Andrew L. Cherry · Mary E. Dillon
Editors

International Handbook of Adolescent Pregnancy

Medical, Psychosocial, and Public Health Responses

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Preface

This volume is a result of the certainty that we can learn from each other. Especially, there is a great deal to be learned by studying the way people from different cultures and from different countries respond to a socially defined individual behavior, such as adolescent pregnancy. This volume provides a multitude of views on adolescent pregnancy that can help our thinking move from the oversimplified *constructs* based on our own cultural perspective to a construct that is built upon a foundation of biological science (e.g., a knowledge of child development, and sexual and reproductive development), issues common to all adolescents, particularly girls. These differences between the way people from various countries respond to adolescent pregnancy, as will be observed in these chapters, is the result of religious and cultural beliefs specific to individual groups and individual countries.

In the early years of the twenty-first century, the number of adolescent girls worldwide passed a population milestone of 500 million. Among these adolescent girls, about 16 million a year start their family as a teen mom, accounting for 11 % of births globally. The children born to adolescent girls, however, are not distributed equally from country to country. Some 95 % of these children, born to adolescent girls, are born in the developing, least developed countries, and the United States. Consequently, inadequate pre and postnatal care in these countries and communities makes pregnancy and childbearing the leading cause of death and disability among adolescent girls and their children (UNICEF 2012).

This reality about the number of adolescent pregnancies and childbirth for some is an alarming turn of events and a serious threat to the social and economic order. For others, this observation shows a failure of families to provide adequate sexual information and a failure of governments to protect the inalienable rights of adolescents, particularity the inalienable rights of girls. For those who see adolescent sexuality as a problem, particularly when it is reframed as a problem of morality, the focus is on stopping adolescent sexual behavior and thus stopping adolescent pregnancies and abortions. For those who view adolescent sexual behavior as a normal part of adolescent development, the focus is on sexuality education, the preventing of unintended pregnancy, and the delay of pregnancy. From this perspective, adolescent

sexual and reproductive health programming is designed to empower girls and boys to act responsibly and thoughtfully if they do choose to engage in sexual behavior. Sexual and reproductive services would include accurate information on contraception and emergency contraception, and the abundant availability of condoms for both boys and girls. What will become apparent in these chapters is that in most countries adolescent mothers and their children will face challenges that may limit their educational achievements, impede occupational success, and it will increase their chances of living in poverty. It will also become apparent that the rates of adolescent pregnancy vary across countries from being almost non-existent, to rates as high as 100 births to adolescent mothers per 1,000 live births. Based on these variations, the philosophies, policy, and programs can be compared in terms of the rate of adolescent pregnancy and childbearing.

This volume was compiled and written by a team of international scholars. These researchers and practitioners provide original chapters that critically examine country-specific perspectives and programming related to adolescent pregnancy in its historical, religious, and cultural contexts. Demographics on adolescent pregnancy and childbearing will be used to help describe medical, social, and legal issues. These chapters will also report on programs providing sex education, birth control, maternal and childcare health provisions, and public policies that are intended to address concerns about adolescent pregnancy.

In this volume, the first eight chapters address the major issues associated with adolescent pregnancy. The chapter, "An International Perspective on Adolescent Pregnancy" provides an overview of issues related to international adolescent pregnancy. The next seven chapters present issues and context, which are not country specific but impact adolescents to a serious degree in many countries. These chapters include biological, sexual and reproductive health, and mental health issues. They also cover adolescent fathers, LGBTQ adolescent mothers and fathers, and issues associated with adolescent pregnancy as a feminist issue and the effect of viewing adolescent pregnancy as a social problem.

The remaining 31 chapters are country specific. These countries are in different regions of the world: *North America*: United States, Canada; *Central and South America*: Argentina, Chile, Colombia, Costa Rico, Mexico, Nicaragua; *Europe*: France, Germany, Ireland, Netherland, Portugal, United Kingdom, Spain, Sweden, Switzerland; *Central and Eastern Europe*: Russia, Eastern Europe; *Africa*: Indonesia, Nigeria, South Africa, Uganda; *Middle East*: Iraqi, Turkey; *Asia and Pacific*: Australia, India, Japan, Philippines, South Africa, and Vietnam. Taken as a whole, this volume provides a wide-ranging source of information about different and similar issues related to international and country-specific adolescent pregnancy and childbearing.

Finally, both content and style of writing vary among the authors of these chapters. These variations reflect the differences in the authors' style and perspective on adolescent pregnancy. Since these differences in

stylistic approaches among the authors may be useful to the reader, they were retained in their original context, as much as possible.

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An International Perspective on Adolescent Pregnancy

Mary E. Dillon and Andrew L. Cherry

Keywords

Adolescent pregnancy · Contraception · Maternal and child mortality · Moral regulation · Sexual behavior · Sexual and reproductive health · Sexual education · Sexual initiation · Unintended pregnancies · Unsafe abortion

> The conceptions of life and the world, which we call "philosophical" are a product of two factors: one, inherited religious and ethical concepts; the other, the sort of investigation which may be called "scientific." One of the few unifying forces is scientific truthfulness, by which I mean the habit of basing our beliefs upon observations and inferences as impersonal, and as much divested of local and temperamental bias, as is possible for human beings.
>
> (Bertrand Russell, A History of Western Philosophy, 1954, pp. xiii, 836)

Introduction

The purpose of the introductory chapter is to provide an overview of adolescent pregnancy from an international perspective. It is an overview of the response by different countries from around the world to adolescent pregnancy. The methodology used to develop this international perspective started with a survey of the literature that defines the salient issues being studied and addressed by policy-makers, providers, practitioners, and researchers. Then, using scientific studies of adolescent pregnancy conducted in different countries in different regions of the world, responses and outcomes are compared. Based on this process, what becomes evident when examining adolescent pregnancy at the international level is that in the broadest of terms (the biological perspective), girls experience pregnancy and childbirth in much the same way. At the psychosocial level, girls experience pregnancy and childbirth in very different ways.

We use the World Health Organization (WHO) definition of *adolescence* as an age range between 10 and 19 years. We also use the United Nations' categories for the countries that these girls live in. The categories are *developed*, *developing*, and *least developed* countries (See Appendix A for a list of countries identified by the United Nations as *developed, developing*, and *least developed* countries). These national variations in the medical, psychosocial, and public health response to adolescent pregnancy can hopefully educate us and give us a better understanding of the complexities of adolescent pregnancy from a worldview.

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This overview will also highlight issues related to adolescent pregnancy that are important for a comprehensive understanding of why and how the response and concerns vary from country to country and region to region. What will become evident is that issues, which are a major concern in one country, may not be relevant in another. For instance, child marriage and early adolescent childbirth is not a major concern in countries where religion, tradition, and culture support child marriage even when it may be illegal under the constitutional laws of a particular country. As is true in many countries where tradition has a strong influence on family and marriage, girls as young as 13 may be wed. In these countries, the physical and psychosocial development of the girl who marries when they are very young is an issue for policy-makers, medical staff, and health professionals who provide services to adolescents. In these countries, adolescent girls and young women typically lack adequate control over their reproductive decisions. If the teen mother is expected to lower her health burden, she must be educated about the health and psychosocial implication of teen pregnancy and empowered by the state to protect herself and her child's well-being. Having a basic understanding of the primary issues and problems associated with adolescent pregnancy in the context of different countries will provide a background for determining the effectiveness of sexual education, required medical services, support services, and programming that may improve an adolescent's sexual and reproductive health.

Grouping countries by their stage of economic development also has many advantages in a study of adolescent pregnancy and childbirth. For one, some 70 % of teen births around the world are among girl's living in developing countries (UNICEF 2012a). For another, organizing data using standard definitions allow for comparison between studies and replication of studies.

Using this schema, differences in countries categorized among the *least developed countries* may be for trained attendants during delivery and adequate medically based health care. In all countries, adequate health care is associated with better survival rates for mothers and their babies and with fewer complications before, during, and after pregnancy. This is especially needed in countries where early childbirth often results in fistulae and other injuries.

In *developing countries* where health care is more available than in most *least developed* countries, the situation may be quite different. The focus may be on some aspects of providing *adequate* medical and social services to reduce adolescent maternal and child risks. In these countries, the major challenges being addressed are often the ability of the country's public health sector to provide adequate and effective contraception, prenatal and postnatal care, and well-baby programs.

In *developed countries*, issues related to adolescent pregnancy are not typically about limited resources to meet the national challenge of adolescent pregnancy. The debate centers on what sexual and reproductive health services can be provided to adolescents without encouraging higher rates of teen pregnancy. This conundrum over what services will prevent or more realistically reduce adolescent pregnancy is less about effectiveness of specific services and more about being a *hot-button* political and conservative religious issue. In some developed countries, questions about public sexual education and the degree to which contraception should be available to adolescents can quickly turn into a raging debate over how young is too young for a child to begin to receive sexual education and contraception. Furthermore, efforts to appease a public perception that sexual education will increase adolescent sexual experimentation, pregnancy, and childbirth have all but paralyzed the public policy debate in countries such as the United States and the United Kingdom. Corollary issues and emotional debates related to adolescent pregnancy can make it extremely difficult for helping professionals to provide empirically based, pragmatic adolescent sexual and reproductive health services.

The Greatest Risks of Adolescent Pregnancy

The greatest risk for an adolescent mother and her child is the *mother's age*, *delaying or failing to receive prenatal care,* and *the social and political response* to her pregnancy. These are critical issues in all countries, even in developed countries. Albeit, the reasons differ across countries as to why an adolescent was too young at her first birth and why she did not receive prenatal care; the negative birth outcomes are similar. In developed countries such as the United States, when pregnant teens are not using prenatal care, the reasons are *not* related to the lack of available prenatal services; the reasons are more associated with the adolescent's lack of knowledge, and the humiliation girls must deal with before receiving prenatal care. The numbers in the United States are astonishing. Some 85 % of US teen pregnancies are unplanned, and 72 % receive no prenatal care at all (Holgate 2012). This is an irrefutable crisis among US teen moms and their children; a crisis that everyone acknowledges and agrees is a crisis. A crisis that everyone agrees requires a public response. There is also concurrence that the medical costs related to mothers who do not receive prenatal care far exceed the cost of providing prenatal care. Given this level of endorsement, the question is why do so few pregnant teens receive prenatal care? It is not that professionals lack the technology and programming that restrict the level of teen use of prenatal care. There are a number of good options available to increase the use of prenatal care among adolescents. A widespread and visible public campaign in and out of the schools that informs adolescents about the importance of prenatal care to the mother's health and the health of their child would increase utilization. Employing the social media in a public campaign could significantly increase teen use of prenatal care. Knowing that it is possible to increase utilization, the question is why are there no public campaigns to increase use in the United States?

The answer is that teen pregnancy in the United States is framed as a moral issue rather than a medical issue. When teen pregnancy is framed and thought of as a moral issue, public campaigns encouraging teens to start prenatal care early in their pregnancy have the perceived downside of sending an implicit message that US society approves of teen sexual behavior and teen pregnancy. As a moral issue, providing prenatal care is unacceptable despite the collateral damage. The only acceptable programs related to teen pregnancy are those that reduce teen sexuality. If suppression programs were successful, it is true that the total number of girls that need prenatal care would be reduced, but it would not necessarily reduce the percentage of girls who do not receive prenatal care. The unnecessary human toll from a lack of prenatal care would continue.

As logical and cost-effective as these types of *least harm* strategies are, suggesting such programs in countries such as the United States can be wrought with public anxiety and resistance. What is often lost in the discourse is the history of how teen pregnancy has evolved and changed and continues to evolve. A history of adolescent pregnancy that informs and helps explain some of the public and political barriers to scientifically based programming and services is presented below (Catalano et al. 2012).

Brief History of Adolescent Pregnancy

During the earlier 1950s, the problem of teenage pregnancy in the United States became one of the few social issues that virtually everyone could agree on. For all intent and purpose, unwed teenage pregnancy became a symbol of the deteriorating state of national morality. In failed efforts to curb the acknowledged problem, over the years, adolescent pregnancy has been treated as a juvenile justice problem (1920s through the 1950s), as a psychological problem, and as being an epidemic (in the 1980s) that was allegedly on pace to destroy family and the morality of the people of the United States.

The perception of deteriorating moral standards has fueled a public outcry over the number of pregnant unwed teenagers, unwed teen births, and teen abortions. Religious leaders and conservative groups claimed that teenage pregnancy was more than just an individual transgression; teenage pregnancy was also a threat to the very existence of the greater society. Using rhetoric that associated teen pregnancy with a national crisis of morality, it was easy for claims-makers to sway the public. Defined as one more example of the breakdown in the moral fiber of the country, unwed teenage pregnancy became, in the view of the public, a serious problem that required aggressive intervention and effective prevention.

These assumptions about adolescent sexual behavior, however, were based on a construct of motherhood that was designed to serve conservative political and religious purposes rather than to improve the sexual and reproductive health services to adolescent girls of childbearing age (Phoenix and Woollett 1991). Moreover, the scientific literature reveals that adolescent pregnancy is a social construct of reality that describes pregnancy as a problem for the adolescent mother, her child(ren), and the state as the governing political and economic body (Breheny and Stephens 2007).

Historically, when a natural human behavior that may be problematic, such as adolescent pregnancy, is defined as an individual moral transgression that inflicts harm upon the society at large, it can be difficult to implement effective policy and programming to reduce the behavior. This, in part, explains why so many countries have unacceptably high rates of adolescent pregnancy, childbearing, and mortality. As briefly described above, using a failed model based on a vague moral standard to deliver prevention services typically results in ineffective adolescent sexual and reproductive health services, support, and restrictions on the availability of contraception services. Even in light of a decades-long decline in adolescent pregnancy worldwide, much of the professional literature and almost all of the religious and political rhetoric continue to define adolescent pregnancy as a behavioral problem. As will be shown, this is a failed approach that will not serve society or the individual in the twenty-first century.

Consequently, when an assessment of the magnitude and effect of adolescent pregnancy on the individual and community is based on the assumption that unwed sexual behavior is a moral transgression (especially among adolescents), it is impossible to identify and develop programming to improve the sexual and reproductive health of adolescent girls, boys, and women of childbearing age. Among many examples, adolescents in the United States are at a high risk for sexually transmitted infections (STIs)—including HIV and AIDS—and other sexually related problems, in large part, because national sexual education policy does not require pragmatic and accurate sexual education be taught in the schools (Cherry et al. 2009).

Not surprisingly, based on the level of risk, US adolescents have some of the highest rates of STIs, pregnancy, childbirth, and abortion among all developed and many developing nations. For instance, well known for decades, untreated STIs can lead to serious long-term health consequences. In the United States, the Center for Disease Control (CDC) estimates that undiagnosed and untreated STIs cause at least 24,000 women each year to become infertile (CDC 2008). By 2010, the CDC reported that young people in the United States between 15 and 24 years of age, who made up only 25 % of the sexually experienced population, account for nearly 50 % or 10 million new STI cases yearly. The CDC also reported that 40 % of adolescent girls who admit having sex also reported having had a sexually transmitted disease. Most adolescent health experts point out that these numbers could be effectively decreased with better sexual education in the schools. As it stands, the CDC reported in 2012 that about half of all new HIV infections in the United States occurred among teenagers (Neergaard 2012).

