaviors; knowledge about HIV, other STIs and pregnancy prevention; and sources of sexual and reproductive health information and services.	Quantitative national household-based surveys conducted as part of the Protecting the Next Generation project	N=8,837 males and females aged 12–14 (N=2,605 in Burkina Faso; N=1,903 in Ghana; N=1,849 in Malawi; N=2,480 in Uganda)	Survey (personal interviews), descriptive analysis	The majority of 12–14-year-olds did not receive family life or sex education. Mass media was the most commonly reported source (among a range of others) for obtaining information on HIV, other STIs and contraception. Very young adolescents were well aware of pregnancy and HIV prevention, but their in-depth knowledge was not totally accurate. Inmate sexual activity was much higher among very young adolescents in Uganda and boys in Malawi (about one-third), whereas in Burkina Faso and Ghana it was lower (one in 10). The proportion of girls who ever had sexual intercourse was low (highest in Uganda, 8%), while among boys the proportion was higher, ranging from 2% in Ghana to 19% in Malawi. Among those who reported that they never had sexual intercourse, 2–9% had ever kissed and 2–18% had ever fondled someone. Between 1% and 10% of 12–14-year-olds in the four countries indicated that they ever had a boyfriend or girlfriend. In Uganda the proportion of girls who had ever been coerced into sex was 29%, compared with 4% among boys. In Malawi, 9% of boys reported having ever been sexually coerced.
Biddlecomet al., 2007	Burkina Faso, Ghana, Malawi, Uganda	Provide new evidence on adolescent sexual and reproductive health with the aim of guiding programs, policies and investments to improve adolescent sexual and reproductive health.	Quantitative and qualitative (not reported on here)	N=5,950 in Burkina Faso; N=4,252 in Ghana; N=4,012 in Malawi; N=5,065 in Uganda	Nationally representative survey, descriptive analysis	Most (68–86%) 12–14-year-olds who ever attended school agreed that it is important to teach sexuality education in school. In addition, more than half indicated that the provision of sexuality education in schools does not encourage young people to have sex.

Author and year	Site/country	Objectives	Study design	Sample	Data collection and analysis	Key findings
Begy D et al., 2013	Urban slums (Korogocho and Vivandani), Nairobi, Kenya	Understand and meet the sexual and reproductive health-related challenges and needs specific to adolescents living in urban slums of Nairobi.	Quantitative longitudinal population-based survey conducted as part of the Transitions into Adulthood study with three waves of data collection; qualitative interviews	Quantitative: males and females aged 12–22. N=4,058 (Wave 1), N=2,674 (Wave 2), N=1,923 (Wave 3). About 30% were aged 12–14. Qualitative: Purposively selected sample of 75 males and females aged 12–24	Quantitative: survey (personal interviews), descriptive analysis; Qualitative: in-depth interviews, thematic analysis	Knowledge of HIV/AIDS was universal, but knowledge of the menstrual cycle and fertility was very low among 12–14-year-olds. While 51% of 12–14-year-old females were aware of the fertile period, only 14% of those accurately stated that pregnancy is most likely to occur halfway between their menstruations. Most adolescents agreed that young men and women should not have sex before marriage; 3% of 12–14-year-olds had engaged in sexual intercourse. Many adolescents agreed use of condoms and other contraceptives is wise to prevent STIs/HIV and pregnancy, but not many used a condom or other contraceptive at last sexual intercourse.
Camacho AV, 2013	19 countries in Latin America and the Caribbean	Provide an assessment of the existence of specific policies and curricula for comprehensive sexuality education programs, and the existence of monitoring and evaluation plans for such programs.	Quantitative	19 countries (details not specified)	Questionnaire	Eleven countries mandate sexuality education at all levels of the educational system. Three countries (Chile, Mexico and Peru) mandate it at the primary and secondary level.
Diop N and Diagne A, 2008	Urban and rural Senegal	Develop a model of intervention and assess its effectiveness in increasing adult youth communication on issues of adolescent well-being, sexuality and reproductive health.	Operational research, including baseline assessment and post-intervention evaluation	N=1,293 (baseline) adolescents aged 10–19 all randomly selected at household level; 1,160 interviewed at follow-up	Survey (personal interviews), descriptive analysis	At baseline, 17% of 10–14-year-olds reported that it is easy to discuss SRH topics with their parents. The proportion reporting frequent parental communication about SRH and having the opportunity to ask questions increased from 45% to 59% and 37% to 57%, respectively, when comparing baseline to follow-up. Slightly more than 40% of 10–14-year-olds reported knowing of contraceptive methods at baseline, and 70% knew where to obtain SRH services. Four percent of 10–14-year-olds reported ever having had sexual intercourse at baseline.
Erukhar AS et al., 2004	Rural Amhara region, Ethiopia	Broaden the understanding of the life of young people in rural Amhara region.	Quantitative population-based survey and qualitative, formative research	Quantitative: N=1,865 adolescents aged 10–19	Quantitative: survey (personal interviews), descriptive analysis	Some 29% of girls 10–19 were married, about one-third before age 10 and the rest between ages 10 and 15. Girls did not consent to marriage and they did not know what marriage implied; only 5% knew their husbands beforehand. Sexual initiation was often early: Some 8% of married girls reported having had sexual intercourse by age 10, 26% by age 12, 70% by age 15. Two percent of married girls participated in the decision to have sex for the first time; 69% had first sex before they started menstruated. Pregnancy was almost always unwanted. Large proportions of girls had never been to school as a result of marriage, many were illiterate and were less likely to have friends and to have social support.
Exavery A et al., 2011	Kigoma, Kilombero, Rufiji and Ulanga districts, Tanzania	Test the association between having multiple sexual partners and condom use among adolescents.	Quantitative cross-sectional household survey	N=612 adolescents 10–14 (N=305) and 15–19 (N=307)	Survey (personal interviews), logistic regression analysis	Nine percent of 10–14-year-olds reported being sexually active. About two-fifths in both age-groups reported having had multiple sexual partners in the past 12 months. Condom use at last sexual intercourse was nearly five times as high among 15–19-year-olds as among 10–14-year-olds. No evidence of association was found between having multiple sexual partners and condom use among adolescents in the study area. Nine percent reported having had sexual intercourse.
Gevers A et al., 2013	Cape Town, South Africa	Investigate the extent to which young adolescents engage in coital and noncoital sexual behaviors and the associations between dating status and sexual behaviors.	Quantitative cross-sectional survey	N=474 school students aged 12–15; representative sample of public schools in the study area	Survey (personal interviews), logistic and linear regression analysis	Many young adolescents reported engaging in coital and noncoital sexual behaviors. Behaviors such as kissing (71% females, 88% males) were more common than light petting (29% females, 45% males) and heavy petting (12% females, 20% males). Sexual intercourse was more common among 12–15-year-old males than females (30% vs. 9%) and the same was true for oral sex (14% males vs. 4% females) and anal sex (11% males vs. 1% females).

