Adolescent and Youth Reproductive Health in India

Status, Issues, Policies, and Programs
POLICY is funded by the U.S. Agency for International Development under Contract No. HRN-C-00-00-00006-00, beginning July 7, 2000. The project is implemented by Futures Group International in collaboration with Research Triangle Institute and the Centre for Development and Population Activities (CEDPA).

ADOLESCENT REPRODUCTIVE HEALTH IN INDIA

Status, Policies, Programs, and Issues

S. D. Gupta, MD, PhD
Director, Indian Institute of Health Management Research
Jaipur, India

January 2003

POLICY Project
# Table of Contents

Acknowledgments ............................................................................................................................... iii

Abbreviations .......................................................................................................................................... iv

1. Introduction ........................................................................................................................................ 1  
   ARH indicators in India............................................................................................................................ 2

2. Social context of ARH......................................................................................................................... 3  
   Gender socialization ............................................................................................................................ 3  
   Education and employment ...................................................................................................................... 3  
   Marriage .................................................................................................................................................... 4

3. ARH issues........................................................................................................................................... 5  
   Psychosocial health ............................................................................................................................... 5  
   Reproductive health ............................................................................................................................... 5  
   Sexual health ............................................................................................................................................. 8

4. Legal and policy issues related to ARH .............................................................................................. 9

5. ARH programs ..................................................................................................................................... 11

6. Operational barriers to ARH .............................................................................................................. 16

7. Recommendations ............................................................................................................................... 18

Appendix 1. Data for Figures 1 through 4 ........................................................................................... 20

References ................................................................................................................................................. 21
This report was prepared by the POLICY Project as part of a 13-country study of adolescent reproductive health issues, policies, and programs on behalf of the Asia/Near East Bureau of USAID. Dr. Karen Hardee, Director of Research for the POLICY Project oversaw the study.

The author is thankful to Mr. Anoop Khanna, Sr., Research Office, Indian Institute of Health Management Research, Jaipur, India, for his assistance in preparing this report.

The author would also like to thank the following people for their support of this study: Lily Kak, Gary Cook, and Elizabeth Schoenecker at USAID; and Ed Abel, Karen Hardee, Pam Pine, Lauren Taggart Wasson, Katie Abel, Nancy McGirr, and Koki Agarwal of the Futures Group. The views expressed in this report do not necessarily reflect those of USAID.

POLICY is funded by the U.S. Agency for International Development under Contract No. HRN-C-00-00-0006-00, beginning July 7, 2000. The project is implemented by the Futures Group International in collaboration with Research Triangle Institute (RTI) and the Center for Development and Population Activities (CEDPA).
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDS</td>
<td>Acquired immune deficiency syndrome</td>
</tr>
<tr>
<td>ARH</td>
<td>Adolescent reproductive health</td>
</tr>
<tr>
<td>ASFR</td>
<td>Age-specific fertility rate</td>
</tr>
<tr>
<td>CEDPA</td>
<td>Centre for Development and Population Activities</td>
</tr>
<tr>
<td>CSW</td>
<td>Commercial sex worker</td>
</tr>
<tr>
<td>DANIDA</td>
<td>Danish Agency for Development Assistance</td>
</tr>
<tr>
<td>FP</td>
<td>Family planning</td>
</tr>
<tr>
<td>HAPI</td>
<td>Healthy Adolescent Project in India</td>
</tr>
<tr>
<td>HIV</td>
<td>Human immuno-deficiency virus</td>
</tr>
<tr>
<td>ICDS</td>
<td>Integrated Child Development Services</td>
</tr>
<tr>
<td>ICMR</td>
<td>Indian Council of Medical Research</td>
</tr>
<tr>
<td>ICPD</td>
<td>International Conference on Population and Development</td>
</tr>
<tr>
<td>ICRW</td>
<td>International Center for Research on Women</td>
</tr>
<tr>
<td>IEC</td>
<td>Information, education, and communication</td>
</tr>
<tr>
<td>IIHMR</td>
<td>Indian Institute of Health Management Research</td>
</tr>
<tr>
<td>IIPS</td>
<td>International Institute of Population Sciences</td>
</tr>
<tr>
<td>ILO</td>
<td>International Labor Organization</td>
</tr>
<tr>
<td>IUD</td>
<td>Intrauterine device</td>
</tr>
<tr>
<td>MTP</td>
<td>Medical Termination of Pregnancy (Act)</td>
</tr>
<tr>
<td>NFHS</td>
<td>National Family Health Survey</td>
</tr>
<tr>
<td>NGO</td>
<td>Nongovernmental organization</td>
</tr>
<tr>
<td>NSS</td>
<td>National Service Scheme</td>
</tr>
<tr>
<td>NSSO</td>
<td>National Sample Survey Organization</td>
</tr>
<tr>
<td>RCH</td>
<td>Reproductive and child health</td>
</tr>
<tr>
<td>RTI</td>
<td>Reproductive tract infections</td>
</tr>
<tr>
<td>RTI</td>
<td>Research Triangle Institute</td>
</tr>
<tr>
<td>RHS</td>
<td>Rapid Household Survey</td>
</tr>
<tr>
<td>SAARC</td>
<td>South Asian Association for Regional Cooperation</td>
</tr>
<tr>
<td>SERC</td>
<td>State Education Resource Centre</td>
</tr>
<tr>
<td>STI</td>
<td>Sexually transmitted infection</td>
</tr>
<tr>
<td>TFR</td>
<td>Total fertility rate</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>UNESCO</td>
<td>United Nations Educational, Scientific, and Cultural Organization</td>
</tr>
<tr>
<td>UNFPA</td>
<td>United Nations Population Fund</td>
</tr>
<tr>
<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
</tr>
<tr>
<td>UT</td>
<td>Urban territory</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
</tbody>
</table>
INTRODUCTION