As adolescent pregnancy began to decline in the 1990s, the narrative changed and became a debate over using a liberal or conservative model to prevent teenage pregnancy. Cordial and sincere at first, the tone of the debate began

to change when the scientific evidence mounted in favor of *least harm* approaches (least harm models are considered liberal programs by many conservatives). In defense of traditional morality, teen pregnancy was again reframed and in the twenty-first century has evolved into another proxy in the cultural wars.

Moral Regulation and Adolescent Pregnancy

One of the mechanisms that contribute to the variation in international adolescent pregnancy rates is social policy that promotes an ideology of moral regulations. Using these types of social policy, conservative politicians and policymakers hope that moral regulation can influence adolescent choices regarding sexual behavior, childbirth, and abortion. Within conservative groups, the assumption (although not often articulated as such) is that the state can be the instrument to create a moral citizenry using *social steering* (Cunningham-Burley and Jamieson 2004). Too often however, in the case of adolescents, the consequences of moral regulation are an increase in unintended adolescent pregnancies and abortions. This is supported by the differences in adolescent pregnancy, childbirth, and abortion rates in the developed countries. The United States and the United Kingdom have the highest adolescent pregnancy rates among all developed countries. Compared to other developed nations such as Sweden, Germany, and Canada, the United States and the United Kingdom have adolescent pregnancy and abortion rates that are more in line with developing countries than other developed countries.

Social steering, the mechanism described here, can be formulated from any ideology, liberal or conservative. It can be loosely defined as, "action through which a social actor or social system is moved from one position to another by the intentional decisions of a political authority" (Cunningham-Burley and Jamieson 2004). Primarily used to explain the intervention of a welfare state, social steering is the mechanism that is employed with all political or economic ideological doctrine to cause change or support public norms and beliefs. Typically, when a specific ideology is being promoted by social steering, it is based on a set of assumptions benefiting one group or class of people (most often a dominant group) over all people within their community. The purpose of social steering is to influence social and family life in one direction or the other. The concern about the use of social steering to promote a specific ideology is often called *life politics.* In the case of adolescent pregnancy, the concern is over the impact of private decisions made by adolescent girls (i.e., decisions related to sexuality, moral behavior, and social and family obligations) on the greater public good.

The belief system that provides the moral foundation and direction, which differs from nation to nation, typically has its roots in the state religion or de facto state religion. These religious dogmas have both a direct and an indirect effect on the lives and sexual developmental experience of adolescents.

Religiosity and Adolescent Pregnancy

Religiosity, which has been proposed as instrumental in delaying adolescents initiating sexual intercourse, has been found to be negatively associated with contraceptive use (Kirby 2007). In one study of sexually active adolescents from the United States, greater family religiosity was associated with lower contraceptive consistency and unrelated to the number of sexual partners (Manlove et al. 2008). Similarly, in other international studies, girls from high moral traditionalism were associated with a lower likelihood of using condoms at first sex (Štulhofer et al. 2007). A lack of accurate or blunt sexual education around safer sexual practices among preadolescents and adolescents from decidedly religious families is an important contributing factor to unsafe sexual behavior.

Although the debate endures, constructive change has been slow. Under the prevailing patriarchal dominated social system, policies that attempt to control the sexual and reproductive

activity of girls and young women are still viewed as promoting the best interest of the social order and the state (Stephens 2003). In this context, adolescent sexuality will continue to be one of the most important health issues that challenge society and the helping professionals in the twenty-first century. Parenthetically, this unnecessary health burden created and levied on adolescents and their children comes full circle in that everyone in society pays. Making decisions about the types and quantity of care and who receives services based on a moral model that enforces, sanctions, and punishes those who break the rules (an approach to adolescent sexuality that has prevailed for better than a century in the United States) has been tried and does not reduce risk associated with adolescent pregnancy. This seems especially true with using deterrent models that criminalize sexual behavior. In China, an extreme case, draconian laws forbidding more than one child per family may have been effective in slowing population growth, but the laws criminalize women who tried to have a second child. Perhaps not as well documented, this is not an isolated example of punishing pregnancy. Girls in most countries who become pregnant are treated like juvenile delinquents or criminals. In the first half of the twentieth century, adolescent girls in the United States who became pregnant out of wedlock were often sent to reform school until they were 21 years of age. In Europe, girls who became pregnant after being raped and then refusing to marry the rapist could be sent to reform school until the age of legal adulthood. Given this historical background and the reality that it is unrealistic to prevent a biological imperative like teen sexual behavior, models incorporating a *least harm* approach seem to be a logical option, if, in fact, the goal of the intervention is to reduce harm associated with adolescent pregnancy.

Complexity of Adolescent Pregnancy

Based on a scientific health construct, teenage girls participating in sexual behavior could not be diagnosed as having a psychiatric disorder or psychological problem. Instead, based on a scientific paradigm, teenage sexual behavior is viewed as a natural, albeit a complex phenomenon that is many faceted and exists within a prevailing culture.

Culture can be understood as a social structure (specific to a likeminded group of people) composed of survival strategies, religious decrees, traditions, customs, rituals, and human nature. Culture continues to evolve as process that manipulates and controls human nature. Culture sets roles, customs, and limits for individuals and groups. One of the major forces that shape a culture's response to adolescent pregnancy is related to age-old conventions related to property rights. In most cultures, women and children were viewed as chattel, as a man's property.

Although the physical and mental stages of development are the same, the pathways to a sexual union differ, expectations for boys and girls differ, and the reaction and response from adults differ. Internationally, these characteristics can be organized into a set of typologies related to the different aspects of adolescent sexuality and pregnancy. Using a formulation of significant characteristics related to adolescent pregnancy, and the tendency of these characteristics to cluster within given countries and regions, specific clusters can be used to define common types. In this case, these typologies represent different adolescent health nexuses of national tradition, religion, and political dominance.

These typologies (or similar national responses) are important to social scientists because they are categorically different. As a rule, studying unique differences in response to a comparable stimulus, or a perceived problem, increases our understanding of the response and the context in which the stimulus occurs. Helping professionals—and the public—need to know that we have learned a great deal from these comparisons and studies about adolescent sexuality and pregnancy since the 1950s, when the primary concern was over "unwed" adolescent mothers not the pregnancy per se or, for that matter, adolescent sexual and reproductive health (Cherry et al. 2001). Particularly in the early 1990s, when moral constructs could not

explain the significant global decline in adolescent pregnancy, parochial assumptions about the cause of teen pregnancy finally began to give way to scientific theory.

Nonetheless, many in the helping professionals, who grew up during a period when terms such as *adolescent pregnancy*, *teenage pregnancy*, and *teen moms* were commonplace, do not realize that these terms were not used in the United States or other countries until the late 1960s and early 1970s (Vinovskis 1988, 1992). Furthermore, these professionals, during their university training, were not prepared to work in a global environment where 50 % of people in the world are under 25 years of age, where there are one billion adolescents 10–19 years of age, and where 70 % live in developing and the least developed countries (Hindin et al. 2009). It is a world where 82 million girls (70,000 a day) between 10 and 17 years of age marry before they reach their 18th birthday (UNFPA 2003). It is a world in which 16 million girls between the ages of 15 and 19 become pregnant each year accounting for 11 % of global births. It is a world in which 95 % of all children born to adolescent girls are born in the developing and least developed countries. Consequently, inadequate prenatal care and postnatal care in these countries and communities make pregnancy and childbearing the leading cause of death and disability among adolescent girls and their children (UNICEF 2012b).

In contrast and as another example of the complexity of adolescent sexuality in the United States, prenatal care and postnatal care are available to all girls despite the ability to pay. Nevertheless, girls in the United States living in economically struggling families and communities (like girls living in relative poverty almost everywhere in the world) have the highest rates of pregnancy, childbirth, and fertility in the United States.

The complexity and simplicity of adolescent sexual behavior, pregnancy, and childbearing became more understandable when the increase in adolescent pregnancy in the 1970s was followed by a decrease in international adolescent pregnancy that occurred between the late 1970s and the 1990s. This astonishing rise and fall of teen pregnancy rates caught everyone, both professionals and the public, off guard and with no explanation. The complexity was revealed by the breath of the variations in the problems and negative outcomes associated with adolescent sexuality. The simplicity was in the biological mechanisms associated with adolescent pregnancy. These biological mechanisms are global and cut across nations, races, economics, social status, and moral convictions. These are the physical complications related to the girl's age and level of maturity when she becomes pregnant and tries to carry the birth to full term. The younger the girl is when she becomes pregnant, the greater the likelihood that she will experience complications during her pregnancy and delivery (WHO 2008). When the biological complications are removed from the amalgam or list of adolescent pregnancy and childbearing problems, the remaining attendant problems are caused by social mechanisms. Examining the social context in which girls become pregnant, that is the differential influence of poverty, tradition, culture, religion, and the political agenda on adolescent fertility, results in underscoring many of the grave social consequences of these differential influences.

The question then is what combination or combinations of tradition, culture, religion, and the political environment explain why half of all adolescent births occur in just seven countries: Bangladesh, Brazil, the Democratic Republic of the Congo, Ethiopia, India, Nigeria, and the United States (Population Division 2009)? Before examining adolescent pregnancy in different countries, a global survey describing adolescent pregnancy and related issues will help put the various national responses in perspective.

Global Statistics on Adolescent Sexual Behavior

The universal concern over adolescent pregnancy and childbirth is warranted not because of moral issues but because of the need for sexual

and reproductive health services required to meet the educational and health needs of adolescents (almost 20 % of the world's population). In 2012, the world population reached seven billion people. Of that number, over three billion people were younger than 25 years of age. Adolescents (10–19 years of age) accounted for about 18 % (1.2 billion) of the world's population. That makes this the largest generation of young people to ever populate the earth. Moreover, the effect of this younger generation is global. Even so, the influence adolescents are able to exercise in a given country fluctuates, in part, because the percentages of adolescents vary from country to country. The percentage of the youth population by country runs from a low of 9 % in Spain to a high of 25 % in Uganda. In the United States, adolescents make up about 14 % of the population.

The level of attention paid to young people and their development is important, since, in this generation of young people, one of the most important preventable risks for a girl will continue to be related to her sexuality. Furthermore, adolescent pregnancy and childbearing will be a serious health threat in countries, for example, such as the United States, where teen pregnancy is considered a social problem, where there is a tradition of child marriage, for instance in Nicaragua (22 % married or in unions) and Nigeria (29 % married or in unions), and in the developing and least developed countries where intergenerational poverty persists (ICRW 2012; UNICEF 2011, 2012b).

Globally, in 2012, there were over 260 million girls 15–19 years of age. They accounted for about 11 % of all births worldwide (over 16 million births). These birthrates, however, varied from a low of 4 per 1,000 adolescents in Europe and 36 per 1,000 adolescents in Asia, to a high of 108 per 1,000 adolescents in Africa. What is even more revealing is almost 90 % of adolescent births in the world occur in the *least developed* and *developing* countries. Based on these findings and despite the decline in the overall adolescent birthrate worldwide, childbearing among adolescents is still considered to be too high, especially in some countries in sub-Saharan Africa, Latin America, and the Caribbean.

Adolescent Pregnancy by the Numbers

The statistical picture that follows was developed from the best and most recent statistics available in 2012.

- The number of adolescents who give birth by country can be tremendous. In brief, only about 2 % of adolescents give birth in China, while 18 % of births in Latin America and the Caribbean were to adolescent mothers. In sub-Saharan Africa, adolescents make up 50 % of mothers who give birth.
- Globally, girls aged 15–19 from the lowest socioeconomic groups are three times more likely than their economically better-off peers to give birth in adolescence and have twice as many children.
- Among the 260 million girls aged 15–19, in 2012, some 11 % (30 million) lacked access to effective contraceptive protection.
- Of the 30 million girls who could not access contraception, at least 16 million were married and wanted to delay pregnancy and childbirth; some 10 million were unmarried and sexually active; 3 million were both married and unmarried, who use traditional methods.
- The average adolescent birthrate in *developing* countries was more than twice as high as that in *developed* countries, with the rate in *least develope*d countries being five times as high as in *developed* countries.

Pregnancy Among Very Young Adolescents is a Significant Problem

- In low- and middle-income countries, almost 10 % of girls become mothers by 16 years of age, with the highest rates in sub-Saharan Africa and south-central and Southeastern Asia.

- The proportion of women who become pregnant before 15 years of age varies enormously even within regions—in sub-Saharan Africa, for example, the rate in Rwanda is 0.3 % versus 12.2 % in Mozambique.

Risks Spectrum among Pregnant Girls

- In Africa, complications of pregnancy and childbirth are the leading cause of death among adolescent girls aged 15–19.
- An estimated 2.2 million adolescents, around 60 % of them girls, are living with HIV, and many do not know they are infected.
- Overall, the levels of correct knowledge about HIV among older adolescents aged 15–19 remain low, with fewer girls having correct knowledge than boys.

Adolescent Pregnancy Poses a Danger for the Mother

- Although adolescents aged 10–19 years account for 11 % of all births worldwide, they account for 23 % of the overall burden of disease (disability-adjusted life years) due to pregnancy and childbirth.
- Fourteen percent (14 %) of all unsafe abortions in *least developed* and *developing* countries are among girls aged 15–19 years.
- Roughly 2.5 affected by complications from unsafe abortion than are older women.
- In Latin America, the risk of maternal death is four times higher among adolescents younger than 16 years than among women in their twenties.
- Many health problems are particularly associated with negative outcomes of pregnancy during adolescence. Some of these are anemia, malaria, STIs (including HIV), postpartum hemorrhaging, and mental disorders such as dysthymia and depression.
- As many as 65 % of all cases of obstetric fistula occur during adolescent childbearing and result in dire consequences for the girl's lives, physically and socially.

Adolescent Pregnancy can be Dangerous for the Infant

- Globally, stillbirths and infant death in the first week of life are 50 % higher among babies born to mothers 10–19 years of age than babies born to mothers 20–29 years of age.
- Deaths during the first month of life are 50–100 % more frequent if the mother is an adolescent versus older mothers; the younger the mother, the higher the risk.
- The rates of preterm birth, low birth weight birth, and asphyxia are higher among the children of adolescents. All of which increase the chances of death or a future of avoidable health problems for the baby.
- Pregnant girls are more likely to smoke and use alcohol than are older women, which can cause many problems for the child during gestation and after the birth.

Adolescent Pregnancy Adversely Affects Communities

- In many countries and communities, girls who become pregnant are forced to leave school. This has long-term implications for them as individuals, their families, and communities.
- Studies have shown that delaying adolescent births could significantly lower population growth rates, potentially generating broad economic and social benefits, in addition to improving the health of adolescent mothers and their babies.

Progress to Date

- Rates of adolescent childbearing have dropped significantly in most countries and regions of the world since the 1990s.
- Age at first marriage is increasing in many countries, as are rates of contraceptive use both among married and unmarried adolescents.
- Educational levels for girls have risen in most countries, and job opportunities have expanded.

Higher education levels are closely associated with later childbearing and improved economic circumstances.