Author and Year	Site/country	Objectives	Study design	Sample	Data collection and analysis	Key findings
Glover E et al., 2003	Takoradi, Sunyani and Tamale towns, Ghana	Assess adolescents' knowledge, attitudes and behaviors related to a wide range of reproductive health and gender issues.	Quantitative cross-sectional school survey	N=704 never-married youth aged 12–24 who were either in school, in an apprenticeship program and/or in neither, purposive sampling from schools, small scale enterprises and commercial areas	Survey (personal interviews), logistic regression analysis	Seven percent reported having had sexual intercourse. Female participants were more likely to have had sexual intercourse than males. Youth who were not in apprenticeship programs or in school were more likely to have had sexual intercourse than those in school. There were no gender differences in accepting violence against women, and youth not in school/apprenticeships showed the highest level of acceptance; in-school youth showed the lowest. Almost all respondents knew of condoms, but not many could identify any of four elements of correct use; females and sexually inexperienced youth were the least informed. Carrying condoms was seen as less acceptable for females than for males, and more males than females had had an STI. One-third of female respondents had been pregnant, and almost three-fifths of them had had or had attempted to have an abortion.
Gonçalves H et al., 2015	Pélotas, Rio Grande do Sul, Brazil	Assess the prevalence of sexual initiation before age 15, as well as sociodemographic and behavioral factors.	Quantitative longitudinal birth cohort of adolescents born in 1993	N=5,249 adolescents (full 1993 birth cohort); of these, N=4,325 (82%) were interviewed	Surveys (questionnaire administered to adolescents' mothers, personal interview with adolescents, self-administered adolescent questionnaire), descriptive analysis	About 19% of 10–14-year-olds reported that they ever had sexual intercourse (16% of females and 21% of males). Higher prevalence of sexual initiation before age 15 was related to lower schooling, lower asset index score, lower maternal education, being male and being born to an adolescent mother. About half of sexually experienced 10–14-year-olds reported two or more lifetime sexual partners; males were more likely than females to do so.
Halcón L et al., 2003	Antigua, Bahamas, Barbados, British Virgin Islands, Dominica, Grenada, Guyana, Jamaica, St. Lucia	Assess youth health in Caribbean countries and describe the prevalence of health-related factors.	Quantitative cross-sectional study	N=15,695 students aged 10–18	Survey (self-administered classroom questionnaire), descriptive analysis	Twenty-two percent of those aged 12 or younger and 35% of 13–15-year-olds reported ever having had sexual intercourse. Of these, around 40% reported that their first sexual intercourse was forced. Two-thirds of sexually experienced very young adolescents indicated that they had two or more lifetime sexual partners; 18% of 10–11-year-olds and 27% of 13–15-year-olds reported six or more partners. Condom use at last sex was lowest for the very youngest age group 10–11 (26%), compared with older adolescents (52% and 71% among 13–15- and 16–17-year-olds, respectively).
Kabiru C et al., 2010	Slum and nonslum neighborhoods, Nairobi, Kenya	Identify predictors of first sexual activity among adolescents and assess whether protective and risk factors at the individual and social levels have comparable levels of effectiveness for older versus younger adolescents, as well as for those living in slum settlements and those living in poor nonslum neighborhoods.	Quantitative longitudinal population-based study called Education Research Program, nested in the Nairobi Urban Health and Demographic Surveillance System, a longitudinal platform; two waves of data collection	N=2,134 adolescents aged 12–19	Survey (personal interviews), logistic regression analysis	Ten percent of females and 12% of males aged 12–19 who had never had sexual intercourse reported ever engaging in noncoital sexual activities (kissing, fondling, foreplay and heavy petting). Transition to first sex was influenced by age, slum residence, perceived parental monitoring and peer behavior. Having peer models for conventional behaviors, such as friends who perform well in school, who desire to advance their education, and who participate in prosocial activities such as sports or religious activities, was associated with a lower likelihood of transitioning to first sex for males and females living in slums.
Magnani RJ et al., 2002	Lusaka, Zambia	Identify risk and protective factors for behaviors that expose youth to risk of HIV infection.	Quantitative, community-based study sampling from 10 public-sector health centers	N=2,328 young people aged 10–24	Survey (personal interviews), multivariate analysis	School attendance and knowledge of AIDS were associated with both lower levels of sexual activity and consistent use of condoms. Ten percent of 10–14-year-olds reported having had sexual intercourse.

Author and year	Site/country	Objectives	Study design	Sample	Data collection and analysis	Key findings
Martson M et al., 2013	Slum and nonslum neighborhoods, Nairobi, Kenya	Examine the transition to first sex among males and females aged 12–16 living in two informal settlements, or slums, in Nairobi, Kenya.	Quantitative longitudinal population-based study using Transitions into Adulthood data (see Beguy et al., 2013), nested in the Nairobi Urban Health and Demographic Surveillance System (two waves of data collection used for this study)	N=4,058 aged 12–22 (Wave 1), N=2674 (Wave 2); analysis restricted to sexually inexperienced youth aged 12–16 at Wave 1 who also completed an interview at Wave 2 (N=1,754)	Survey (personal interviews), logistic regression analysis	About a third of surveyed young people who experienced early sexual debut used a condom at first sex and two-thirds used none or a traditional method. Five percent initiated sexual intercourse over time. Sexual debut was positively associated with dropping out of school, never attending school and having experienced severe family dysfunction. Lack of parental supervision was a predictor of sexual debut among males only, while low personal aspiration for schooling and employment was a predictor among females only.
Moore AMI et al., 2007	Burkina Faso, Ghana, Malawi, Uganda	Examine the prevalence of sexual coercion at sexual debut among married and unmarried girls aged 12–19.	Quantitative national representative household survey (Protecting the Next Generation study, see Bankole et al., 2007) and qualitative interviews	Quantitative: N=8,882 adolescents aged 12–19 (Burkina Faso N=2,605; Ghana N=1,903; Malawi N=1,849; Uganda N=2,480) Qualitative: 219 in- and out-of-school females aged 12–19	Quantitative: survey (personal interviews), logistic regression analysis, analysis restricted to sexually active females (N=2,326). Qualitative: in-depth interviews and focus group discussions, thematic analysis	The proportion of adolescent females with sexual debut before age 12 who reported their first intercourse as coerced was 62% in Ghana, 32% in Malawi and 28% in Uganda; and the same was true for 21–28% of those whose sexual initiation occurred between the ages of 12 and 14. The most prevalent forms of coercion across all four countries were forced sex, pressure from receiving money or gifts; males' flattering them, pestering them and threatening to have sex with other girls; and girls' passive acceptance. Place of residence seemed to influence coercion differently across the four countries, with rural residence increasing the probability of being "not willing at all" in Burkina Faso. Age at first sex was not predictive of girls' having been "not willing at all." Being in school increased girls' risk of having experienced a coerced debut only in Malawi.
Moore AMI et al., 2012	Burkina Faso, Ghana, Malawi, Uganda	Examine the prevalence of unwilling sexual debut and lifetime unwanted sexual experiences and further contextualize how sexual coercion occurs among young men aged 12–19.	Quantitative national representative household survey (Protecting the Next Generation study, see Bankole et al., 2007) and qualitative interviews	Quantitative: N=8,882 adolescents aged 12–19 (Burkina Faso N=2,605; Ghana N=1,903; Malawi N=1,849; Uganda N=2,480) Qualitative: 195 in- and out-of-school males aged 12–19	Quantitative: logistic regression analysis, analysis restricted to sexually active males (N=2,483); Qualitative: in-depth interviews and focus group discussions, thematic analysis	Among young men aged 12–14 who reported having had their sexual debut before age 12, the proportion who reported coerced first sex was 6% in Uganda, 8% in Burkina Faso and 13% in Malawi (Ns too small for Ghana). Corresponding numbers among those with debut between ages 12–14 were 5% in Burkina Faso and Uganda, 9% in Malawi and 13% in Ghana. Having ever experienced unwanted noncoital sexual behaviour (touching, kissing, grabbing or fondling) was more common than having experienced unwanted sexual intercourse.
Pai H et al., 2010	Taiwan	Explore the sexual self-concept and intended sexual behavior of young adolescent girls in Taiwan.	Quantitative cross-sectional study	N=372 girls aged 12–14 from junior high schools	Survey, descriptive analysis	More than half of girls (59%) had had a crush, 37% had been in love, 14% had kissed, 3% had fondled and 1% had had sexual intercourse. Girls' self-reports showed low (negative) sexual self-concept, high perceived parental disapproval, and somewhat high perceived friends' disapproval of sexual activities. Sexual self-concept was associated with perceived parental peer approval of sexual activities, sexual experience and intended sexual activities.