The Stage of Life Known as Adolescence

The early emotional and physical foundation of *sexuality* is a confluent state that evolves into human maturation. Sexual maturation must be nurtured and supported by the community. What can be too often lost in a pragmatic discussion or heated debate about adolescent pregnancy is that it occurs during the appropriate stage of human development. Furthermore, the females and males being characterized using adult terminology are still girls and boys. The word *girl* is used instead of *female* as a way of reminding readers that these girls, even pregnant, are still very young and immature. They have little experience and power with which to negotiate the adult world. Adolescence is an essential period of biopsychosocial maturation. This includes both physical and psychosocial sexual development. Adolescence is a time in human development when one is no longer considered a child but too young to be considered an adult; it is a period of transition.

Adolescence is also an important period in one's life where we learn to accommodate relationships. This is a period when the need for relationships and the need of individualism find a balance that promotes health, family, and career. This is also a period, by the design of nature, that young people become sexually aware and active. This is a normal and appropriate set of behaviors and physical discoveries about one's body in adolescence. Consequently, becoming sexually active (given age-appropriate knowledge and relationship skills) can be one of the most positive experiences in the adolescent's life. Under normal circumstances, it can lead to rewarding romantic and loving relationships, and a healthy adult life.

The adolescent experience, however, is not universal. Mead (1948) who contrasted the adolescent experience in the North America with the adolescent experience in the South Pacific was one of the first social scientists to question the universality of the adolescent sexual experience. As has been identified since Mead, there are a number of important issues related to adolescent sexuality that are observable in different countries and regions of the world. These are issues that may be observed to some degree within a country or region but are minor problems or no problem at all in another country. One such issue is sexual education.

Sexual Education

The question that echoes daily in newspapers around the world is how can we keep our children safe. In newspaper stories about child molestation, rape of minors, STIs and HIV/AIDS, the question is always, *what can we do to make our children safer?* The answer is to provide them the tools they need to protect themselves from sexual injury and harm. We cannot protect our children from all harm, but we can protect children from ignorance about their sexuality. In turn, children can use the knowledge about human sexuality to protect themselves and assist adults who want to protect children from harm. Children who understand human sexuality are active participants rather than passive participants in maintaining their sexual and reproductive health and safety. Because of the intrinsic risk of sexual harm to children and adolescents who do not receive comprehensive sexual education, a growing cadre of professionals is asserting that a child's right to this knowledge is a human right. When a class of people (in this case children and adolescents) is being deprived of knowledge that would better protect them from harm, access to that knowledge is a human right. Parents and conservative religious groups do not have an absolute right to deny children this basic human right of sexual knowledge.

Children have a right to truthful and accurate sexual information and education. Access to accurate, age-appropriate sexual information is a child's inalienable right. It is the only way a

child can make informed decisions about the consequences of theirs and others sexually related behaviors.

The need for accurate sexual information and education is of primary importance globally. For instance, international household survey data representative of developing countries collected by UNICEF show that approximately 11 % of girls and 6 % of boys between 15 and 19 years of age report that their first sexual experience occurred before they turned 15 years of age (UNICEF 2011). Providing accurate sexual and reproductive health education and services to young children before their first sexual experience can reduce sexual exploitation, STIs (including HIV/AIDS), abortions, and childbirth in early adolescence. Considering that an adolescent's level of sexual knowledge is predictive of their sexual health; considering that a sizable number of children become involved in sexual behavior during early adolescence; considering that girls are more likely to have engaged in early sexual behavior than boys; and considering that girls are less likely to use contraception—is it any wonder that sexual education is the only viable health intervention that has been effective in reducing the consequences of early sexual behavior in adolescents.

The concept that age-appropriate and accurate sexual education has to be the centerpiece of any program to improve adolescent health is not in dispute. What is hotly debated in many countries particularly in the United States are questions of when and what? When framed primarily as an effort to prevent teen pregnancy, such as in the United States, the consequences of the prevention efforts result in increases in sexually transmitted disease, pregnancy, and abortions. Approaching the task of providing sexual education from a justice perspective is different. The reasoning for providing accurate age-graded sexual information, from a justice perspective, is because it is an inalienable right of all people even children and adolescents to have accurate information about their sexual and reproductive health. The state has no right to withhold or conspire to withhold essential information that is needed by its people. In terms of human sexuality, the state's role is to ensure that each person receives age-appropriate human sexual education. This does not exclude the influence of family, parents, or the religious community. Parents and peers are very influential on adolescent sexual behavior. Religion can also be significant in delaying sexual initiation, but when religious ideology prevents the dissemination of accurate sexual education, religious ideology is also associated with a failure to use a condom at first sexual intercourse. Furthermore, efforts to appease a segment of the public still convinced that sexual education is inappropriate for children and will increase adolescent sexual experimentation, which results in condemning children to the very future that these public protesters want to prevent.

An example of this conundrum has been portrayed using the experience of implementing sexual education in the United States. In her account, Irvine (2004) provides a retrospective study of the history of the wars over sex education and the impact of the politics of sexual speech in the United States. Observing the clash as a struggle between professional sexual educators/advocates and the politicized Christian Right, this narrative explains the critical function that sexual speech plays in how public sexual education is delivered in the United States. Exploiting public fear about sexual education that emerged during the 1960s, Irvine followed the Christian Right whose leaders chose sex education as one of their first battlegrounds to regulate sexual morality. Strategically correct, they believed that by controlling sexual speech, they could control public sexual education and public belief on morality. This gave the leaders of the Christian Right tremendous financial and political power.

In retrospect, it is even more comprehensible. When extremists use sexual shame and fear to galvanize opposition to sex education, namely by framing sex education as radical, dangerous, and immoral, a climate was created where it was

and still is hazardous to advocate for explicit sexuality education. The results in 2012—antagonists continued to paralyze sexual education in public and private schools in the United States. Even in the face of national public support for sexual education, sex education is framed as dangerous and immoral and usurps family prerogative.

This is especially tragic in the United States and other countries where public sexuality education has been restricted, distorted, or prohibited. Even though some continue to question the contribution made by comprehensive sex education, cumulative research since the 1970s consistently demonstrated that comprehensive sex education programs are far more effective at reducing the initiation of sexual activity, STIs, and teen pregnancy than *abstinence-only* educational approaches (Kohler et al. 2008).

There is also little doubt both scientifically and logically that restricting, distorting, or prohibiting sexuality education increases adolescent pregnancy. Every survey, study, and examination conclude that factors associated with higher teen pregnancy and abortion rates in the United States when compared to countries with low adolescent pregnancy are related to the national approach to sexual education. In countries where sexual education focuses on the rights and responsibilities of adolescents who experiment or become sexually active, increases adolescent knowledge and access to contraceptives, and employs mass media campaigns to reinforce appropriate sexual development and behavior, early sexual initiation, STIs, pregnancy, and abortion are less than in countries who use morality-based educational approaches *such as abstinence-only* (Moore 2000). In a study by Weaver et al. (2005), the link between school sex education policy and adolescent sexual health in Australia, France, the United States, and the Netherlands was compared. Comprehensive sex education was identified as one of the key determinants contributing to the positive sexual health outcomes of young people in Australia, France, and the Netherlands.

When comparing sexuality education in the Netherlands and the United States, the evidence is overwhelming and irrefutable. By their own admission, although "sexual education is not perfect" in the Netherlands, their approach to sexual education is regarded as a positive, rights-based approach to adolescent sexuality and sexual health. Starting from the premise that children are naturally curious about sex and sexuality, and that they need, want, and have a right to accurate and comprehensive information about sexual health, the materials used in the educational programs in the Netherlands are clear, direct, and use age-appropriate language and are presented in attractive layouts.

In the Netherland model, safe sex is the focus. The sexuality curriculum is designed to provide children and adolescents the knowledge needed to protect themselves from STIs, HIV/AIDS, and pregnancy. Responsible sexual behavior is emphasized through the reoccurring message that if one decides to take part in a sexual act, the preadolescent and adolescent will know how to do so safely. Their age-graded sexual education provides information about safe and unsafe sex, different types of contraceptives, where to obtain contraceptives, how to use them correctly, and how to negotiate contraceptive use with their partner.

Sexuality education in the Netherlands helps and encourages preadolescent and adolescents to think critically about their sexual health, including their sexual desires and urges. Materials used in Dutch programs encourage both boys and girls to develop skills in communicating their sexual desires to their boyfriend or girlfriend whether they decide to continue to remain abstinent or become sexually active. Skills include appropriate assertiveness, the ability to discuss personal values, and the ability to establish personal boundaries (Fergusona et al. 2008). The results—the Netherlands has one of the lowest rates of adolescent pregnancy and one of the highest rates of contraceptive use among adolescents globally.

Sexual Education in Early Childhood

How young is too young to begin sexual education? This is an honest question given our historical context and the lack of sexual education in the lives of most people. The answer is that sexual development begins at birth and continues throughout life. Sexual education needs to be aligned with a child's sexual development. Just like we teach and educate our child from the time of their birth, the individual behaviors and skills needed to prosper and succeed in life; we need to educate children about their bodies and about behaviors that are appropriate and emotionally fulfilling from inappropriate behaviors that could be harmful.

Parents ask why do children need to know about sex? The reasoned response is that children need sexual knowledge to able to protect themselves from adults in a highly sexualized global culture. Even the casual observer is aware of the threat to children because of their sexual immaturity, lack of knowledge about the subtlety of sexual assault, and the risks of STIs. In the mind of many who oppose sexual education for children, particularly sexual education for very young children, many who believe and in many cultures, the tradition is that young children do not need to know about sexuality until they start puberty. The reality is, however, that data from studies and surveys from around the world show that children are vulnerable to a broad range of sexually related battering, for example, early sexual debut, unwanted pregnancies, unsafe abortion, pregnancy-related complications, STIs (including HIV/AIDS), and numerous other sexually related health problems.

The other question that parents and laymen often ask is: Why do governmental bureaucrats want to sexualize children? The answer comes from the government's effort to identify and implement public policy. When the government [franchise—mandate] is grounded in the principle of *the common good*, the policies that best meet these principles are those that are theoretically implemented. Governing philosophy, based on the principle of *the common good,* that drives the provision of public health and social services related to sexual and reproduction health is the concept that public policy should provide the best possible sexual and reproductive health for as many people as possible. Furthermore, individuals should have equal opportunities that include the rights and conditions needed to access health services and the right to make decisions about their own bodies, and government policies should promote and foster positive attitudes about individual sexuality.

One of the better examples of the actualization of government policy to promote positive individual sexuality is Sweden. Sexual education in Sweden has a long and rich history. Without sounding too naive, most citizens share the same common belief in the value of "high quality information and comprehensive sexuality education as a way of equipping children and adolescents with the attitudes, knowledge and skills they need to make informed choices now and in the future; enhance their independence and self-esteem; and help them to experience their sexuality and relationships as positive and pleasurable" (IPPF European Network 2007).

Elise Ottesen-Jensen, in 1933, was one of the primary architects and founders of the Swedish Association for Sexual Education. This organization played a major role in reforming contraception and abortion laws, and introducing sexual education in the public schools in Sweden. Voluntary sexuality education in elementary schools was started in 1942. The first official teachers' manual for sexual education instruction was published in 1945 and revised approximately every 10 years. In 1954, a sexual education lesson was aired on the radio for the first time. In 1955, Sweden became the first country in Europe to establish compulsory sexuality education in all of its public schools (Parker et al. 2009).

The most recent Swedish policy guaranteeing the right to effective sexual reproductive health services is delineated in Sweden's International Policy on sexual and reproductive health (2006).

This policy gives women and girls the right to shape society and control their own bodies and sexual lives. Sweden's International Policy on sexual and reproductive health and rights in addition to guaranteeing "high-quality information and comprehensive sexuality education" for all children also guarantee safe and legal abortions, and education, prevention, and treatment services related to STIs and HIV/AIDS (Ministry for Foreign Affair-Sweden 2006). This is a comprehensive model based on health science. It has been articulated in more detail in the Swedish Education Act of 2011. The education curriculum is grounded in the principles laid out in previous Swedish policy related to compulsory sexual education and is in compliance with the *UN Convention on the Rights of the Child* (Committee on the Rights of the Child 2011).

For the government to protect the legal rights of girls, high-quality information and comprehensive sexuality education have to begin when the child's education begins. To protect the legal rights of girls, it also means using age-appropriate comprehensive sexual education materials. Obviously, this implies that the educational materials used for all children and adolescent sexual education must be empirically tested and selected for their demonstrated positive impact (Card and Benner 2008).

There are also time-tested sexual education materials available in the United States designed for very young children. These materials have been produced not by organizations or by government but by individuals who view sexual development and sexuality as a positive and natural part of life. It is a part of life that nourishes our need for intimacy and helps realize our drive for human bonding. To realize one's sexual potential and health in a responsible way, accurate knowledge is a prerequisite. An example of one such child's book is: *Mommy Laid An Egg! or Where Do Babies Come From?* written and illustrated by Babette Cole, which is published in 1996 by Chronicle Books. The author won the Los Angeles Parent Magazine Book Award for its non-sentimental look at childbirth from a child's perspective. The story begins with the parents sitting down with their children and telling them old wives' tales about where babies come from, "You can make them out of gingerbread," and "Sometimes you just find them under rocks." Amused at their parents' lack of knowledge, the children tell the story of where babies come from using child-like illustrations that appeal to very young children.

A similar children's book was written by Peter Mayle and illustrated by Arthur Robins called, Where Did I Come From? It was published by Little Brown & Company in 1984. Although it may be a bit old-fashioned for some, in this children's book the "facts of life" are explained in a humorous and matter-of-fact way. The author uses the correct names for the body parts and accurately describes intercourse, pregnancy, and childbirth. On the other hand, euphemisms that entertain very young children such as sperm dressed up in tuxedos and orgasm as a big sneeze make it entertaining and funny to very young children.

Model Sexual Education Curricular

The two most unique characteristics related to adolescent pregnancy in the United States are Federal policy and programs to exclusively fund *abstinence-only* sexual education, and the highest rate of adolescent pregnancy in the developed world (HHS 2006). A program called Smart Moves endorsed by the Boys and Girls Clubs of America (http://www.bgca.org) promotes a curriculum that operationalizes the *abstinence-only* sexual education goals. The program is designed for children between the ages of 6 and 15. The intended goals are to help children develop self-awareness, decision-making, and interpersonal skills and to help preteens identify and resist peer, social, and media pressures to use drugs and become sexually involved. The goal for teenagers is to help them develop social resistance, assertiveness, problem-solving skills, and decision-making skills. As might be expected, these goals are difficult to accomplish when accurate and comprehensive sexual knowledge is excluded from the curricular (Roth et al. 1998). A student in a masters-level social work research

class described one such example. She taught sexual education to seventh graders (11- and 12-year-old students). Because the teachers did not want to say words, such as "oral, anal, and vaginal sex," to "such young children," they present to the student the following list of words (Personal Communication, July, 3, 2012).

Mucous membranes	Bodily fluids
Vagina	Blood
Anus	Vaginal fluids
Mouth	Breast milk
Eyes	Semen
Nose	
Ears	
Penis	

The seventh graders are told that if any one of the mucous membranes comes in contact with the bodily fluids, disease can be spread. For the purpose of the sexual education class, the seventh graders are told that when mucus membranes come into contact with bodily fluids, it is described as being "sex." The students are asked, "Is there just one way of having sex?" The answer should be "No!" The teachers emphasize and reiterate that there are multiple actions that qualify as sex. Fortunately or unfortunately, in the United States, most 11- and 12-year-old children have learned enough about sexual behavior from peers, television, and the Internet to know that what they are learning in the sexual education classes has little or nothing to do with reality. This is sexual education in name only.