Author and year	Site/country	Objectives	Study design	Sample	Data collection and analysis	Key findings
Scales PC et al., 2016	Gulu district, Uganda	Examine the link between young people's assets (internal and external) and their sexual and reproductive health.	Quantitative cross-sectional study	N=941 school students aged 10–14	Survey (self-administered questionnaire), descriptive and psychometric analyses	Respondents indicated high awareness about HIV/AIDS (94%) and condoms (83%) and moderate knowledge about pregnancy risk (about half responded correctly to three in four questions about the risk of pregnancy at first sex and during certain menstrual cycle days). There were also notable gender differences in knowledge, with males being less likely than females to provide correct responses to most questions. Respondents' distribution by development asset scales (DAP) was: 7% challenged, 33% vulnerable, 36% adequate and 25% thriving. Very young adolescents with higher levels of DAP had more accurate knowledge about puberty and about HIV risk, more ability to access SRH services, more supportive relationships in which they could talk about feelings and what happens during puberty, and lower intentions to engage in risky sexual behavior. Very young adolescents who had at least "adequate" levels of DAP were more likely to have accurate HIV knowledge, more likely to believe they could access SRH services and more likely to intend to delay sex until marriage or use a condom than those at the "challenged or vulnerable" asset levels. Very young adolescents at the "thriving" (highest) level were also more likely to have accurate condom knowledge and more likely to have supportive relationships than all other very young adolescents.
Tavakoli M et al., 2003	Five cities in Iran	Examine knowledge of reproductive health issues among girls aged 12–14.	Quantitative cross-sectional school-based study	N=1,893 of female students aged 12–14	Survey (self-administered questionnaire), ANOVA	Overall, knowledge about puberty health and family planning was very low. More than 70% of girls reported having never heard about family planning or that girls are able to reproduce once they get their period. High proportions reported that behaviors such as bathing (77%) and participating in sports (83%) during menstruation are harmful, and 73% did not know that HIV is sexually transmittable. The lowest score on knowledge was among the youngest girls.
UNESCO, 2015	48 countries (primarily in developing regions)	Provide an overview of the status of comprehensive sexuality education (CSE) implementation and coverage.	Data generated through a rapid situational analysis using existing resources and studies	48 countries	Review of existing data, descriptive analysis	Almost 80% of countries have policies that support CSE in schools. Out of the 48 countries with available information, 37 countries (77%) have national policies and/or curriculums that support CSE in primary school, and out of these, 30 countries state that CSE should be mandatory. About two in three of the 48 countries have curricula that reflect international standards on CSE.

Summary of studies on noncoital sexual activities, sexual experience and unwantedness of first sexual experience among very young adolescents

Author and year	Country	Sample size	Age range	Marital status	Type of sexual activity	% ever participated in noncoital sexual activities		% ever had sexual intercourse		% experiencing unwanted first sexual intercourse*							
						Females	Males	Females	Males	Females	Males	Total					
Austrian et al., 2015	Kenya (Kibera, Nairobi and Wajir county)	N=4,554 girls (baseline)	11–14	99% never-married	Ever had sexual intercourse			2†		63 (among 11–12-year-olds)							
Bankole et al., 2007 Biddlecom et al., 2007 Moore et al., 2007	Burkina Faso, Ghana, Malawi, Uganda	N=19,279 aged 12–14 (N=8,882 never-married)	12–19	Never-married	Ever kissed† Burkina Faso Ghana Malawi Uganda Ever fondled†† Burkina Faso Ghana Malawi Uganda Ever had sexual intercourse	2	2										
						2	2										
						2	2										
						9	3										
						2	4										
						4	4										
						5	8										
						18	5										
											Burkina Faso			2	6	21 (sexual debut 12–14)	5 (sexual debut 12–14)
					Ghana			2	1	62 (sexual debut <12)	††(sexual debut <12)						
					Malawi			3	18	25 (sexual debut 12–14)	13 (sexual debut 12–14)						
					Uganda			8	15	32 (sexual debut <12)	13 (sexual debut <12)						
										28 (sexual debut 12–14)	8 (sexual debut 12–14)						
										28 (sexual debut <12)	6 (sexual debut <12)						
										24 (sexual debut 12–14)	5 (sexual debut 12–14)						

APPENDIX TABLE 2 (CONTINUED)

Author and year	Country	Sample size	Age range	Marital status	Type of sexual activity	% ever participated in noncoital sexual activities		% ever had sexual intercourse		% experiencing unwanted first sexual intercourse*	
						Females	Males	Females	Males	Females	Males
Beguy et al., 2013	Kenya (Nairobi)	N=4,058 (baseline)	12–22	89% never-married	Ever had sexual intercourse (among 10–14)			3	3		
Diop and Diagne, 2008	Senegal	N=1,293 (baseline)	10–19	94% never-married	Ever had sexual intercourse (among 10–14)				4		
Exavery et al., 2011	Tanzania (Kigoma, Kilombero, Rufiji, Ulanga)	N=612	10–19	Not specified	Ever had sexual intercourse (among 10–14)				9		
Gevers et al., 2013	South Africa (Cape Town)	N=474	12–15	Not specified	Ever kissed§	71	88				
					Ever had light petting (touching upper body)§	29	45				
					Ever had heavy petting (touching genitals)§	12	20				
					Ever had sexual intercourse			9	30	26	
Glover et al., 2003	Ghana (Takoradi, Sunyani, Tamale)	N=704	12–24	Never-married	Ever had sexual intercourse (among 12–14)				7		
Gonçalves et al., 2015	Brazil (Pelotas, Rio Grande do Sul)	N=4,325	10–14	Not specified	Ever had sexual intercourse			21	19		
Halcón et al., 2003	Antigua, Bahamas, Barbados, British Virgin Islands, Dominica, Grenada, Guyana, Jamaica, St. Lucia	N=15,695	10–18	Not specified	Ever had sexual intercourse				22 (age-group ≤12)		43
									35 (age-group 13–15)		38
Kabiru et al., 2010	Kenya (Nairobi)	N=2,134**	12–19	Not specified	Any noncoital activity (kissing, fondling, foreplay, heavy petting)†	10 (mean age 14)	12 (mean age 14)			10 (age-group 10–14)	18
Magnani et al., 2002	Zambia (Lusaka)	N=2,328	10–24	84% never-married	Ever had sexual intercourse					10 (age-group 10–14)	
Pai et al., 2010	Taiwan (rural South)	N=372 girls	12–14	Not specified	Past-year kissing	14					
					Past-year fondling (breasts)	3					
					Ever had sexual intercourse			1			

*The definition of unwanted first sex varies across studies. Among those that included some form of measure of wantedness at sexual initiation, measures included "forced sexual initiation" (Halcon et al., 2003; Magnani et al., 2002), "coerced sexual initiation"/"not willing at all" (Moore, 2007, 2012) and "unwanted sexual initiation" (Austrian et al., 2015). †Among girls in Kibera (N=2,394). In Wajir, sexual intercourse was only assessed among ever-married or cohabiting girls (N=23) of whom three reported ever having had sexual intercourse. ‡Among those who had never had sexual intercourse. §Among those who ever had sexual intercourse. **Data presented are restricted to those without sexual experience with mean age 13.8 at baseline (N=705). ††N too small for analysis. Note: Empty cells indicate that data were not collected.

APPENDIX TABLE 3

Proportion of students aged 13–15 who reported ever having had sexual intercourse, by gender, according to developing region and country

Region and country	Year	Ever had sexual intercourse		
		All	Boys	Girls
AFRICA				
Botswana	2005	17	27	10
Djibouti	2007	12	18	4
Ghana	2007	25	25	25
Kenya	2003	34	45	23
Malawi	2009	23	28	17
Mauritania	2010	30	32	28
Mauritius	2011	25	32	17
Namibia	2013	37	50	27
Senegal	2005	24	35	8
Seychelles	2007	22	29	16
Swaziland	2013	14	21	11
Tanzania	2014	17	23	11
Uganda	2003	21	29	14
Zambia	2004	38	45	29
Zimbabwe-Bulawayo	2003	12	22	5
Zimbabwe-Harare	2003	10	18	4
Zimbabwe-Manicaland	2003	18	28	10
ASIA				
Bangladesh	2014	10	14	4
Brunei Darussalam	2014	10	12	9
Cambodia	2013	13	15	11
Indonesia	2007	0	1	0
Lao	2015	10	13	7
Malaysia	2012	8	10	7
Mongolia	2013	10	13	7
Tajikistan	2006	14	15	12
Thailand	2015	15	19	11
Viet Nam	2013	4	4	3

APPENDIX TABLE 3 (CONTINUED)