Despite the conspicuous importance of *abstinence-only* sexual education in the United States, there are curriculums available that are more in line with public health models and goals of sexual education that is in compliance with the *United Nations Convention on the Rights of the Child* and the *European Convention on Human Rights.* Curriculum and activities based on these conventions promote sexual and reproductive health for toddlers, children, and adolescents through their secondary education. The curricular is guided by the sciences with almost no deference to religious pushback. In the United States, one of the non-governmental organizations that advocates for the right of all children to accurate and comprehensive sexual education and sexual health services is Sexuality Information and Education Council of the United States (SIECUS) (http://www.siecus.org/pubs/guidelines/guidelines.pdf). This organization offers curriculum that is suitable for most parents in the United States even though in many states the departments of education would find the curricular offensive, if not "erotic." Nonetheless, it is far better than the typical state approved sexual education curricular currently being used in the United States.

SIECUS curricular for preschool sexual education is comprehensive and age appropriate. When the only goal of sexual education is to provide the knowledge and skills needed to help each child develop as normally as possible in all areas of life, there is a great deal of agreement. The SIECUS curricular is based on *best practices* in sexual education of preschoolers. It is similar to one of the better models for a preschool sexual education curriculum, the Swedish model (Edgardh 2002).

The underlying assumption is that by "providing education that gives knowledge and promotes a child's self-esteem, the child will be able to understand his or her own will and desires, and have the ability to say 'yes' or 'no' in sexual matters" (Centerwall 1996). Starting with the knowledge that every child is an individual and intrinsically different, this type of sexuality curriculum focuses on four broad areas:

1. Providing accurate and appropriate information about sexuality,
2. Giving students opportunities to develop their attitudes, values, and beliefs about sexuality,
3. Helping students develop relationships and interpersonal skills, and
4. Providing student's instruction and practice in developing personal and sexual responsibility.

A list of issues that need to be covered in a comprehensive sexual education curricular can be found in Appendix D at the end of this chapter.

Sexual education guidelines for preschoolers (ages 1–5) start with the knowledge that toddlers are more interested in pregnancy and babies than the act of sex. Consequently, toddlers should have age-appropriate general knowledge about "where babies come from." They should be able to name all the body parts including the genitals. By the age of two, children should know the difference between male and female, know the correct body part names for the male and female genitals, and be able to distinguish males from females. Between two and five years of age, children should understand the basics of reproduction (i.e., a man and a woman make a baby together and the baby grows in the woman's uterus). Children should understand privacy issues about their own bodies and know that while other people can touch them in some ways, people cannot and should not touch them in other ways. Moreover, the child should be empowered to demand that inappropriate touch be stopped and to report inappropriate touch to parent(s) and authority figures.

Between six and eight years of age, children should be able to identify sexual harassment and abuse. They should have a basic understanding that some people are heterosexual, homosexual, and bisexual. They should also know what the role is in sexuality in relationships. Children should know about the basic social conventions of privacy, nudity, and respect for others in relationships. Children should be taught the basics about puberty toward the end of this age span. This includes the role of sexual intercourse. As the statistics verify, many children will experience some pubertal development before age 10 and some will be involved in sexual activities that lead to an unwanted pregnancy and exposure to STIs.

Between the ages of nine and 12, children need to be taught about safer sex methods and know how emergency contraception works. They need to understand what makes a positive relationship and what makes for an unhealthy relationship. By 12 years of age, preteens need to be able to determine whether depictions of sex and sexuality in the media are true or false, and realistic or not, and whether the depictions are positive or negative.

Sexual education for adolescents between 13 and 18 years of age needs to continue to provide adolescents with accurate information about sexuality; to develop and clarify their attitudes, values, and beliefs about sexuality; to continue to help students develop relationships and interpersonal skills; and to provide students instruction and practice developing personal and sexual responsibility.

Having accurate knowledge about sexuality and acting responsibly in sexual matters is the best way to protect oneself from STIs; for girls, sexual knowledge is necessary to prevent unwanted pregnancy and unsafe abortion as the first step. Another critical issue for children is the availability and access to contraception.

The Contraception Controversy

Without the sexual knowledge from accurate information about human sexuality that prepares the adolescent to manage the hazards, they do not know the risks of unprotected sex and the benefit of using condoms during their first and subsequent sexual intercourse (including anal and vaginal intercourse). Even with the knowledge that forearms the adolescent, knowledge that ensures the adolescent understands how to protect themselves, if contraception such as male condoms and females condoms are unavailable or difficult for adolescents to obtain, adolescents will still be unable to protect themselves. Knowledge about and availability of contraception is the only way we can keep our children safe. Knowledge without the tools needed to use the information, however, has the same effect and eventual outcome as not having the knowledge in the first place. Both sexual education and the availability of all forms of contraception, including safe unrestricted abortion, are essential if the rate of adolescent STIs and unintended adolescent pregnancy is to be decreased and eventually becomes a rarity.

The United States is a case study of the failure to require truthful and national sexual education and to provide preadolescents and adolescents unrestricted access to contraception. While its people's wealth and prosperity may be unmatched, and while its university educational infrastructure and military are second to none, the stunning absurdity of many of its political, religious, and social leaders in meeting the basic human needs of its poor and disenfranchised is perplexing. This moral venality is unmistakably reflected in the way states in the United States and federal authorities respond to the need for effective sexual education policy and the provision of contraception to preadolescents and adolescents.

After spending billions of dollars in the United States on sexual education limited to abstinence-only educational programming, the scientific evidence that shows the abject failure of abstinence-only education is undeniable. Abstinence-only programs have been associated with increases in the negative effect on sexual behavior, contraceptive use, the rate of STIs, and the number of young people engaging in high-risk sexual behaviors (Hindin et al. 2009).

The Virginity Pledge: One of the interventions used in abstinence-only programming that has been studied extensively is the *virginity pledge*. Over the years, researchers report mixed outcomes for adolescents making a virginity pledge. Reported findings show no conclusive evidence that virginity pledging delayed sexual initiation among adolescents. The findings did show evidence and confirm that virginity pledges significantly reduced the likelihood of these adolescents using condoms during their first sexual experience (Martino et al. 2008; Rosenbaum 2009).

Adolescents' Use of Contraception

Typically, adolescent use of contraception is low, which increases the risk of adolescent pregnancy. Adolescents are also less likely to use condoms and more likely to have unprotected sex than adults, which increases the risk of contracting STIs. Why the low utilization of contraception? The answer to this is: fundamentally, because adolescent girls have far less access to condoms, contraception, and family planning services than adult women.

Adolescent girls are the most vulnerable; the younger the girl, the more vulnerable she is. Adolescent girls are more likely to engage in unprotected sex and less likely to use condoms and other forms of contraception than boys and adult women. The explanation for the rate of girls participating in risky sexual behavior is principally related to differential power relationships. In too many cultures, adolescent girls have little power and ability to insist that their partners use a condom. STIs among adolescent girls may be the consequence of unprotected sex with a number of short-term partners, but for the most part, globally, STIs occur among girls who are involved with long-term unfaithful partners, often older men and husbands. The risk is often greater for adolescent girls who are in socially and economically marginalized positions, and when sexual activity takes place within a context of coercion or violence, or when involved in survival sex (Dehne and Riedner 2005).

Family Variables and Contraception Use: A broad range of genetic and family variables affect adolescent contraception and condom use. Genetic influences such as early physiological development, early age of menarche, and levels of hormones put girls at risk. Contextual and structural features of families such as parent's education, income, marital status, and sibling composition influence sexual behavior and participation in unprotected sex. Parenting styles and practices including attachment parenting, aware parenting, Christian parenting, concerted cultivation, nurturing parenting, punishment based, and strict parenting influence sexual behavior and participation in risky sexual behavior (Miller et al. 2001).

Poverty and Contraception: Overwhelming evidence, based on international research, implicates poverty as a primary cause of earlier initiation of sexual intercourse and lower use of contraception. Subsequently, while fewer adolescents experience intense and extended

poverty in Western Europe than do adolescents in the United States, fewer Western European youth also grow up under the socioeconomic conditions that are conducive to unintended pregnancy, childbearing, and the use of abortion (Santelli and Schalet 2009).

Predictors of Contraceptive Use: Common variables associated with contraceptive and condom use have been identified across studies of adolescent sexual behavior (Koyamaa et al. 2009). Positive attitudes about condoms, using a condom at first sexual intercourse, talking with one's first sexual partner about using condoms, self-efficacy around condom use, optimism about the future, higher family income, higher education, less frequent sexual experience, and shorter sexual relationships were predictors of condom use (Maria 2007; Hargreaves et al. 2007).

Statistics on Contraception: The unmet need for contraceptives among adolescents is more than twice that of married women (UNFPA 2008). In 2004, only 13 % of sexually active sub-Saharan African girls aged 15–19 used contraception. Only 26 % of adolescent girls in Somalia have heard of HIV/AIDS, and only 1 % knew how to protect themselves against contracting HIV (Zlidar et al. 2003).

STI Prevalence

A sexually active teenager who does not use contraception has a 90 % chance of conceiving over the first year of sexual activity and of contracting a STI (Pregnant Teen Help 2011). In a single act of unprotected sex with an infected partner, teenage girls in England have a 1 % chance of acquiring HIV, 30 % are at risk of getting genital herpes, and 50 % have a chance of contracting gonorrhea and chlamydia (CDC 2009). Chlamydia trachomatis is the leading cause of ectopic pregnancy and can lead to infertility. Chlamydia can also cause discharge and pain, but is usually asymptomatic, so the sufferer may never know they are infected.

Unfortunately, chlamydia rates continue to increase each year in the United States with older teen girls having the highest rates of chlamydia. Between 1989 and 2008, reported chlamydia rates rose from 102 to 401 cases per 100,000 people in the United States (CDC 2009). The CDC, in 2007, reported 1,108,374 total cases of chlamydia. Over 35 % of cases were among children between 10 and 19 years of age. Some 13,629 cases were among children 10–14 years of age, 379,418 cases were among adolescents 15–19 years of age, and young adults 20–24 years of age accounted for 402,595 cases (CDC 2008).

Worldwide, STIs (syphilis, gonorrhea, chlamydia, and trichomoniasis) are the main preventable cause of infertility, particularly among females. In pregnant women with untreated early syphilis, 25 % of pregnancies result in stillbirth and 14 % in neonatal death. Moreover, the incident of curable STIs has increased worldwide from an estimated 333 million cases in 1995 to a yearly number of 448 million cases in 2005 (WHO 2011).

In 2007, adolescents and young people (15–24 years of age) accounted for an estimated 45 % of new HIV infections worldwide. These young people needed to know how to protect themselves from HIV, and they needed the means to do so from birth. Access to sexual education, contraception, and family planning services would reduce the current level of need for testing and counseling related to HIV-infected children and adolescents (UNICEF 2011).

Sexual education and access to condoms are the most effective strategies for reducing STIs, including HIV/AIDS. The problem is that even when sexual education and access to condoms are unrestricted, other cultural and societal characteristics coalesce to discourage sexual education and the use of condoms by adolescents. A major culprit in the calculus to keep our children safe is the attitude of family and society.

The Dutch View on Contraception

An example of a thoughtful philosophy about children and a child's sexuality can be found among the Dutch. One of the primary reasons

that children and adolescents in the Netherlands are more likely to use contraception and to use more effective methods of contraception than US adolescents is that Dutch children have greater access to sexual and reproductive healthcare services because a majority of the Dutch people want children to have access to sexual healthcare services (Santelli and Schalet 2009).

Dutch parents and healthcare providers came to realize that sexual intercourse was a normal part of development for many adolescents. The issue then evolved from prohibition to individual responsibility and healthy relationships. It was a national effort among healthcare providers, policy-makers, educators, and members of the media who lead the normalization of adolescent sexuality. Ensuring that young people had access to reliable contraception by providing different public forums for the discussion of sexuality and relationships was a key element in developing a cadre of supporters (Jones et al. 1986; Ketting and Visser 1994). This normalization of adolescent sexuality and of adolescent contraceptive use in the Netherlands can help point researchers, practitioners, and policy-makers toward steps that should be tried in other countries to reduce some of the problems associated with adolescent sexuality, including unintended pregnancy.

Regardless of public sentiment across all social strata in all countries, girls who have not received accurate and adequate sexual education, specifically adequate information on effective contraception, have higher rates of unintended pregnancy than their peers who have received age-appropriate sexual education. In the developing and the least developed countries, the risk factors include the lack of knowledge about contraception and a lack of access to effective contraception.

Even among girls who wish to postpone pregnancy or delay a second pregnancy, too often have little or no access to contraception. While in developed countries, where effective contraception is available, laws and restrictions (related to the availability of contraception for girls) tend to result in higher adolescent pregnancy, abortion, and childbearing rates than in countries where sexual education and contraceptives are readily available to both girls and boys.

Adolescent Patterns of Sexual Initiation

Sexual initiation is one of the major milestones in human life. In terms of adolescent pregnancy, the issue is early sexual initiation. There is unassailable evidence to show that there is a strong relationship between a girl's "age of sexual initiation" and an "increased risk of serious physical and emotional problems in her and her child's lifetime." Based on this known correlation, there are several assumptions that are used by prevention and educational programs. (1) The earlier the sexual initiation, the greater the likelihood the girl will become pregnant at an earlier age and have more children in her lifetime, (2) the younger the adolescent mother, the more likely the mother and child will experience serious physical and emotional problems including death, and (3) the younger the adolescent mother, the more likely a pregnancy will change the life trajectory of the young adolescent mother and that of her child(ren) (Madkour et al. 2010).

Obviously, this is a short list, but these three consequences account for a majority of the problems associated with adolescent pregnancies and their related physical and emotional problems. What is as important is these correlations are found across countries and regions worldwide. This is where policy and programming come into play. A public policy could reduce the health burden of adolescent pregnancy and should include programs and support for the adolescent and her child(ren). Financial supports and educational programs (sexuality, parenting, etc.) are essential.

The average age of initiation of sexual intercourse has stayed fairly similar in developed nations since the 1950s. Particularly in Europe, the age of sexual initiation has changed little over this time period (Teitler 2002). The

average age is comparable across gender and social status (teens from both rich and poor families) at approximately 17 years of age. Although the age of initiation of sexual intercourse is also roughly 17 in the United States, European adolescents are more likely to use contraception that results in discernibly lower rates of STIs and pregnancy (Santelli et al. 2008). While the overall rates of condom use among teens in the United States and Europe tend to be similar during sexual behavior, the use of a condom at the first sexual intercourse is much lower. Additionally, European adolescent girls tend to start and use hormonal methods for birth control earlier than girls in the United States. For instance, in the Netherlands, 61 % of 15-year-old sexually active girls in 2006/2007 reported using birth control pills at last sex, compared to just 11 % of sexually active 15-year-old girls in the United States. (Santelli and Schalet 2009).

Adolescent Pregnancy Primarily Affects Developing Countries

While adolescent pregnancy affects the girl and her family first and foremost, high rates of adolescent pregnancy also affect developing and least developed countries more than developed countries. In these countries, adolescent pregnancy jeopardizes the health and well-being of both adolescent and adult mothers and their families. An unplanned pregnancy adds an additional burden on these countries' health systems and impedes their socioeconomic development.

The extent of these problems varies and is related to national resources and priorities. When rates of teen pregnancy began to fall in the 1990s, the rates fell worldwide, which included dropping rates in developing countries. Despite this drop, evidence suggests that the problems associated with adolescent pregnancy in developing countries are as serious in 2012 as they have been for decades. In developing and in the least developed countries, maternal and perinatal morbidity and mortality are elevated. This, of course, is a reflection of the prevailing conditions in each country such as the level and extent of poverty, the percentage of people who are malnourished, the degree to which infectious diseases are controlled, and the degree to which adequate and modern health care is provided to pregnant adolescents. The level of available comprehensive sexual health services for children and adolescents affects the rates of maternal and perinatal mortality. Sexual education for children and adolescents, and the degree of availability of modern contraceptives to children and adolescents, coupled with interventions to prevent repeat pregnancies is imperative (Molina et al. 2010).

Unintended Pregnancies

Adolescent girls and women too often become pregnant sooner than they want or when they do not want additional children. These unintended pregnancies are particularly widespread in developing and in the least developed countries. Unintended pregnancies in the Middle East and North Africa are especially troubling. Since the beginning of the twenty-first century, between 15 and 60 % of pregnancies in Middle Eastern and North African countries were estimated to be unintended. In Egypt, contraceptive failure has been reported to account for as much as 30 % of unintended pregnancies (Roudi-Fahimi and Monem 2010).

There are a number of cultural, religious, and economic explanations for these high rates of unintended pregnancies. The lack of access to a preferred contraceptive method or the incorrect uses of a method are major contributors. In other cases, child brides and young women have little or no control of their own fertility. They are often vulnerable to social pressure from their husbands and family members and do not have the power to decide for themselves whether or when to become pregnant (Roudi-Fahimi and Monem 2010).

Early Pregnancy

Pregnancy among very young adolescents is a significant problem in the developing and in the least developed countries. Adolescent problems associated with pregnancy and childbearing are not easily remedied and are associated with physical and emotional immaturity. Girls can become pregnant before their bodies are mature enough to carry and deliver a child. These are realities. The plethora of other problems that make up an almost unending list of negative outcomes among pregnant children and adolescent girls are socially inflicted. The vast majority of harm experienced by these girls is needless and totally uncalled for. The avoidable harm often comes from not developing or withholding age-appropriate medical interventions for young pregnant girls. Even physical complications among young pregnant girls can be minimized if the moral issues are left out of the tertiary prevention calculus. Aruda et al. (2010) suggest that pregnant teens often present at medical facilities with physical complaints not necessarily related to pregnancy. Because prenatal care and postnatal care are critical to positive outcomes for the adolescent mother and her child, medical protocol should include pregnancy screening, diagnosis, assessment, and referral if needed.

Rapid Repeat Pregnancy in Adolescence

Rapid repeat pregnancy is defined as a subsequent pregnancy within 24 months of the previous pregnancy outcome. In developed countries, the numbers of repeat pregnancies for an adolescent are typically low, but in developing and in the least developed countries, the numbers are much higher. These repeat pregnancies among adolescents contribute to poor health outcomes for both the mother and her children. Consequently, preventing repeated pregnancies is one of the goals of virtually all pregnancy prevention programs.

Based on a series of studies, researchers report findings that repeat adolescent pregnancies for the most part were unwanted. Nevertheless, a repeat pregnancy resulted from the adolescent being pressured to have sex, coerced into not using birth control, being unable to implement safe sex behaviors, or failing to use contraception because of the intensity of the mood. Interventions reported as effective were strategies that increased the life choices available to girls that improve their social and economic circumstances and sexual education included in appropriate, high-quality sexual and reproductive health services for girls (Milne and Glasier 2008; Herrman 2007).

Child Marriage

In societies and countries where girls in their early teens are given by their parents to be married to older men, child and adolescent pregnancy is not considered a problem. Often, however, these too early pregnancies can result in severe damage to sexual and internal organs (Holgate 2012). Child marriage, defined as marriage before the age of 18, and early marital sexual activity are health risks for child brides and married adolescents. Obstetric complications such as obstetric fistulae, miscarriage, premature births, stillbirth, sexually transmitted diseases, cervical cancer, malaria, and unsafe abortions are associated with early marital sexual behavior. These marriages typically involve older male partners who may have been sexually active for many years and may introduce HIV into the marriage (Nour 2006). In parts of north Nigeria, it is common for girls to marry before the age of 15. Some girls are married as young as 7 years of age. In Niger and Chad, over 70 % of girls are married before the age of 18 (Hindin et al. 2009; UNFPA 2005). Everyday, over 70,000 adolescent girls between 10 and 17 years of age are married and nearly 40,000 give birth each day (UNFPA 2003).

In some of the more conservative Muslim sects in countries such as Nigeria, many continue to practice child marriage even though it is illegal nationwide. Although the practice is approved by religious leaders, one requirement of the marriage is that the husband not engaged

in sexual intercourse before the child bride is physically mature—this directive is not uniformly obeyed. The numbers of clinics that specialize in the treatment for obstetric fistulae and the number of cases of obstetric fistulae are evidence of widespread too early marital sexual activity.

In some African tribes, a man pays a bride price to the girl's family in order to marry her; the younger the girl, the higher the bride price. Parents of these prepubescent brides are far too often extremely poor and need the bride price to feed, clothe, educate, and house the rest of the family. These early marriages may also result in the child bride dropping out of school even if she does not become pregnant (Nour 2006).

Within marriage, girls may feel pressure to prove their fertility. They may engage in unprotected sex because they are powerless to demand that their husbands allow them to use contraception or demand that their husbands use a condom. They may fear possible side effects of contraception. They may be misinformed about the risk of pregnancy or STIs. They may not have access to or cannot afford a modern method of contraception. And many girls are more concerned with the safety of contraception and condoms than the safety of an unintended pregnancy (Hindin et al. 2009).

Maternal and Child Mortality Among Adolescents

It has been demonstrated at the local and national level that neonatal and post-neonatal mortalities are rare medical events given modern medical standards of practice (Chen et al. 2008). Given this knowledge, two logical questions are: Why is the mortality rate so high among pregnant and parenting adolescents in the least developed countries? And why do so many girls and their babies die each year? One obvious answer is crass political indifference. We know that fragile family structure, limited long-term resources, and social supports rather than age are the major contributors to poor outcomes of adolescent pregnancy (Ventura et al. 2011). Being a pregnant adolescent, in and of itself, does not place the adolescent in a high-risk group, as long as the adolescent receives adequate prenatal care (Mahfouz et al. 1995). We also know how to eliminate adolescent maternal and child mortality. Surely not a stellar example, but adolescent morbidity and mortality in the United States declined 13 % since the 1980s among young people between 15 and 24 years of age. Improved sexual and reproductive health services for children and adolescents, and the ability of adolescent girls to access modern contraception and abortion services without parental permission helped in reducing both morbidity and mortality (Sells and Blum 1996). The effect of increased restrictions on adolescent access to contraception and safe abortions in the United States that began in the first decade of the twenty-first century is likely to slow progress. In countries such as Nigeria and other developing countries, when policy-makers restrict abortion for moral and religious reasons, ignoring evidence-based approaches, one consequence reported widely in the research is a high rate of unsafe abortions, resulting in death and injury (Okonofua et al. 2009).

Given the current disgraceful state of adolescent sexual and reproductive health services provided in most of the world, the statistics on maternal and child mortality among adolescents are scandalous. International statistics compiled by the Reproductive Health Response in Crisis organization make the case for this indictment.

- The birthrate for girls 15–19 years of age in the least developed countries is 116 per 1,000 women versus 37 per 1,000 women for developed countries and 53 per 1,000 women for the world.
- Every year, 14 million adolescent girls between 15 and 19 years of age give birth without the assistance of a skilled birth attendant.
- Complications from pregnancy and childbirth are the two leading causes of death for 15–19-year-old girls worldwide.
- More than one million infants and approximately 70,000 of their adolescent mothers die each year in developing countries.

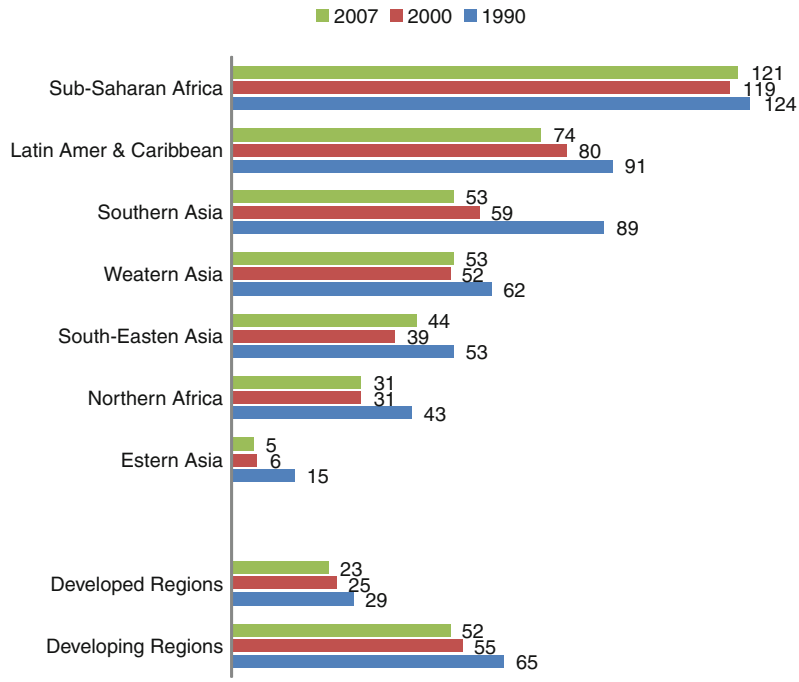

Fig. 1 Adolescent (15-19 years of age) pregnancies per thousand 1990–2007 by regions of the world. *Source* United Nations (2010a)

- Adolescents account for 23 % of the overall burden of disease due to pregnancy and childbirth.
- Maternal mortality was found to be twice as high for women aged 15–19 years and five times higher for girls aged 10–14 years compared to women aged 20–29 years (RHRC 2010).

Unsafe Abortion Among Adolescents

One consequence of restrictive law related to access to abortion is a high rate of unsafe abortions resulting in death and injury. A survey conducted by Okonofua et al. (2009) revealed that politicians and policy-makers were guided by moral and religious forces not evidence-based approaches. Again, international statistics reveal the consequences of misguided policy-makers. An estimated 19–20 million unsafe abortions take place every year, 97 % of these are in developing countries in Africa and South America. Of these, approximately 4 million are performed on adolescent girls under 20 years of age (RHRC 2010). Of this number, an estimated 2.5 million unsafe abortions performed on adolescents took place in developing countries. Of the unsafe abortions that involve adolescents, most were conducted by untrained practitioners and often took place in hazardous circumstances and under less hygienic conditions (Grimes et al. 2006). Figure 1 shows the infant mortality rate in 1990 and in 2007 for children less than 5 years of age. This figure shows the rate per thousand live births. Improvements in sexual and reproductive health benefit all women and their offspring. You will notice that, among developed regions of the world, the rate of infant mortality was cut by 50 % (from 12 to 6 infant deaths per thousand). During the same period (1990 and 2007), developing regions cut their rate of infant mortality by 30 % (from 100 to 72 infant deaths per thousand). Infant mortality rates for children under five dropped by 28 % between 1990 and 2008 worldwide (Fig. 2).

Violence and Adolescent Pregnancy

The other condition that influences adolescent pregnancy that is too often overlooked is the level of violence experienced by girls. Violence

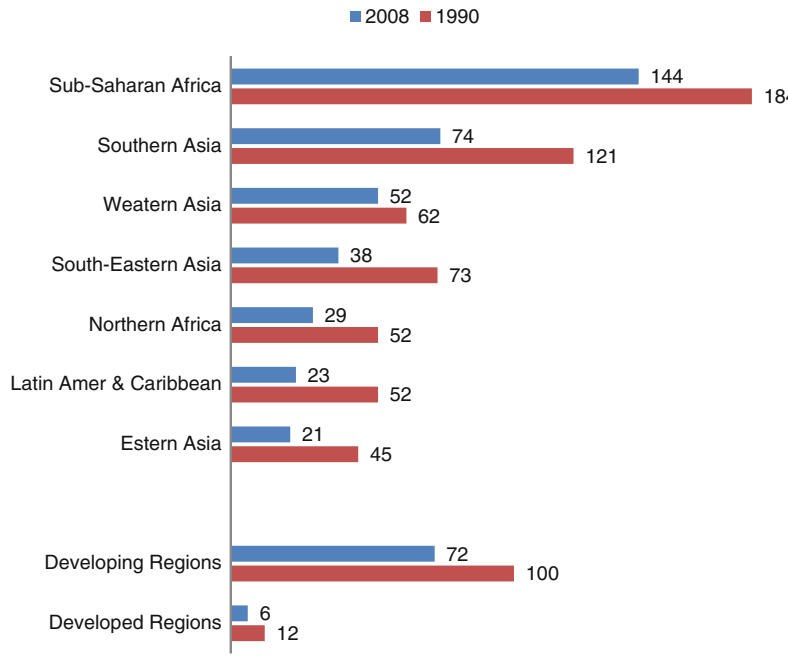

Fig. 2 Under-five mortality rates per thousand live births 1990 and 2008 by regions of the world. *Source* United Nations (2010a)

is widely reported by girls 15–19 years of age, especially girls in a relationship. Large numbers of these girls have experienced domestic violence, sexual violence, and far too often both.

Sexual Abuse: In studies that compared women with no history of sexual abuse with women who experienced sexual abuse, the differences clearly show that violence experienced in childhood affected adolescent pregnancy rates. Risk factors include gender, a younger age, substance use/abuse, family constellation, parent–child conflict, and mother disengagement. Women who experienced sexual abuse only in childhood were 20 % more likely to experience an adolescent pregnancy. Women who experienced sexual abuse only in adolescence had a 30 % greater chance of experiencing an adolescent pregnancy. If additional sexual abuse is experienced, women who experienced sexual abuse in both childhood and adolescence had an 80 % greater chance of experiencing an adolescent pregnancy. During childhood and adolescence, attempted rape and rape were associated with an increase in adolescent pregnancy. This association between sexual abuse and pregnancy was reduced as the age at first intercourse increased and among adolescents with high levels of education (Francisco et al. 2008; Young et al. 2011).

Intimate Partner Violence and Unintended Pregnancy: Reproductive control including pregnancy coercion by male partners to become pregnant and birth control sabotage (partner interference with contraception) are associated with partner violence and risk for unintended pregnancy. In one study by Miller et al. (2010), 35 % of young women reported physical or sexual partner violence. Over half (53 %) also reported reproductive control; 19 % reported experiencing pregnancy coercion; and 15 % reported birth control sabotage. Both pregnancy coercion and birth control sabotage were associated with unintended pregnancy.