Region and country	Year	Ever had sexual intercourse		
		All	Boys	Girls
LATIN AMERICA AND THE CARIBBEAN				
Anguilla	2009	31	40	22
Antigua and Barbuda	2009	37	49	24
Argentina	2012	37	44	31
Bahamas	2013	28	39	18
Barbados	2011	34	44	23
Belize	2011	23	33	14
Bolivia	2012	20	25	15
British Virgin Islands	2009	36	47	26
Cayman Islands	2007	31	35	26
Chile	2013	25	29	20
Costa Rica	2009	18	23	14
Dominica	2009	47	57	37
El Salvador	2013	19	27	11
Grenada	2008	27	43	15
Guatemala	2009	13	18	8
Guayana	2010	29	41	19
Honduras	2012	23	35	13
Peru	2010	17	24	10
Saint Kitts and Nevis	2011	32	47	18
Saint Lucia	2007	26	38	17
Saint Vincent and the Grenadines	2007	30	52	13
Suriname	2009	24	32	18
Trinidad and Tobago	2011	27	35	20
Uruguay	2012	28	34	22
OCEANIA				
Fiji	2010	16	25	8
Kiribati	2011	22	37	10
Nauru	2011	32	43	25
Samoa	2011	56	69	45
Tokelau	2014	23	27	16
Tuvalu	2013	17	29	8
Vanuatu	2011	12	16	8
Wallis and Futuna Islands	2015	22	32	14

Source: GSHS data

APPENDIX TABLE 4

Proportion of 15–19-year-old females who have ever had sexual intercourse before age 15, by residence and wealth, according to developing region, subregion and country

Region, subregion and country	Total	Residence		Wealth quintile				
		Rural	Urban	Poorest	Poorer	Middle	Richer	Richest
AFRICA								
Eastern Africa								
Burundi (2010)	3.5	3.1	6.9	3.6	3.1	3.5	3.1	4.1
Comoros (2012)	5.7	5.2	6.9	4.6	7.5	6.5	5.7	4.1
Djibouti (2006)	u	u	u	u	u	u	u	u
Eritrea (2002)	8.8	u	u	u	u	u	u	u
Ethiopia (2011)	7.1	8.9	2.1	12.3	10.4	10.7	4.4	1.5
Kenya (2014)	10.7	11.1	9.7	13.7	13.6	10.9	9.1	6.0
Madagascar (2008–2009)	17.2	19.2	8.2	31.2	27.0	17.5	9.7	7.0
Malawi (2013–2014)	13.1	13.3	12.0	16.3	12.0	14.8	14.7	8.5
Mozambique (2011)	21.8	23.7	18.5	26.7	25.5	23.1	24.3	13.1
Rwanda (2014–2015)	6.8	6.6	7.6	8.9	5.9	6.8	4.9	7.7
Somalia (2006)	u	u	u	u	u	u	u	u
South Sudan (2010)	10.8	10.4	11.9	9.7	11.4	11.0	13.6	9.1
Tanzania (2010)	11.3	11.9	10.0	13.3	13.8	12.1	12.3	7.4
Uganda (2011)	12.2	11.2	16.3	11.2	12.3	10.4	12.2	14.0
Zambia (2013–2014)	11.7	16.2	6.9	21.2	16.5	14.8	9.3	3.7
Zimbabwe (2014)	4.3	5.4	1.9	8.4	7.0	3.2	3.5	1.3
Middle Africa								
Cameroon (2011)	15.0	19.6	11.3	19.0	22.7	17.4	10.8	9.2
Central African Republic (2010)	27.2	32.1	20.8	32.4	33.3	33.5	21.2	19.2
Chad (2014–2015)	17.8	19.4	13.1	22.1	24.6	18.4	14.2	12.1
Congo (2011–2012)	23.0	35.2	17.9	35.5	29.6	26.6	19.9	8.3
Dem. Republic of Congo (2013–2014)	18.9	22.5	14.2	30.6	17.4	20.8	22.0	9.4
Equatorial Guinea (2011)	28.7	u	u	u	u	u	u	u
Gabon (2012)	16.8	26.0	15.7	30.9	25.7	12.9	8.7	12.4
Sao Tome and Principe (2014)	10.1	10.3	10.0	18.6	11.2	11.9	6.8	5.2
Northern Africa								
Algeria (2012–2013)	u	u	u	u	u	u	u	u
Egypt (2014)*	1.2	1.7	0.5	1.5	1.8	1.5	1.2	0.2
Morocco (2003–2004)	u	u	u	u	u	u	u	u
Sudan (2014)	u	u	u	u	u	u	u	u
Tunisia (2011–2012)	u	u	u	u	u	u	u	u
Southern Africa								
Lesotho (2014)	6.0	6.0	6.1	7.3	7.2	7.4	5.9	2.8
Namibia (2013)	6.8	8.6	4.8	11.5	9.0	7.4	5.7	1.7
South Africa (2003)	7.2	u	u	u	u	u	u	u
Swaziland (2010)	3.2	3.4	2.3	6.8	2.8	3.5	2.1	1.2
Western Africa								
Benin (2011–2012)	11.9	14.8	8.9	17.5	15.5	12.7	9.6	7.9
Burkina Faso (2010)	7.7	8.8	5.4	11.4	11.6	9.2	4.3	4.8
Cape Verde (2005)	21.4	u	u	u	u	u	u	u
Côte d'Ivoire (2011–2012)	20.8	29.4	15.3	32.0	31.6	22.9	16.3	12.4
Gambia (2013)	5.7	8.1	3.7	7.1	6.1	9.7	4.1	2.3
Ghana (2014)	11.8	14.9	8.5	13.3	18.7	14.0	7.8	3.8
Guinea (2012)	22.4	28.0	14.8	30.7	30.9	26.1	19.4	11.9
Guinea-Bissau (2006)	21.8	18.9	25.1	16.2	16.7	21.9	25.6	25.0
Liberia (2013)	23.3	30.0	20.1	32.1	30.2	27.3	20.9	16.3
Mali (2012–2013)	20.0	23.1	13.2	20.5	23.5	28.2	22.6	11.7
Mauritania (2011)	u	u	u	u	u	u	u	u
Niger (2012)	22.8	28.0	4.8	30.3	28.8	25.8	25.5	9.9
Nigeria (2013)	15.6	22.1	6.9	32.1	24.1	11.6	7.5	6.5
Senegal (2014)	7.5	11.1	3.9	17.5	8.8	5.3	4.9	2.9
Sierra Leone (2013)	19.3	22.8	14.4	21.8	20.5	26.2	20.5	11.8
Togo (2013–2014)	10.3	12.6	7.6	7.4	15.5	16.0	9.3	5.7

APPENDIX TABLE 4 (CONTINUED)

Region, subregion and country	Total	Residence		Wealth quintile				
		Rural	Urban	Poorest	Poorer	Middle	Richer	Richest
ASIA								
Eastern Asia								
Mongolia (2013–2014)	0.6	0.7	0.5	0.6	0.6	1.3	0.2	0.2
Central Asia								
Kazakhstan (2010–2011)	0.4	0.3	0.5	0.6	0.0	0.3	0.9	0.3
Kyrgyzstan Republic (2014)	u	u	u	u	u	u	u	u
Tajikistan (2012)	0.1	0.2	0.0	0.4	0.3	0.0	0.0	0.0
Turkmenistan (2006)	u	u	u	u	u	u	u	u
Uzbekistan (2006)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Southern Asia								
Afghanistan (2010–2011)	u	u	u	u	u	u	u	u
Bangladesh (2014)*	15.0	15.1	14.7	17.4	16.6	13.8	14.8	11.2
Bhutan (2010)	2.2	3.1	0.6	4.5	5.4	3.4	0.4	0.0
India (2005–2006)	8.0	10.2	2.7	15.9	12.7	7.6	3.6	0.7
Maldives (2009)*	0.1	0.1	0.0	0.0	0.4	0.0	0.0	0.0
Nepal (2014)	u	u	u	u	u	u	u	u
Pakistan (2012–2013)*	u	u	u	u	u	u	u	u
Sri Lanka (2006–2007)	1.2	u	u	u	u	u	u	u
Southeast Asia								
Cambodia (2014)	1.4	1.4	1.3	0.9	1.7	1.3	1.3	1.4
Indonesia (2012)	1.6	2.5	0.8	3.7	2.5	1.0	0.9	0.4
Laos (2011–2012)	5.2	6.7	1.5	11.9	8.5	3.8	3.8	0.4
Philippines (2013)	2.2	2.7	1.8	4.4	1.7	2.1	3.2	0.3
Thailand (2012–2013)	u	u	u	u	u	u	u	u
Timor-Leste (2009–2010)	1.1	1.3	0.5	1.6	1.8	1.6	0.6	0.2
Viet Nam (2013–2014)	u	u	u	u	u	u	u	u
Western Asia								
Armenia (2010)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Azerbaijan (2006)	0.4	0.4	0.4	1.6	0.1	0.5	0.0	0.0
Georgia (2006)	u	u	u	u	u	u	u	u
Iraq (2011)	u	u	u	u	u	u	u	u
Jordan (2012)*	0.5	0.6	0.4	0.3	0.7	0.4	0.7	0.1
Lebanon (2011)	u	u	u	u	u	u	u	u
Palestine (2014)	u	u	u	u	u	u	u	u
Syria Arab (2006)	u	u	u	u	u	u	u	u
Turkey (2008)*	u	u	u	u	u	u	u	u
Yemen (2013)	u	u	u	u	u	u	u	u