Armed Conflict and Adolescent Pregnancy

Often lost in the chaotic and brutal circumstances of war are the women and girls who experience rape and sexual exploitation that leave them pregnant and with STIs such as HIV/AIDS, too often in circumstances where public health services, such as reproductive health care,

are inadequate or unavailable. Moreover, rape during armed ethnic conflict is commonly used as a deliberate act of terror related to genocidal strategies. These human atrocities, although slower than widespread death, were used in an all-out effort to destroy minority ethnic groups in Bosnia-Herzegovina, in Darfur, in Rwanda, and in other ethnic conflicts (McKay 1998).

In Darfur, for instance, babies born of rape during that ethnic conflict were called "Janjaweed babies." These children had little future in the mother's ethnic group. Acts of infanticide and abandonment of these helpless victims were widespread. One victim was reported to say, "They kill our males and dilute our blood with rape. They want to finish us as a people, end our history." Of an estimated 80,000–265,000 who died in Darfur, the evidence shows that the first stage in this strategy was to destroy ethnic villages by killing the men and boys and raping the women and girls. The second stage was to force those still alive into isolated refugee camps where starvation, illness, and rape are used to continue the genocide (Scheffer 2008).

Rape as a sexual form of genocide in Africa has been instrumental in fueling the HIV/AIDS pandemic there. HIV/AIDS has devastated the children by leaving millions of children orphaned. As reported by Machel (1996), HIV/AIDS has killed teachers and health workers and has crippled public health and sexual reproductive health resources. HIV/AIDS has been recognized by the United Nations Centre for Human Rights, other international organizations, and African human rights groups as a global threat to peace and security and urges solutions that address the compounded effects of HIV/AIDS and armed conflict on children.

Street Children

Girls and boys who grow up on the streets in urban centers around the world are at risk for sexual exploitation (including survival sex), STIs, rape, unwanted pregnancies, and death (Pinheiro 2006). The number of street children who are girls is unknown. In urban areas where the number of street children has garnered the attention of advocacy groups and the press, politicians and local leaders typically disagree with the extent of the problem and vigorously disputed the estimates. Since the 1990s, advocacy groups have reported that globally, there may be as many as 100 million children living in the streets of the world's cities and towns (Thomas de Benitez 2007; UNICEF 2002, 2005).

In many countries, children of single mothers, mothers without a stable marriage or resources, impoverished families, displaced families, and refugees (and for many other reasons) frequently end up living in the streets (Thomas de Benitez 2007). In developed countries such as the United States, street children are most often referred to as "homeless children." These children are often victims of domestic violence and economic hard times. The children may be runaways, thrown-out, or forsaken (Zide and Cherry 1992).

There is no mistake that global adolescent pregnancy is viewed differently in various countries and regions of the world. Even so, for the most part, adolescent pregnancy is viewed negatively. Public resistance in most countries, however, has resulted in a lack of political will to provide adequate sexual and reproductive services that can resolve many of the problems that are associated with maternal morbidity and mortality among adolescent girls and their children. We know the risk and protective factors involved and how to enhance protective factors to reduce the burden of adolescent pregnancy for girls and their community. This is a moral imperative that should be given the importance it is due.

Protective Factors and Adolescent Pregnancy

Globally, there are over 127 million adolescent and young adults between the ages of 15 and 24 who are illiterate. Among these girls, the vast majority are found in South Asia and sub-Saharan Africa. This is a serious challenge to efforts focused on reducing teenage pregnancy. In most of the world's *developing* and the *least*

developed countries, secondary school enrollment, literacy, and employment are lower among girls and young women than among boys and young men. This is important for several reasons. When the adolescent mother's schooling is interrupted, despite the reason for her pregnancy, the adolescent mother, her offspring, and her community are harmed. In the United States, only about 50 % of teen moms finish high school before they are 22 years of age. Among adolescent girls, who do not give birth, approximately 90 % finish high school before they are 22 years of age (Holgate 2012). This is a condition that responds to related public programming.

The importance of social capital in the life of adolescent girls and the role it plays as a risk factor associated with adolescent pregnancy are evident in studies about the impact of foster care on the life trajectory of girls in foster care. A review of these studies shows that girls who are or have been in foster care tend to report twice as many teen pregnancies as girls in similar contextual environments and circumstances but who were never in foster care. Given the same environmental context, girls whose fathers were in the home during their childhood are significantly less likely to become pregnant than girls with no father figure in their home (Holgate 2012).

As is obvious, a number of the risk factors mentioned above are static or very difficult to change with social policy. There are, however, a number of risk factors that are created by tradition and culture. These risk factors can be affected by social policy. One such risk factor that is not fixed in this list is *adolescent ignorance about their sexual and reproductive health*. Compounding the risk of sexual and reproductive ignorance, in the developing and least developed countries, there is often tradition and religious orthodoxy that sanctions very young girls to marry. In these countries, where very young girls are allowed or forced to marry, the girls face risks related to pregnancy and childbirth before their bodies are fully mature and are able to accommodate a pregnancy and childbirth. Although not intractable, these threats to the health and well-being of girls can only be reduced and hopefully eliminated by religious, political (local and national), and international support for the human rights of girls worldwide.

There are individual and social conditions that are more malleable and increase the individual and community's capacity that have been shown to be effective in reducing STIs and unintended pregnancy. These characteristics can improve the life trajectory of girls despite their social and economic status.

Resiliency

One of the theoretical perspectives that inform practitioners in their efforts to prevent risky adolescent behavior (in this case sexual behavior and pregnancy) is the concept of resiliency. Examining the risk and protective factors that differentiate girls who experience an early pregnancy and girls who delay their first pregnancy can contribute to the development of policy and services that support a girl's decision to delay pregnancy and childbirth. Among the protective factors are parents and family. Parents need to be educated about the vital role that they can play in shaping their child's sexual behavior, that is, if the teenager has a parent or surrogate parent that is a positive role model. In the public mind, however, adolescent pregnancy is a threat to the young mother's health and has tremendous social costs. This is a self-fulfilling assumption; it does not have to be the reality.

Factors associated with prenatal and postpartum care and health have been studied in both the adolescent mothers and their children. The results of this line of research have clearly shown that in the majority of countries, educational and health programs for both female and male children and adolescents have been shown to increase an adolescent's assets and protective factors. Of these, family planning services that are easily accessible and private have been shown empirically to be highly effective.

Evidence from studies conducted in countries around the world shows that success in the prevention of adolescent pregnancy includes

comprehensive sexual education, the existence of preferential sexual and reproductive health services for adolescents, the widespread availability and handout of modern contraceptives geared to the adolescence stage of development, and the existence of an information network that appeals to children and adolescents (Card and Benner 2008; Molina et al. 2010). Although not as directly related to reproductive health services, a social environment that provides girl's options in life that do not include or encourage adolescent pregnancy is also needed to reduce adolescent fertility.

Opportunity and Aspirations

Hope humbly then; with trembling pinions soar;

Wait the great teacher death, and God adore.
What future bliss, he gives not thee to know,
But gives that hope to be thy blessing now.
Hope springs eternal in the human breast:
The soul, uneasy and confin'd from home,
Rests and expatiates in a life to come.
Alexander Pope,
An Essay on Man, Epistle I, 1733

A hypothesis that came out of our last major examination of global teen pregnancy was the influence of a girl's aspiration. We know that girls are growing up in economically disadvantaged families and communities, where the rate of substance abuse and other socially constructed problem behaviors is elevated; girls are at an increased risk of early pregnancy and for multiple pregnancies and births during adolescence. We know girls who do not succeed in school (starting in prekindergarten) will be at greater risk of an early pregnancy and for multiple pregnancies and births during their adolescence. We also know that girls who have few aspirations and do not believe that there will be opportunities in their future to fulfill their aspirations are at a higher risk of early pregnancy and multiple pregnancies and births during their adolescents (Moore et al. 1998). *Conversely, girls living and growing up in any environment despite the toxicity who aspire to an adult life and career that would be threatened by an adolescent pregnancy and motherhood are more likely to delay pregnancy and to use a condom and contraception when they experiment or begin to engage in sexual intercourse* (Cherry et al. 2001)*; and they are more likely to choose abortion or adoption if they do become pregnant* (Moore et al. 1998).

One of the most powerful protective factors in adolescence is *aspiration* grounded in the realistic knowledge that opportunity awaits. This does not mean that these girls will suppress their developing sexual instincts, but it does mean that they will act much more in their own best interest when they do give into their nascent sexual drive.

Researchers have just begun to explore the role of aspiration in the life trajectory of children and adolescents. Understandably, aspiration much like adolescent pregnancy is a complex issue, which cannot be attributed to one single cause; instead, numerous factors determine a child's level of aspiration. Ambition emerges from an expectation for success. It is grounded in past experiences and depends on the success possible in the girl's environment, girls that may be living in poverty and opportunities that may or may not be available in their community (Newby et al. 2011).

At the individual level, children who have strong and realistic career goals are more likely to stick with educational curriculum that may produce long-term gains, even when they described the curriculum as difficult and boring (Newby et al. 2011). When a girl has a strong dislike of school, and drops out of school, it increases a girl's positive perception of childbirth. Moreover, when pregnancy is met with negative attitudes from school officials, it tends to have an adverse impact on the girl's aspirations and career goals (Hosie 2007).

To reduce adolescent pregnancy and the impact of adolescent pregnancy on the life trajectory of girls, we can raise the aspirations of girls by supporting their educational and career goals. Without opportunity, however, aspirations are pipe dreams at best. For girls, dreams have often been foiled by the culture they live in. For many girls in the least developed countries, the dream is to get a secondary education. For girls

from many conservative Muslim countries, the dream is an education and a career. In developed countries, girls dream that one day they will be able to break through the "glass ceiling": a level of attainment that has been reserved for their male counterparts. As it turns out, aspiration may not totally depend on a girl's family, teachers, and her community or national laws protecting female's rights. A girl's aspiration is also shaped by mass communication.

Aspiration as a Social Construct

One of the boldest hypotheses we explored in the last book we published, examining global teen pregnancy, came out of the idea that a major influence, which all girls were exposed to, had precipitated a global response among girls that included delaying childbearing. We were looking for a stimulus that had similar meaning for girls worldwide.

A phenomenon that met these criteria was modern-day *mass communication.* No longer are ideas shaped and limited to local leaders and writers of a few acceptable books. Today, mass communication is the market place of ideas. Western ideas of a modern society in particular have widespread appeal (whether the information is accurate or not, or is just sensationalized.) They are the ideas that homogenize our thinking and behavior. In our first book, in 2000, adolescent pregnancy was described using the Western social construct of adolescent pregnancy in every country studied, regardless of the poor fit with the culture or prevailing cultures in a specific country. This still seems to be the case today. *Mass communication* also affects our ideas about adolescent pregnancy indirectly? This has been true especially among adolescent girl.

In the mid-1980s, women in Western society were coming into their own; they were increasing in numbers in universities and other degree programs that had long been dominated by men such as law, medicine, and business. Even in the United States, by the mid-1980s, women were earning 50 % of all master's degrees. Events not lost on girls in the developing and least developed countries. Particularly in northwestern Europe, women are seen as making great progress and from a far they seem to have almost unlimited opportunity. In northwestern Europe, marriage is no longer the only choice or strategy for supporting and raising children. The women's rights movement has forever changed and will continue to change the social, economic, and political landscape of the world. Access to education, employment, health and social services, decision-making power, and the freedom to decide has been transformative for women, although it still has a long way to go as it relates to equity. In terms of life trajectory, it will continue to be transformative for girls worldwide. So, as innovations in communication have connected the world's people, what girls see other girls and young women doing in the movies and how young women are portrayed on television and on the Internet have opened up the possibilities and the roles girls and young women may never have aspired to before. They are no longer just placed on earth just to bear children. Moreover, no nation, organization, or group controls the message.

In our theory about the impact of mass communication on the aspirations of girls and subsequent adolescent pregnancy, we recognize that media in democracies generally operate under a combination of libertarian and social responsibility. Moreover, although many countries have free speech as a goal, most political leaders are concerned with preserving their national cultures. These politicians face off against Western, modern media powerhouses from the United States, the European Union, Japan, Mexico, Brazil, and Internet news sources, such as Al Jazeera, that produce content for Arab-speaking countries. Nonetheless, because of the ability of powerful media to bypass official government censorship, the ability of governments to dictate the message or control the broader media message sector has become harder (Hanson 2011).

Consequently, the mass media message that resonates with girls and young women around the world is media on modern countries where girls and young women hold many different and important roles in society. Furthermore, these

girls know the countries where girls and women have equal rights and make decisions for themselves.

Sexual and Reproductive Health

The most effective approach to preventing unintended adolescent pregnancy is grounded in social justice, gender equality, scientifically based knowledge and informed decision-making about medical, public health, and social policy needed to support and provide necessary maternal and child health care. For this level of knowledge to make a difference globally, in the life of adolescent girls, it is necessary to raise the standards of the poorest and most destitute people living in the low-income countries in the world. In terms of the cost to provide essential sexual, reproductive, and child health programming to the girls and women struggling and dying from a lack of maternal health care in the 50 low-income countries in the world, it would cost under 20 billon US dollars a year to provide adequate sexual, reproductive, and child health programming to these 50 low-income countries (PMNCH 2011). This is less than a third of the fortune of the world's richest billionaires (the Carlos Slim Helu family has $70 billion, in the United States, and Bill Gates has over $60 billion). A serious international expression of commitment to justice and humanity is needed to reduce the burden of pregnancy on adolescent girls. A start is the commitment expressed in the United Nation's Millennium Development Goals (MDGs) initiative.

United Nation's Millennium Development Goals

The UN initiative, which was designed to make profound improvements in the lives of women, especially adolescent girls, was the MDGs. The MDGs are international objectives that were agreed to in 2000 by all 193 member states and 23 international organizations to be achieved by 2015. There are eight MDG goals (United Nations 2010b).

1. *Eradicate severe poverty and hunger*. Cut in half the proportion of people living on less than US $1 a day by 2015.
2. *Achieve universal primary education.* Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling.
3. *Promote gender equality and empowering women*. Eliminate gender disparity in primary and secondary education, by 2005, and in all levels of education by 2015.
4. *Reduce child mortality rates*. Reduce the mortality rate of children under five by two-thirds by 2015.
5. *Improve maternal health.* Reduce by three-quarters the maternal mortality rate and achieve universal access to reproductive health information.
6. *Combat HIV/AIDS, malaria, and other diseases*.
7. *Ensure environmental sustainability*.
8. *Develop a global partnership for development*.

These goals are intended to provide a way of measuring and monitoring the progress of the developing and least developed countries in terms of global development. In the view of some, the MDGs have changed the debate about global development. In the view of some critics, the cost of supporting the international monitoring activities has diverted scarce resources from direct services. Likewise, they point out that progress made in monitoring the achievement of these goals is not the same as meeting the goals (Schmidt-Trauba 2009).

Despite the criticism of the method and limited goals of the MDGs, there is support for the poorest people of the world who are being left behind. How can we not support these struggling masses, the majority who are children and women? Estimates are that in 2012, some one billion people were living on less than US $1 a day.