APPENDIX TABLE 4 (CONTINUED)

Region, subregion and country	Total	Residence		Wealth quintile				
		Rural	Urban	Poorest	Poorer	Middle	Richer	Richest
LATIN AMERICA AND THE CARIBBEAN								
Caribbean								
Barbados (2012)	8.7	13.5	6.1	15.9	9.5	8.3	10.3	2.1
Cuba (2014)	11.5	14.5	10.9	u	u	u	u	u
Dominican Republic (2013)	16.8	16.4	16.9	28.5	23.7	14.1	15.0	4.1
Haiti (2012)	14.0	13.7	14.4	10.4	15.4	16.5	16.0	11.7
Jamaica (2011)	u	u	u	u	u	u	u	u
Saint Lucia (2012)	5.3	5.2	6.2	9.9	2.6	7.7	0.0	7.6
Trinidad (2006)	4.7	u	u	7.6	5.3	4.5	3.8	2.0
Central America								
Belize (2011)	4.1	4.7	3.3	2.8	9.2	4.0	0.6	3.5
Costa Rica (2011)	12.2	13.2	11.5	22.5	11.8	11.2	9.9	5.5
El Salvador (2008)	10.4	11.4	9.6	13.9	12.0	11.0	9.0	5.2
Guatemala (2008–2009)	7.1	8.3	5.5	11.0	8.9	7.8	4.7	2.0
Honduras (2011–2012)	12.1	13.1	11.1	17.8	16.1	11.9	9.9	6.0
Mexico (2014)	5.4	5.8	5.3	u	u	u	u	u
Nicaragua (2008)	13.0	18.0	9.1	21.9	17.1	11.7	6.7	5.1
Panama (2013)	10.8	16.7	7.7	18.5	12.8	9.7	9.7	1.8
South America								
Argentina (2011–2012)	u	u	u	u	u	u	u	u
Bolivia (2008)	7.3	10.6	5.5	12.9	10.4	7.5	4.4	3.9
Brazil (2006)	16.9	18.6	16.5	31.3	17.5	14.4	14.9	5.6
Colombia (2010)	13.5	15.2	13.0	17.2	17.1	13.5	11.4	7.7
Ecuador (2004)	6.9	7.0	7.0	10.1	9.9	7.1	2.9	3.2
Guyana (2014)	5.0	6.1	1.9	11.3	3.1	1.6	2.4	6.6
Paraguay (2008)	7.3	7.8	6.8	10.2	10.2	5.2	7.3	5.3
Peru (2014)	6.3	10.1	5.1	11.3	7.7	5.9	4.1	2.5
Suriname (2010)	10.1	18.2	7.1	24.1	9.8	8.5	3.6	4.0
Uruguay (2012–2013)	10.6	9.2	10.8	17.0	3.7	21.7	12.6	0.3
OCEANIA								
Papua New Guinea (2006)	4.2	u	u	u	u	u	u	u
Samoa (2009)	u	u	u	u	u	u	u	u
Solomon Islands (2006–2007)	14.9	u	u	u	u	u	u	u
Tonga (2012)	0.7	u	u	u	u	u	u	u
Vanuatu (2013)	7.6	u	u	u	u	u	u	u

*Sample consists of ever-married women (those who are currently married, widowed or divorced/separated) only; never-married women were not surveyed. Data have been adjusted to represent all women in the age-group by using household survey data to represent both ever-married and never-married women. This is not the case for Sri Lanka where data are only available from country reports where data have not been adjusted. *Notes:* Data are from the most recent survey available (years denoted parenthetically). u=unavailable. *Sources:* Afghanistan, Algeria, Argentina, Barbados, Belize, Bhutan, Central African Republic, Chad, Costa Rica, Cuba, Djibouti, Georgia, Guinea-Bissau, Guyana, Iraq, Jamaica, Kazakhstan, Kyrgyzstan Republic, Laos, Lebanon, Malawi, Mauritania, Mongolia, Nepal, Palestine, Panama, Saint Lucia, Sao Tome and Principe, South Sudan, Sudan, Suriname, Swaziland, Syria Arab, Trinidad, Tunisia, Turkmenistan, Uruguay, Uzbekistan, Viet Nam and Zimbabwe—Multiple Indicator Cluster Survey. Brazil—Pesquisa Nacional de Demografia e Saúde da Criança e da Mulher. Cape Verde, Equatorial Guinea, Papua New Guinea, South Africa, Sri Lanka, Samoa, Solomon Islands, Thailand, Tonga and Vanuatu—DHS country reports (survey data unavailable). Ecuador, El Salvador, Guatemala, Nicaragua and Paraguay—Centers for Disease Control and Prevention Reproductive Health Survey. Mexico—Encuesta Nacional de la Dinámica Demográfica. All other countries—Demographic and Health Surveys.

APPENDIX TABLE 5

Proportion of 15–19-year-old females married before age 15, by residence and wealth, according to developing region, subregion and country