Limitation and Lessons Learned

There are many limitations and problems that will be encountered when studying the phenomenon of adolescent pregnancy in different

countries. The official numbers will often be difficult to find and confirm. In some countries, the numbers may differ within the same country, and in other cases, the numbers may be unavailable or suppressed for political, for religious, or for other reasons. While these problems make answering the *What*, *Where*, and *When,* questions about the medical, psychosocial, and public health responses to adolescent pregnancy in some countries more difficult than in others, the numbers and types of responses are only a part of the story. The restrictions and limitations imposed on information about adolescent pregnancy are in themselves observations that can be analyzed and reported on.

Another important focus of adolescent pregnancy in different countries, that is as interesting or more interesting than the numbers and restrictions, is the answer to the questions *Why* and *How* has culture in a country affected the phenomenon of adolescent pregnancy as biology, child development, adolescent health, and adolescent reproductive health. This perspective, as it turns out, becomes a convergent view of the country and the culture that shaped its unique characteristics.

In an effort to understand the international response to adolescent pregnancy, it is obvious that the biological perspective cannot explain the wide variations in the medical, psychosocial, and public health responses. Other perspectives are needed to answer the questions why and how. *Why* do they vary? *How* did these differences come to be?

To answer the *Why* and *How* questions, the ecological perspective has much to offer. Because of its sensitivity to the influences of culture, it is a good addition to the biological perspective. Where the biological perspective can tell us what is needed, the ecological perspective can tell us what role culture played in how services are or are not provided. Using the ecological perspective, the story of adolescent pregnancy is yet another account of the cultural and religious conflicts that people in different countries have been struggling with for eons.

Conclusion

Some professionals saw the worldwide decline in teen pregnancy in the 1990s as a result of effective pregnancy prevention programming. Others attributed the decline to religious campaigns promoting abstinence. Still others interpreted the decline as confirmation of the dominance of globalization over provincial customs. Researchers saw the phenomenon as an opportunity that could provide information on events and characteristics of influences that coalesced to cause this global change in a teenage girl's sexual behavior. Today's adolescents are the next generation of parents, workers, and leaders. To fulfill these roles to the best of their ability, these adolescents need the guidance and support of their family, their community, and national and global leaders. They also need governments and a world community that are committed to their health, development, education, and well-being.

In the following chapters, you will find factors that are associated with varying rates of adolescent pregnancy. These chapters will also be helpful in identifying the risks and consequences for adolescent mothers and their children. The authors of the country-specific chapter also make the point that adolescent pregnancy risks and the health burden vary widely by region, country, and within countries. Social policies, programs, and clinical practices that have been shown to reduce or increase rates of teen pregnancy are also highlighted and presented in the context of the individual country.

The following is the life experience of a teen mom who was one of my students in a master of social work program in 2013. Although not typical of the experience of most teen moms in the United States, her story is an example of the potential that is within each adolescent mother.

My Life Story, So Far

I was born and raised in Tulsa Oklahoma. I grew up in north Tulsa in the suburban acres neighborhood and attended Alcott Elementary. I had a

pretty good childhood but experienced a few disappointments as well. I definitely think those disappointments made me a stronger person and built my character. My mother worked pretty hard because she was a single parent. I never knew my father as a child and would often fantasize about what a great father he would have been if he were in my life. Most of these fantasies were prompted by me getting into trouble and resenting the punishment or consequences I had to face up to. I did have a stepfather though, who entered our lives when I was about 6-year-old. Somehow, I never really saw him as a father; he seemed more like a family friend. He was very nice, and he always told the most fascinating stories about his childhood. I enjoyed being around him, but he just seemed like an uncle or close family friend.

By the time I was 12, my mother and stepfather broke up, but it did not seem like a big deal to me because I never really got close to him. Shortly after their breakup, my mother and her twin sister decided to purchase a house together. So for the rest of my childhood, we lived with my aunt and her children. My aunt was a second mother to me. At times, I felt closer to her than to my own mother. Everyone always said I looked more like her too and she always let me get away with things that my mother would not stand for. Well, most of the time she did unless it came to household chores; if my chores were not done, I was basically grounded for the day.

My family was very close, and we always had family get-togethers and hosted dinner parties during the holidays or birthdays. But by the time I was about 14, I began to be more independent. I started working at the neighborhood Braum's, and by 15, I had a credit card in my name from Mervyn's department store that I used to purchase my own school clothes. By the time I was 16, I felt self-sufficient and did not ask my mom for much. I pretty much came and went as I pleased and did just what I wanted to do. My mom was never that much of a talker, so she never really sat me down and educated me about sex, pregnancy, STDs, or anything like that, mostly because her mother never had these kinds of conversations with her. The only thing I heard any of the women in my family say was "keep your legs closed." I knew what that meant, but since it was forbidden, it definitely made me curious about sex. When I was 16, I met my then boyfriend, now husband. We attended school together at Project 12 alternative school. I had gotten bored with school and dropped out of Edison High but later decided that it was not such a great idea to just drop out of school, so I enrolled in Project 12 and later earned my GED.

After dating for a couple of years and shortly after my 18th birthday, I found out that I was pregnant and I was happy about it. Most of my friends either had a baby or was pregnant. All I could think about was having the opportunity to get my own place and how having a baby would make it easier to do so. Before I gave birth to my son, my boyfriend got into trouble with the law and was sentenced to 3 years in prison. I quickly learned the struggles of being a single parent. One of the first things I realized was that without money or a job, I would have to live in project housing. I was not used to that because every home I lived in prior was owned, well-kept, and in a modest neighborhood. One of my first apartments was in the Fairmont Terrace Apartments, now infamously known as the apartments where a multiple homicide occurred. But even back in the mid-nineties, after I moved in, I heard all kinds of stories about people who had been found dead and murdered there. This was after I had witnessed the violent death of one of my best friends who was the victim of a drive by shooting. Needless to say, I was very scared at night and had a hard time living there with my baby boy.

Shortly after moving there, I decided very quickly that I did not want this life. I began to look into going to school and finding a way to improve my situation. I enrolled into Tulsa Junior College (now Tulsa Community College) for a math course. I did not have my own transportation so I would catch the bus or drive the family car to school whenever my mom was not using the car or if she was at work. I finished the course with a B, and I was very proud of myself. This gave me a boost of confidence to later pursue a college education.

By the time I was 19, I was beginning to make some life-changing decisions in my life. I had given up drugs and alcohol and started changing who I hung around. I began to realize that if I wanted a better life for my child and me, I would have to start making better decisions. I also told my boyfriend that he would have to make some changes too. After he was released from prison, he still was not quite ready to make any serious changes, so I decided to break up with him. I also took a trip to Albany, New York, to meet my father for the first time. I quickly learned that I had not missed much by not having him in my life and he still has never lived up to his role as a father in my life. Meeting him was also a relief and lifted the burden of never knowing who he was.

At the age of 20, I moved to Phoenix, Arizona, to live with my godparents. My godparents were very instrumental in my decision to seriously pursue my education and become a community servant. In 1995, my godparents started an outreach ministry called Keep the Peace World Ministries (KPWM). I served as a missionary and teacher during my 10 years with the organization. KPWM served a variety of individuals and families: the homeless, drug and alcohol addicts, ex-convicts, prostitutes, teens and elderly, rich and poor and just about any other population that can be thought of. We helped these individuals find housing and nutrition assistance, rehabilitation services, educational services, spiritual guidance to name a few. During that time, I learned so much about other religions, cultures, and other ways of living and about the struggles that people were going through on a day-to-day basis. I had no idea that I was doing case management and social work, but I knew that I loved it. I also learned a great deal about myself, my capacity to love, and forgive and minister to those less fortunate than me.

However, during those 10 years, I had many struggles of my own. I had been homeless, living in family shelters with my young son. I lived in poor neighborhoods; for one period, I lived in a duplex with no running water or electricity and had to plug in an extension cord from my duplex to my godparents duplex to have electricity. Thankfully, my son was able to stay in my godparents' duplex where he had access to everything he needed. I also had to fill up several 25 gallon buckets every evening to ensure that I would have water to flush my toilet throughout the day and overnight. I spent my days at school, and I spent my evenings and free time doing missionary work. It was a very difficult life, but I loved it because it brought me so much joy to be helping others and I was able to teach my son the value of education and service to the needy. I also had the love and support of my godparents and godsisters so it definitely made it worthwhile. By 2002, I had earned my associates degree and was able to find descent work and began saving my money. Later my godfamily and I saved up enough money to move to a nice neighborhood in Tempe, Arizona. We continued our ministry work and service to needy individuals and families through the church and gained lots of friends over the years.

At the age of 30, in 2005, I decided to move back home to Oklahoma. I missed my family and wanted my son to get to know his father's families and me as well. My boyfriend and I reconnected and started dating again. We had both grown up a great deal and found that we were still attracted to one another after all those years. Shortly after moving back, I decided that I wanted to pursue a degree in social services. I enrolled in school and earned a bachelor's degree in human services and management and graduated with a 3.8 GPA. I was so proud of myself and often reflected on where I had come from. However, I believe that most of the bad things that happened in my life were because of the choices I made. My then boyfriend and I are now married, and we had another baby boy. And, my oldest son and his girlfriend now have a child of their own. I am a grandmother now. My son works full-time and goes to school part-time at TCC. I am beginning to see my life come full circle.

After achieving some success, I began to think about going back to school to earn a master's degree in social work. So in the fall of 2012, I started the MSW program at the University of Oklahoma in Tulsa to begin my dream of becoming a social worker and I am confident

that I will succeed. I also plan to become a licensed clinical social worker so that I can help individuals not only on a material level but also on a therapeutic level as well.

I was a teenage mother and went through many struggles and overcame many obstacles; having those experiences has given me a passion to want to help other single teen mothers. My goal is to help them get on the path to education and motivate them to become self-sufficient. I believe that having an education is vital to being able to obtain gainful employment, which can lead to living a good life and breaking the cycle of poverty. This is the vision I have for the young mothers that I want to work with. Hopefully, in the future, I will be able to start a foundation or scholarship of my own that will be for single mothers who are pursuing their education. I want to inspire them and show them that no matter where you have come from and what you have been through, you can make it and you can make a difference.

Family Picture

Appendix A: Developed Countries

Countries and territories classified as the **developed** nations by the United Nations: Andorra; Australia; Austria; Belgium; Canada; Cyprus; the Czech Republic; Denmark; Estonia; Finland; France; Germany; Greece; Holy See; Hungary; Iceland; Ireland; Israel; Italy; Japan; Latvia; Liechtenstein; Lithuania; Luxembourg; Malta; Monaco; the Netherlands; New Zealand; Norway; Poland; Portugal; San Marino; Slovakia; Slovenia; Spain; Sweden; Switzerland; the United Kingdom; the United States (UNICEF 2011. The State of the World's Children 2011. NY: United Nations Children's Fund).

Appendix B: Developing Countries

Countries and territories classified as the **developing** nations by the United Nations: Afghanistan; Algeria; Angola; Antigua and Barbuda; Argentina; Armenia; Azerbaijan; Bahamas; Bahrain; Bangladesh; Barbados; Belize; Benin; Bhutan; Bolivia (Plurinational State of); Botswana; Brazil; Brunei Darussalam; Burkina Faso; Burundi; Cambodia; Cameroon; Cape Verde; the Central African Republic; Chad; Chile; China; Colombia; Comoros; Congo; Cook Islands; Costa Rica; Côte d'Ivoire; Cuba; Cyprus; the Democratic Republic of the Congo; the Democratic People's Republic of Korea; Djibouti; Dominica; the Dominican Republic; Ecuador; Egypt; El Salvador; Equatorial Guinea; Eritrea; Ethiopia; Fiji; Gabon; Gambia; Georgia; Ghana; Grenada; Guatemala; Guinea; Guinea-Bissau; Guyana; Haiti; Honduras; India; Indonesia; Iran (the Islamic Republic of); Iraq; Israel; Jamaica; Jordan; Kazakhstan; Kenya; Kiribati; Kuwait; Kyrgyzstan; the Lao People's Democratic Republic; Lebanon; Lesotho; Liberia; Libya; Madagascar; Malawi; Malaysia; Maldives; Mali; Marshall Islands; Mauritania; Mauritius; Mexico; Micronesia (Federated States of); Mongolia; Morocco; Mozambique; Myanmar; Namibia;

Nauru; Nepal; Nicaragua; Niger; Nigeria; Niue; Occupied Palestinian Territory; Oman; Pakistan; Palau; Panama; Papua New Guinea; Paraguay; Peru; the Philippines; Qatar; the Republic of Korea; Rwanda; Saint Kitts and Nevis; Saint Lucia; Saint Vincent and the Grenadines; Samoa; Sao Tome and Principe; Saudi Arabia; Senegal; Seychelles; Sierra Leone; Singapore; Solomon Islands; Somalia; South Africa; South Sudan; Sri Lanka; Sudan; Suriname; Swaziland; the Syrian Arab Republic; Tajikistan; Thailand; Timor-Leste; Togo; Tonga; Trinidad and Tobago; Tunisia; Turkey; Turkmenistan; Tuvalu; Uganda; the United Arab Emirates; the United Republic of Tanzania; Uruguay; Uzbekistan; Vanuatu; Venezuela (the Bolivarian Republic of); Viet Nam; Yemen; Zambia; Zimbabwe (UNICEF. 2011. The State of the World's Children 2011. NY: United Nations Children's Fund).

Appendix C: Least Developed Nations

Countries and territories classified as the least developed nations by the United Nations: Afghanistan; Angola; Bangladesh; Benin; Bhutan; Burkina Faso; Burundi; Cambodia; the Central African Republic; Chad; Comoros; the Democratic Republic of the Congo; Djibouti; Equatorial Guinea; Eritrea; Ethiopia; Gambia; Guinea; Guinea-Bissau; Haiti; Kiribati; the Lao People's Democratic Republic; Lesotho; Liberia; Madagascar; Malawi; Maldives; Mali; Mauritania; Mozambique; Myanmar; Nepal; Niger; Rwanda; Samoa; Sao Tome and Principe; Senegal; Sierra Leone; Solomon Islands; Somalia; Sudan; Timor-Leste; Togo; Tuvalu; Uganda; the United Republic of Tanzania; Vanuatu; Yemen; and Zambia (UNICEF. 2011. The State of the World's Children 2011. NY: United Nations Children's Fund).

Appendix D

Issues to cover in a sexual education curriculum for children and adolescents.