Region, subregion and country	Total	Residence		Wealth quintile				
		Rural	Urban	Poorest	Poorer	Middle	Richer	Richest
AFRICA								
Eastern Africa								
Burundi (2010)	0.8	0.7	1.7	1.0	1.1	0.7	0.6	0.8
Comoros (2012)	6.0	5.1	8.0	5.4	7.3	4.5	7.5	5.0
Djibouti (2006)	0.5	1.4	0.4	0.0	0.0	0.0	0.0	0.0
Eritrea (2002)	8.5	u	u	u	u	u	u	u
Ethiopia (2011)	8.0	10.1	2.1	13.5	11.8	12.8	4.7	1.6
Kenya (2014)	1.6	1.5	1.9	3.3	2.1	0.7	1.1	1.1
Madagascar (2008–2009)	11.8	13.1	5.5	21.2	19.6	10.5	6.8	4.9
Malawi (2013–2014)	3.5	3.9	1.5	4.7	3.6	4.6	3.2	1.7
Mozambique (2011)	10.3	12.8	6.0	16.2	14.5	10.7	11.0	2.6
Rwanda (2014–2015)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Somalia (2006)	4.9	5.6	4.1	6.1	5.7	5.7	5.2	2.9
South Sudan (2010)	5.0	4.5	6.4	4.6	5.5	3.8	6.2	5.1
Tanzania (2010)	2.8	3.6	0.9	4.7	4.4	4.0	1.8	0.7
Uganda (2011)	3.2	3.2	3.2	4.9	4.8	3.6	1.6	2.4
Zambia (2013–2014)	1.8	2.8	0.8	5.1	2.3	1.9	1.3	0.2
Zimbabwe (2014)	2.9	3.4	1.9	3.6	4.6	2.4	3.7	1.0
Middle Africa								
Cameroon (2011)	8.7	13.1	4.9	18.1	13.5	10.0	3.9	3.2
Central African Republic (2010)	22.3	26.3	17.0	28.6	27.4	25.1	17.9	15.2
Chad (2014–2015)	16.4	18.5	10.5	21.3	24.1	17.0	12.8	9.9
Congo (2011–2012)	6.5	9.0	5.5	10.7	7.2	11.1	2.9	1.7
Dem. Republic of Congo (2013–2014)	6.1	8.0	3.6	10.8	6.5	7.9	6.0	2.0
Equatorial Guinea (2011)	7.6	u	u	u	u	u	u	u
Gabon (2012)	3.5	6.4	3.1	8.4	5.8	2.7	2.5	0.3
Sao Tome and Principe (2014)	2.9	3.7	2.5	8.5	4.7	1.8	1.3	0.0
Northern Africa								
Algeria (2012–2013)	0.1	0.0	0.1	0.0	0.1	0.1	0.1	0.1
Egypt (2014)§	1.2	1.7	13.8	1.5	1.8	1.5	1.2	0.2
Morocco (2003–2004)	1.6	2.5	1.0	2.6	1.9	2.5	0.8	0.4
Sudan (2014)	5.7	6.9	3.3	6.0	9.5	7.4	3.6	2.5
Tunisia (2011–2012)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Southern Africa								
Lesotho (2014)	1.3	1.1	1.8	2.3	1.5	0.6	1.7	0.6
Namibia (2013)	0.9	1.2	0.6	1.9	1.2	1.6	0.0	0.0
South Africa (2003)	0.4	u	u	u	u	u	u	u
Swaziland (2010)	0.4	0.5	0.0	1.1	0.0	0.0	0.4	0.6
Western Africa								
Benin (2011–2012)	3.6	4.9	2.2	9.6	5.4	3.4	1.7	1.0
Burkina Faso (2010)	6.0	7.9	2.3	11.5	11.4	7.8	1.7	2.0
Cape Verde (2005)	1.8	u	u	u	u	u	u	u
Côte d'Ivoire (2011–2012)	5.6	7.7	4.2	10.2	6.3	5.8	6.8	2.2
Gambia (2013)	6.0	9.5	3.1	8.6	6.5	10.9	3.5	1.4
Ghana (2014)	1.6	2.2	1.0	2.8	2.0	2.7	0.0	0.2
Guinea (2012)	13.6	18.9	6.4	22.3	21.0	17.1	10.2	4.1
Guinea-Bissau (2006)	4.5	6.3	2.5	7.1	3.7	6.9	5.8	1.0
Liberia (2013)	3.8	6.2	2.6	9.6	8.2	4.5	1.6	0.6
Mali (2012–2013)	19.2	23.3	10.2	21.0	25.8	28.2	19.9	9.4
Mauritania (2011)	11.5	15.0	7.0	18.0	16.0	8.5	10.4	6.1
Niger (2012)	23.7	29.2	4.7	31.3	30.4	27.7	25.7	10.0
Nigeria (2013)	11.6	18.2	2.7	31.6	20.1	6.6	3.1	1.0
Senegal (2014)	5.9	10.3	1.5	15.8	8.2	4.5	1.6	1.4
Sierra Leone (2013)	5.5	7.4	2.7	7.9	9.3	6.0	4.0	2.9
Togo (2013–2014)	1.9	2.5	1.2	3.0	2.8	3.0	1.7	0.0

APPENDIX TABLE 5 (CONTINUED)

Region, subregion and country	Total	Residence		Wealth quintile				
		Rural	Urban	Poorest	Poorer	Middle	Richer	Richest
ASIA								
Eastern Asia								
Mongolia (2013–2014)	0.3	0.7	0.1	0.4	0.9	0.0	0.0	0.2
Central Asia								
Kazakhstan (2010–2011)	0.1	0.1	0.2	0.1	0.0	0.2	0.3	0.0
Kyrgyzstan Republic (2014)	0.1	0.1	0.0	0.0	0.0	0.3	0.0	0.0
Tajikistan (2012)	0.1	0.1	0.0	0.0	0.3	0.0	0.0	0.0
Turkmenistan (2006)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Uzbekistan (2006)	0.1	0.1	0.2	0.2	0.2	0.0	0.0	0.0
Southern Asia								
Afghanistan (2010–2011)	5.4	6.1	2.3	8.8	6.7	5.2	4.8	2.4
Bangladesh (2014)*	16.3	16.6	15.5	18.0	17.8	14.8	17.1	12.9
Bhutan (2010)	2.3	3.0	1.0	5.1	4.1	3.5	0.6	0.4
India (2005–2006)	8.2	10.4	2.9	16.1	12.8	7.8	3.8	0.8
Maldives (2009)*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nepal (2014)	4.9	5.3	2.8	5.1	5.1	6.4	6.3	1.0
Pakistan (2012–2013)*	1.6	1.6	1.5	3.4	1.3	1.7	1.5	0.1
Sri Lanka (2006–2007)	1.2	u	u	u	u	u	u	u
Southeast Asia								
Cambodia (2014)	1.4	1.4	1.2	1.3	1.8	1.7	0.9	1.4
Indonesia (2012)	1.5	2.4	0.7	3.5	2.4	1.0	0.5	0.4
Laos (2011–2012)	5.4	6.9	1.6	11.3	9.3	3.6	4.3	0.8
Philippines (2013)	1.5	2.2	0.9	3.9	1.4	1.3	1.7	0.1
Thailand (2012–2013)	3.1	u	u	u	u	u	u	u
Timor-Leste (2009–2010)	1.4	1.6	0.6	2.0	2.3	2.0	0.7	0.2
Viet Nam (2013–2014)	0.7	1.0	0.2	3.5	0.1	0.0	0.0	0.0
Western Asia								
Armenia (2010)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Azerbaijan (2006)	0.4	0.5	0.4	1.6	0.1	0.7	0.0	0.0
Georgia (2006)	1.1	2.0	0.4	1.2	1.6	2.5	0.1	0.5
Iraq (2011)	5.5	6.2	5.1	7.2	5.3	6.7	5.0	3.3
Jordan (2012)*	0.5	0.6	0.4	0.3	0.7	0.4	0.7	0.1
Lebanon (2011)	1.1	0.6	1.3	2.5	1.5	1.1	0.0	0.4
Palestine (2014)	0.6	0.4	0.6	1.8	0.6	0.2	0.0	0.0
Syria Arab (2006)	1.8	1.3	2.2	1.1	1.8	1.7	2.5	1.8
Turkey (2008)*	0.9	1.9	0.6	2.1	1.1	1.2	0.0	0.0
Yemen (2013)	3.3	3.6	2.7	4.9	3.8	3.4	2.6	2.2

APPENDIX TABLE 5 (CONTINUED)

Region, subregion and country	Total	Residence		Wealth quintile				
		Rural	Urban	Poorest	Poorer	Middle	Richer	Richest
LATIN AMERICA AND THE CARIBBEAN								
Caribbean								
Barbados (2012)	4.3	5.6	3.6	6.8	1.6	5.3	6.9	2.5
Cuba (2014)	4.1	3.6	4.2	u	u	u	u	u
Dominican Republic (2013)	10.4	9.3	10.8	21.2	14.4	7.1	8.6	2.3
Haiti (2012)	2.5	2.3	2.9	2.3	4.3	2.8	3.0	0.7
Jamaica (2011)	0.2	0.3	0.0	0.4	0.3	0.0	0.0	0.0
Saint Lucia (2012)	1.0	0.7	2.3	3.9	0.0	1.3	0.0	0.0
Trinidad (2006)	0.5	0.0	0.0	2.4	0.0	0.0	0.0	0.0
Central America								
Belize (2011)	1.7	2.8	0.4	2.5	3.4	0.5	0.0	2.3
Costa Rica (2011)	4.3	5.2	3.6	11.5	3.3	1.0	1.4	4.3
El Salvador (2008)	5.5	7.6	3.6	8.8	7.6	6.4	2.8	1.0
Guatemala (2008–2009)	4.8	6.0	3.3	8.8	6.2	4.6	3.1	0.6
Honduras (2011–2012)	8.1	9.9	6.5	13.5	11.9	8.0	5.5	2.9
Mexico (2014)	1.9	2.9	1.6	u	u	u	u	u
Nicaragua (2008)	9.0	13.5	5.5	16.1	12.3	8.7	3.9	1.8
Panama (2013)	4.6	8.0	2.8	9.9	6.0	2.6	3.4	0.0
South America								
Argentina (2011–2012)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bolivia (2008)	2.5	3.5	2.0	5.7	2.1	3.8	1.6	0.7
Brazil (2006)	5.1	9.3	4.2	14.6	6.7	2.1	2.1	0.0
Colombia (2010)	4.0	6.4	3.2	8.5	5.8	3.8	1.1	0.3
Ecuador (2004)	3.3	3.1	3.6	4.8	4.4	4.8	1.5	0.3
Guyana (2014)	5.3	5.2	5.4	8.5	6.7	7.7	2.1	1.4
Paraguay (2008)	1.2	2.0	0.4	4.7	0.3	0.7	1.5	0.0
Peru (2014)	2.0	4.1	1.3	4.9	2.6	1.4	0.8	0.4
Suriname (2010)	3.8	5.7	3.1	10.4	2.9	2.6	2.3	0.8
Uruguay (2012–2013)	1.2	1.0	1.2	6.2	0.2	0.0	0.0	0.0
OCEANIA								
Papua New Guinea (2006)	1.5	u	u	u	u	u	u	u
Samoa (2009)	u	u	u	u	u	u	u	u
Solomon Islands (2006–2007)	2.6	u	u	u	u	u	u	u
Tonga (2012)	0.2	u	u	u	u	u	u	u
Vanuatu (2013)	1.9	u	u	u	u	u	u	u

*Sample consists of ever-married women (those who are currently married, widowed or divorced/separated) only; never-married women were not surveyed. Data have been adjusted to represent all women in the age-group by using household survey data to represent both ever-married and never-married women. This is not the case for Sri Lanka where data are only available from country reports where data have not been adjusted. *Notes:* Data are from the most recent survey available (years denoted parenthetically). u=unavailable. *Sources:* Afghanistan, Algeria, Argentina, Barbados, Belize, Bhutan, Central African Republic, Chad, Costa Rica, Cuba, Djibouti, Georgia, Guinea-Bissau, Guyana, Iraq, Jamaica, Kazakhstan, Kyrgyzstan Republic, Laos, Lebanon, Malawi, Mauritania, Mongolia, Nepal, Palestine, Panama, Saint Lucia, Sao Tome and Principe, South Sudan, Sudan, Suriname, Swaziland, Syria Arab, Trinidad, Tunisia, Turkmenistan, Uruguay, Uzbekistan, Viet Nam and Zimbabwe—Multiple Indicator Cluster Survey. Brazil—Pesquisa Nacional de Demografia e Saúde da Criança e da Mulher. Cape Verde, Equatorial Guinea, Papua New Guinea, South Africa, Sri Lanka, Samoa, Solomon Islands, Thailand, Tonga and Vanuatu—DHS country reports (survey data unavailable). Ecuador, El Salvador, Guatemala, Nicaragua and Paraguay—Centers for Disease Control and Prevention Reproductive Health Survey. Mexico—Encuesta Nacional de la Dinámica Demográfica. All other countries—Demographic and Health Surveys.

APPENDIX TABLE 6

Proportion of 15–19-year-old females experiencing a birth before age 15, by residence and wealth, according to developing region, subregion and country

Region, subregion and country	Total	Residence		Wealth quintile				
		Rural	Urban	Poorest	Poorer	Middle	Richer	Richest
AFRICA								
Eastern Africa								
Burundi (2010)	0.3	0.2	1.2	0.5	0.3	0.4	0.3	0.2
Comoros (2012)	1.0	0.5	2.1	1.3	0.9	1.3	1.4	0.0
Djibouti (2006)	0.2	1.4	0.2	u	u	u	u	u
Eritrea (2002)	1.0	u	u	u	u	u	u	u
Ethiopia (2011)	1.0	1.3	0.2	1.9	1.6	1.2	0.7	0.2
Kenya (2014)	1.4	1.5	1.0	2.3	2.2	1.3	0.9	0.2
Madagascar (2008–2009)	4.4	5.2	0.7	10.6	7.3	3.5	2.7	0.4
Malawi (2013–2014)	1.0	1.1	0.5	1.3	1.6	1.0	0.7	0.6
Mozambique (2011)	3.5	3.7	3.0	4.0	3.4	4.2	5.5	1.0
Rwanda (2014–2015)	0.2	0.1	0.3	0.7	0.0	0.0	0.0	0.2
Somalia (2006)	u	u	u	u	u	u	u	u
South Sudan (2010)	3.5	3.5	3.7	3.0	4.7	2.9	5.1	2.5
Tanzania (2010)	1.0	0.9	1.3	1.8	0.6	0.8	0.4	1.5
Uganda (2011)	1.7	1.5	2.7	2.2	2.7	1.0	0.9	2.0
Zambia (2013–2014)	1.1	1.4	0.9	1.7	1.7	1.2	1.0	0.6
Zimbabwe (2014)	0.6	0.6	0.5	0.6	0.7	0.9	0.2	0.5
Middle Africa								
Cameroon (2011)	3.4	5.0	2.0	8.9	5.0	2.4	1.7	1.4
Central African Republic (2010)	7.8	9.2	6.1	9.1	10.6	9.9	5.0	5.7
Chad (2014–2015)	5.3	6.1	3.1	7.3	8.5	4.2	5.0	2.8
Congo (2011–2012)	2.7	4.9	1.8	5.6	4.6	2.4	1.2	0.8
Dem. Republic of Congo (2013–2014)	2.9	3.8	1.7	6.3	3.5	2.9	1.9	1.3
Equatorial Guinea (2011)	5.5	u	u	u	u	u	u	u
Gabon (2012)	3.1	6.5	2.7	7.5	3.2	2.3	2.2	1.8
Sao Tome and Principe (2014)	0.7	0.9	0.5	2.8	1.1	0.0	0.0	0.0
Northern Africa								
Algeria (2012–2013)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Egypt (2014)*	0.3	0.4	0.1	0.4	0.3	0.2	0.4	0.0
Morocco (2003–2004)	0.2	0.3	0.1	0.6	0.0	0.3	0.0	0.0
Sudan (2014)	1.4	1.6	1.0	1.5	2.2	2.4	0.3	0.7
Tunisia (2011–2012)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Southern Africa								
Lesotho (2014)	0.3	0.0	1.1	0.0	0.0	0.0	1.2	0.3
Namibia (2013)	0.9	1.0	0.7	1.4	0.5	1.7	0.3	0.6
South Africa (2003)	0.9	u	u	u	u	u	u	u
Swaziland (2010)	0.6	0.7	0.3	1.1	0.0	0.4	0.8	0.8
Western Africa								
Benin (2011–2012)	1.8	2.7	0.9	4.3	2.4	2.1	1.4	0.4
Burkina Faso (2010)	0.8	1.0	0.3	2.5	0.9	0.5	0.3	0.2
Cape Verde (2005)	0.8	u	u	u	u	u	u	u
Côte d'Ivoire (2011–2012)	3.8	6.5	2.0	7.0	7.5	4.0	3.4	0.8
Gambia (2013)	1.8	2.4	1.2	1.6	1.5	4.1	1.1	0.6
Ghana (2014)	0.5	0.7	0.3	0.6	0.9	1.0	0.0	0.0
Guinea (2012)	5.5	8.1	2.0	8.5	8.6	8.1	4.2	1.1
Guinea-Bissau (2006)	4.3	5.5	3.1	4.7	5.2	6.4	3.9	2.8
Liberia (2013)	2.5	2.8	2.3	4.0	5.1	2.4	2.0	1.2
Mali (2012–2013)	8.1	10.0	3.9	9.0	10.6	13.3	8.0	3.6
Mauritania (2011)	4.1	5.3	2.6	8.7	5.5	3.7	2.4	1.3
Niger (2012)	4.9	6.1	0.9	8.0	6.2	5.8	4.7	1.7
Nigeria (2013)	2.4	3.5	1.0	5.4	3.2	2.4	1.2	0.5
Senegal (2014)	0.8	1.5	0.1	1.7	1.0	0.9	0.4	0.0
Sierra Leone (2013)	3.7	4.7	2.3	6.2	6.7	3.8	2.2	1.7
Togo (2013–2014)	1.3	1.4	1.1	1.5	1.9	1.1	2.1	0.2