Reproductive Anatomy and Physiology
  Respect for all genders
  Intercourse, baby grows in uterus
  Puberty and body changes—no pregnancy before puberty
  Pregnancy and birth
Body Image
  Value of differences—male/female, shapes, sizes, colors, disabilities, etc.
  Pride in and appreciation of one's body
  Homosexuality and heterosexuality and appropriate labels (gay men and lesbians)
  Respect for all sexual orientations
Relationships
  Families
Different kinds of families
Role of families: taking care of each other, developing rules, loving each other
  Friendship
Components of friendship
Sharing, hurting, and forgiving feelings
  Love
Importance of showing and sharing love
Different ways to show love (family, friends, etc.)
Dating
  Definition of dating
  People who date: teenagers, unmarried adults, single parents
Marriage and Commitments
  Divorce; reasons and difficulties of divorce
  Raising children
  Adoption
Values
  Decision-making
  Getting help in making decisions
Communication
  Assertiveness
  Personal rights and telling people what you want
  Who to ask for help: parents, teacher, counselor, minister, a friends' parent
Body curiosity is normal
  Masturbation
  Boys and girls masturbate
  Private (not secret) activity
Shared Sexual Behavior
  Touching, hugging, kissing, sexual behavior

To show love and share pleasure
Human Sexual Response
Normal, healthy for people to enjoy
Contraception and Abortion
Wanted and unwanted pregnancies
STDs and HIV
Definition and causes of STIs
Ways of can and cannot get STIs
Sexual Abuse
Body rights
Good touch/bad touch
What to do if you feel abused or afraid—tell a trusted adult
Never the fault of the child
Both boys and girls can be abused
Reproductive and Genital Health
Keeping your genitals healthy—washing, doctor visits
Healthy and unhealthy behavior during pregnancy—drugs/smoking, etc.
Gender Roles
Sexuality and Religion
Religious opinions on sexuality
Diversity
Stereotypes
Discrimination—all people should be treated fair and equally
Sexuality and the Media
Truth versus fiction about sexuality on TV/movies/Internet
CommercialsAn important activity involves providing hands-on, realistic models of the male and female genitalia for children to touch, take apart, and examine. This may be a child's only chance to see adult genitalia up close before they become adults themselves.

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Biological Determinants and Influences Affecting Adolescent Pregnancy

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Starting from a Biological Perspective

The basic assumptions employed by professionals to define *adolescent pregnancy* give direction to research and authority to policy and interventions that form the services provided by the medical and helping professionals. Accordingly, because adolescent pregnancy is first of all a biological process, logically professional assumptions would start from a *biological* perspective. The biological reality is that adolescent girls and boys need sexual and reproductive health care and education designed to meet their needs given their physical and emotional development. The risk they face from genetic vulnerabilities and environmental exposures is too great to keep them ignorant about their sexual and reproductive development. One example of a service that is obvious from a biological perspective is based on data that show almost 1 in 8 girls reaches menarche while still in primary school. When designing programs to provide sexual and reproductive health information and health services for adolescent girls, if we first consider the biological variations in sexual development among primary school girls, we would provide them with the education and services girls need when reaching menarche. Yet, in many countries, adolescent sexuality and pregnancy are seen as a moral problem not as a biological process. Thus, in many countries and cultural groups, primary school girls are viewed as too young to receive sexual and reproductive services and, too often as a result, suffer from long-term adverse consequences.

Adolescent pregnancy is a natural phenomenon that is biologically available to virtually all adolescent girls. This biological imperative means that essentially all adolescent girls have the potential to become pregnant. Because of this reality, there is a bona fide need to provide maternal health education and care in the most comprehensive way possible.

From a biological perspective, the answer is to intervene medically and psychosocially to prevent a pregnancy from doing harm to the adolescent mother and her child. This includes providing services to address specific physical and psychosocial issues that are common among adolescent girls. Novelist Hilary Mantel

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described the phenomenon of adolescent pregnancy as: "Having sex and having babies is what young women are about. And their instincts are suppressed in the interests of society's timetable" (Davies 2010).

Far from being harmless, however, there is agreement among medical professionals that adolescent pregnancy and motherhood at a very young age are correlated with elevated health risks for young adolescent mothers and their children. For the most part, the harm is a result of the immaturity of the girl's body. Conversely, there is substantial disagreement that delaying childbearing until adulthood results in better outcomes. This conclusion is based on the preponderance of research that describes adolescent pregnancy as a problem. However, from a biological perspective, reproductive maturity and adequate resources result in the best pregnancy outcomes.

Many who question the research that describes adolescent pregnancy as a problem point out that starting one's research based on the assumption that adolescent pregnancy is a *problem* is likely to produce research describing adolescent pregnancy in terms of different *problems*. Given the basic assumption that adolescent pregnancy is a problem, it is no wonder that policies and interventions are designed to prevent adolescent pregnancy while neglecting sexual and reproductive health education and services.

When examining the medical, social, political, and public response to adolescent pregnancy in different countries around the world, it becomes apparent that the biological perspective (a culmination of physiological and anatomic processes) is not the dominant perspective and most often takes a backseat to political, cultural, religious, and vague moral interests (Furstenberg 2007). Next in this chapter, the biological evidence that can inform our understanding of adolescent sexuality and pregnancy is presented.

Biological Determinants

Maturation is the process of developing biological imperatives needed by living organisms to perpetuate their existence. The imperatives that must emerge during maturation have been summarized as survival, territorialism, competition, reproduction, and quality of life-seeking. The reproduction imperative, as a focus of adolescent pregnancy in modern society, has little to do with nature and almost all to do with culture. Which begs the question, those who do not fulfill an imperative are by definition described as maladaptive, while those that do fulfill an imperative are described as adaptive? By definition, adolescent pregnancy satisfies the reproductive imperative.

Adolescent pregnancy in modern society, however, is maladaptive not because of some endemic organic force but because of the preeminence of individual economic security over procreation. There is no support in a modern society for dependent, pregnant, and parenting adolescents. Nevertheless, research, since the 1990s, has clearly demonstrated that there are both evolutionary and genetic influences that affect a girl's early fertility and resultant sexual behaviors. Even behaviors that we had assumed were exclusively the result of environmental experiences that have been shown to be influenced by individual genetic makeup. The assumption is that there are genetic underpinnings of behavioral phenotypes. Studies using *behavior genetic designs* (i.e., identical twin studies and studies of the children of identical twins) in order to control for genetic influences have been conducted to rule out genetic influences. This line of research has not ruled out a genetic influence on adolescent sexual behavior. Instead, this research found considerable evidence that while the environment affects and influences a girl's sexual behavior, a girl's *genes* also affect and influence her sexual behavior. Including knowledge of this *gene–environment interplay* (D'Onofrio 2003; Jaffee and Price 2007) when designing health and education services could result in more adolescent-friendly and effective sexual and reproductive health services.

To come to the point, as specific genes are identified, we can begin to explore important and pressing questions about behavior. How do these genetic influences interact with environmental

factors to shape development and behavior? How do we interpret these findings? How do we ask new questions about these findings? How do we celebrate the knowledge? And how could we use or misuse this knowledge? These issues are pervasive in all areas of human research, and they are especially salient in human behavioral genetics.

Investigating Early Fertility

Behaviors related to menarche and fertility and particularly early fertility are prime candidates for investigating the importance of evolutionary and biological predisposition on adolescent sexual and reproductive behavior. Important to our understanding of adolescent pregnancy is this concept that the physiological and anatomic processes involved in puberty are affected by environmental exposure. In biological terms, puberty is a series of physiological and anatomic processes that occur during adolescence. Puberty is also the state of physiological development after which the adolescent is physically able to sexually reproduce. Grumbach and Styne (1998) defined puberty as an individual process of development driven by a gonadotropin-releasing hormone (often referred to as the growth hormone) in the hypothalamus. In addition to gonadotropin secretion, the gonadal steroids (often referred to as the sex steroid) combine and result in puberty.

Yet, the timing of normal puberty varies around the world and by some measures has changed over time. In the past, precocious puberty was defined as sexual development before the age of 8 in girls and age of 10 in boys. In 1999, these limits were revised to 7 years of age for Caucasian girls and 6 years of age for African-American girls. Precocious puberty is four to eight times more prevalent in girls than in boys.

Precocious puberty means having the premature signs of puberty such as the development of breasts, testes, pubic and underarm hair, body odor, menstrual bleeding, and increased growth. Among girls, the first signs of precocious puberty are the appearance of pubic hair and budding breasts. Menarche is highly correlated with the appearance of breast buds and is therefore considered to be an indicator of early onset of puberty.

In previous studies, differences in the timing of puberty have been explained in terms of variations in ethnicity, geographical, and socioeconomic conditions. These models, however, are not a good explanation for an increased incidence of sexual precocity observed in the United States since the 1980s. While ethnicity, geographical, and socioeconomic conditions cannot adequately explain the drop in the age of puberty in the United States, the onset of puberty as a possible sensitive and early marker of the interactions between environmental conditions (such as industrial and household chemicals) and genetic susceptibility is hypothesized as a possible explanation (Parent et al. 2003).

Sociosexuality: Genes and Environmental Interaction

Theories about sociosexual development tend to focus on the environmental influences (for the most part the parental effects) that shape individual sexual behavior. The causal connections between parental influence and child outcomes using typical family samples are limited, however, by the inability of this approach to account for all of the malleable conditions both environmental and genetic that could influence behavior, particularly sexual behavior.

So far, we know that social learning and environmental influences explain a great deal about individual behavior and preferences. What we have learned since the 1980s is that environment and learning explain a lot less about behavior than previously thought. What we do know, in reference to sexual behavior, which is of importance to our understanding of adolescent pregnancy, is that substantial variation in human sexual and reproductive behaviors is inherited. Explained by evolutionary theory,

genetics is predicted to be a major influence on sexual behavior because sexual behavior is the most proximal determinant of fertility, the evolutionary process by which genic reproduction is modified or maintained. Moreover, in some developmental processes, it is reasonable to expect that some genetic influences will be stronger in older children. As children mature and are free to express their genetic preferences in selecting their environment and associates, they will be more influenced by their genetic influences.

To test genetic theory, twin studies have been conducted and show that monozygotic (MZ) twin pairs (fertility-related phenotypes) can vary in early onset or late onset of maturation. Among the twin pairs, however, whether development is early or later—the age of onset of menarche and the age of first sex, the desired age of marriage, and the desired age to have children are virtually the same for each twin in the pair. These findings strongly support the hypothesis that genetic differences between individual girls account for their variation in sexual timing (Aragona 2006; Bailey et al. 2000; Dunne et al. 1997; Lyons et al. 2004; Martin et al. 1977; Rowe 2002; Waldron 2004). Additionally, among males, functional polymorphisms for dopamine receptor genes (*DRD4 48 bp VNTR*) are associated with earlier age at first sex, migratory behavior, and a greater frequency of multiracial ancestries (Miller et al. 1999). What the twin studies have demonstrated is that variation in social behavior partly reflects individual genetic differences and environmental influences. In modern society, however, the individual's genetic predisposition is also influencing the shape and form of the individual's environment. When individuals are free to select their social environment (friends, schools, occupations, organizations, and sexual partners) they are more incline to select social environments based on their genetic predisposition than individuals with little control over selecting their social environment (Scarr and McCartney 1983). This self-selection phenomenon in humans is obvious in numerous situations. The self-selection into a compatible profession, for instance, is virtually essential for success.

Children-of-twins and family comparison studies have added to our confidence in the *gene–environment interplay* explanation of adolescent pregnancy. This methodological design provides an additional rigorous test of the degree of genetic influence on a child's life trajectory. The children-of-twins design has been used to examine the influences of marital conflict (Harden et al. 2008), stepfathering (Mendle et al. 2006), harsh punishment (Lynch et al. 2006), smoking during pregnancy (D'Onofrio et al. 2003), marital dissolution (D'Onofrio et al. 2005, 2006), parental schizophrenia (Gottesman and Bertelsen 1989), and parental alcohol/drug problems (Jacob et al. 2003) on child adjustment.

As opposed to the *gene–environment interplay* construct, modeling theory explains that children acquire their mating strategy after observing their parents' relationship, which is an example of a specific behavior that would appear to be a case of social learning. Thus, if policy were based on modeling theory, a prevention strategy would be needed to shape the relationships of parents or at least to persuade a child that there are specific acceptable sociosexual behaviors.

If there is empirical support for this social learning hypothesis, researchers would find a strong shared environmental component among children from specific environments. The environment would have a statistically significant influence on the children's sexual behavior. This was not found to be the case.

In a number of studies, similar to the work by Bailey et al. (2000), a large, representative sample of volunteer twins showed that familial resemblance in sexual tendency appeared primarily due to genetic rather than similar environmental factors. This evidence is substantial. It makes the case for concluding that genetics has a profound influence on sexual behavior, and thus, these genetic influences must be incorporated into the design and development of reproductive and sexual policy and programming.

Adolescent Pregnancy and the Nature Versus Nurture Conundrum

The gaps in our knowledge about the different levels of influence from nature and nurture continue to create dissidence. Most reasonable people who have studied the issue agree that both nature and nurture shape our sexuality, however, to what degree is still in question.

Studies that support the gene–environment interplay have investigated how it affects menarche, a physical event thought to be purely biological. To make the point about the influence of the contributions of gene–environment interplay, body mass index (BMI) (body weight) and its role in causing variations in the age of the onset of menarche have been instructive. A study referred to as the FinnTwin16 study recruited twins (1,283 twin pairs) from consecutive birth cohorts from the national population registry, which included 100 % of all living twins in Finland. There were 468 MZ girls, 378 girls from like-sex dizygotic pairs, 434 girls from opposite-sex pairs, and 141 older female siblings of the twins.

Girls from opposite-sex dizygotic twin pairs had a significantly higher mean age at menarche (13.33 years) than like-sex dizygotic twin pairs (13.13 years). The MZ correlation for age at menarche was $r = 0.75$, the like-sex dizygotic correlation was $r = 0.31$, and for the opposite-sex twin pairs, the correlation was $r = 0.32$. A bivariate twin analysis of age at menarche and BMI indicated that 37 % of the variance in age at menarche can be attributed to additive genetic effects, 37 % to dominance effects, and 26 % to unique environmental effects. The correlation between additive genetic effects on age at menarche and BMI was $r = 0.57$, suggesting a sizable percentage of genetic effects on menarche and puberty (Kaprio 1995).

Subsequently, what is most striking about the genetic influence on early fertility is that it accounts for over 50 % of the variation in early fertility. This finding is especially important to providing sexual and reproductive services to young girls. It is especially troubling, however, because of the social and emotional cost borne by adolescent girls who become pregnant. Costs that where far too many girls and adolescents end in a negative life cycle for them and their children (Kohler et al. 2002).

Where sufficient BMI is needed for menarche to begin, obesity is strongly associated with when girls reached menarche at a significantly earlier age than girls within a normal weight range. The report by Bau et al. (2009) is representative of this line of research. In the Bau study, girls who were overweight started menarche at 12.5 years of age, while girls within a normal weight range started at age 12.9. Underweight girls were much later at 13.7 years of age. The body weight for all girls was similar irrespective of age and height (Bau et al. 2009).

Puberty, Age of Menarche, and the Genetic Influences

The worldwide median age of menarche is estimated to be 14 years of age. About 50 % of girls began menarche before age 14 and 50 % start after age 14. Most often in developed countries and modern urban areas, the age of onset of menarche is under 14 years of age. Among girls living in developing countries, the age of onset of menarche is over 14 years of age. There are also significant differences by geographical region, race, and ethnicity. The average age of menarche in the United States is about 12.5 years of age. In China, the age of menarche onset is 12.8 years. In Nigeria, the average age is 13.7 years (Ikaraoha 2005). In Sudan, it is 13.85 (Attallah et al. 1983). In Morocco, it is 13.66 (Montero 1999), and in Mozambique, it is 13.9 years of age (Padez 2003). Table 1 provides age of menarcheal t from a sample of counties from around the world.

In addition to the average age of menarche varying from country to country, the average age of menarche also has varied significantly over decades. To illustrate this variation over time, the average age of menarche among girls in the