APPENDIX TABLE 6 (CONTINUED)

Region, subregion and country	Total	Residence		Wealth quintile				
		Rural	Urban	Poorest	Poorer	Middle	Richer	Richest
ASIA								
Eastern Asia								
Mongolia (2013–2014)	0.0	0.2	0.0	0.3	0.0	0.0	0.0	0.0
Central Asia								
Kazakhstan (2010–2011)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Kyrgyzstan Republic (2014)	0.1	0.1	0.0	0.0	0.0	0.3	0.0	0.0
Tajikistan (2012)	0.1	0.1	0.0	0.0	0.3	0.0	0.0	0.0
Turkmenistan (2006)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Uzbekistan (2006)	0.1	0.0	0.2	0.0	0.2	0.0	0.0	0.0
Southern Asia								
Afghanistan (2010–2011)	1.6	1.9	0.2	3.7	1.7	1.6	1.1	0.4
Bangladesh (2014)*	4.4	4.7	3.6	6.0	5.9	4.1	3.8	1.6
Bhutan (2010)	0.5	0.7	0.2	1.6	0.1	1.5	0.0	0.0
India (2005–2006)	1.2	1.4	0.5	2.6	1.5	1.2	0.6	0.1
Maldives (2009)*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nepal (2014)	0.5	0.6	0.4	0.6	0.2	1.2	0.4	0.3
Pakistan (2012–2013)*	0.1	0.1	0.3	0.2	0.2	0.0	0.2	0.0
Sri Lanka (2006–2007)	0.1	u	u	u	u	u	u	u
Southeast Asia								
Cambodia (2014)	0.2	0.2	0.1	0.3	0.6	0.0	0.1	0.0
Indonesia (2012)	0.3	0.4	0.2	0.9	0.3	0.0	0.0	0.3
Laos (2011–2012)	1.2	1.5	0.4	3.7	1.8	1.2	0.0	0.0
Philippines (2013)	0.4	0.6	0.3	1.2	0.3	0.4	0.2	0.1
Thailand (2012–2013)	0.3	0.4	0.2	0.1	0.9	0.3	0.2	0.0
Timor-Leste (2009–2010)	0.4	0.5	0.1	0.5	0.5	1.0	0.0	0.0
Viet Nam (2013–2014)	0.2	0.3	0.0	0.9	0.0	0.0	0.0	0.0
Western Asia								
Armenia (2010)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Azerbaijan (2006)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Georgia (2006)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Iraq (2011)	0.9	1.1	0.9	1.3	0.9	1.5	0.7	0.3
Jordan (2012)§	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
Lebanon (2011)	0.2	0.0	0.3	0.5	0.5	0.0	0.0	0.0
Palestine (2014)	2.0	1.2	2.2	4.0	2.0	1.0	1.9	0.9
Syria Arab (2006)	0.4	0.3	0.4	0.5	0.2	0.5	0.4	0.3
Turkey (2008)*	0.1	0.5	0.0	0.7	0.0	0.0	0.0	0.0
Yemen (2013)	0.7	0.8	0.5	1.1	0.7	0.8	0.2	0.8

APPENDIX TABLE 6 (CONTINUED)

Region, subregion and country	Total	Residence		Wealth quintile				
		Rural	Urban	Poorest	Poorer	Middle	Richer	Richest
LATIN AMERICA AND THE CARIBBEAN								
Caribbean								
Barbados (2012)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cuba (2014)	0.2	0.6	0.1	u	u	u	u	u
Dominican Republic (2013)	1.6	1.7	1.6	4.5	1.9	0.4	1.1	0.7
Haiti (2012)	0.8	1.0	0.5	0.7	1.3	0.9	0.9	0.2
Jamaica (2011)	0.3	0.3	0.2	0.0	0.9	0.0	0.2	0.0
Saint Lucia (2012)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Trinidad (2006)	0.5	u	u	1.7	0.0	0.6	0.0	0.0
Central America								
Belize (2011)	0.6	0.9	0.2	1.0	2.2	0.0	0.0	0.0
Costa Rica (2011)	u	u	u	u	u	u	u	u
El Salvador (2008)	2.5	2.9	2.1	4.2	2.9	1.5	2.6	0.9
Guatemala (2008–2009)	1.6	2.0	1.1	2.2	2.6	1.9	0.8	0.2
Honduras (2011–2012)	1.9	2.6	1.2	4.0	3.2	1.5	1.1	0.1
Mexico (2014)	1.0	1.5	0.8	u	u	u	u	u
Nicaragua (2008)	2.5	3.7	1.5	4.4	3.0	2.4	2.0	0.0
Panama (2013)	u	u	u	u	u	u	u	u
South America								
Argentina (2011–2012)	0.7	0.0	0.7	2.0	0.6	0.2	0.3	0.0
Bolivia (2008)	1.4	2.5	0.8	3.3	2.5	1.6	0.1	0.3
Brazil (2006)	1.0	2.1	0.7	3.0	0.6	0.4	1.0	0.0
Colombia (2010)	1.8	2.5	1.5	3.1	2.9	1.6	0.9	0.3
Ecuador (2004)	2.1	1.3	2.7	3.2	3.2	1.4	1.7	0.5
Guyana (2014)	0.3	0.4	0.0	0.9	0.3	0.0	0.0	0.2
Paraguay (2008)	0.3	0.6	0.1	1.7	0.1	0.3	0.3	0.0
Peru (2014)	0.6	1.2	0.4	1.5	0.7	0.2	0.4	0.4
Suriname (2010)	u	u	u	u	u	u	u	u
Uruguay (2012–2013)	u	u	u	u	u	u	u	u
OCEANIA								
Papua New Guinea (2006)	1.1	u	u	u	u	u	u	u
Samoa (2009)	0.0	u	u	u	u	u	u	u
Solomon Islands (2006–2007)	2.4	u	u	u	u	u	u	u
Tonga (2012)	0.0	u	u	u	u	u	u	u
Vanuatu (2013)	1.2	u	u	u	u	u	u	u

*Sample consists of ever-married women (those who are currently married, widowed or divorced/separated) only; never-married women were not surveyed. Data have been adjusted to represent all women in the age-group by using household survey data to represent both ever-married and never-married women. This is not the case for Sri Lanka where data are only available from country reports where data have not been adjusted. *Notes:* Data are from the most recent survey available (years denoted parenthetically). u=unavailable. *Sources:* Afghanistan, Algeria, Argentina, Barbados, Belize, Bhutan, Central African Republic, Chad, Costa Rica, Cuba, Djibouti, Georgia, Guinea-Bissau, Guyana, Iraq, Jamaica, Kazakhstan, Kyrgyzstan Republic, Laos, Lebanon, Malawi, Mauritania, Mongolia, Nepal, Palestine, Panama, Saint Lucia, Sao Tome and Principe, South Sudan, Sudan, Suriname, Swaziland, Syria Arab, Trinidad, Tunisia, Turkmenistan, Uruguay, Uzbekistan, Viet Nam and Zimbabwe—Multiple Indicator Cluster Survey. Brazil—Pesquisa Nacional de Demografia e Saúde da Criança e da Mulher. Cape Verde, Equatorial Guinea, Papua New Guinea, South Africa, Sri Lanka, Samoa, Solomon Islands, Thailand, Tonga and Vanuatu—DHS country reports (survey data unavailable). Ecuador, El Salvador, Guatemala, Nicaragua and Paraguay—Centers for Disease Control and Prevention Reproductive Health Survey. Mexico—Encuesta Nacional de la Dinámica Demográfica. All other countries—Demographic and Health Surveys.



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