This assessment of adolescent reproductive health (ARH) in India is part of a series of assessments in 13 countries in Asia and the Near East.\(^1\) The purpose of the assessments is to highlight the reproductive health status of adolescents in each country, within the context of the lives of adolescent boys and girls. The report begins with the social context and gender socialization that set girls and boys on separate lifetime paths in terms of life expectations, educational attainment, job prospects, labor force participation, reproduction, and duties in the household. The report also outlines laws and policies that pertain to ARH and discusses information and service delivery programs that provide reproductive health information and services to adolescents. The report identifies operational barriers to ARH and ends with recommendations for action to improve ARH in India.

About one-fifth of India’s population is in the adolescent age group of 10–19 years.\(^2\) It is estimated that there are almost 200 million adolescents in India (ages 15–24) (Figure 1). It is expected that this age group will continue to grow reaching over 214 million by 2020 (Figure 1). However, growth for this age group will peak at 223 million in 2015 and will then slow. There is wide disparity between educational achievement for boys and girls; however rates between 1993 and 1999 are improving for girls. In 1999, almost 40 percent of girls had no education, compared with less than 17 percent of boys. Similarly, 38.6 percent of girls have secondary or higher education, compared with 57.1 percent of boys (Figure 2). Rates of primary incomplete and some secondary are virtually identical for boys and girls. Projections estimate significant increases in adolescent pregnancies and births over the next 20 years. An estimated 20.2 million pregnancies resulted in about 15 million births in 2000. This number will peak around 2015. By 2020, an estimated 23.6 million pregnancies will result in 17.6 million births to adolescents (Figure 3). Unmet need among adolescents has declined by about 3 percent between 1993 and 1999; however, it is higher among younger teens. In 1999, unmet need was 27.1 percent among adolescents ages 15–19, and 24.4 percent among 20–24 year-olds (Figure 4).

However, despite adolescents being a huge segment of the population, policies and programs in India have focused very little effort on the adolescent group. Over the past 50 years, the population has grown at a rapid pace and so, too, has the adolescent population, despite a formal and a well-organized family planning program in India. Until quite recently, the approach of the family planning program has focused on achieving demographic goals by increasing contraceptive use. The commitment of the national government to the reproductive health approach forged at the International Conference on Population and Development (ICPD) in 1994 has reshaped the family welfare program into a broad-based Reproductive and Child Health (RCH) Services Program in India. Policymakers and planners have now realized that the adolescent population group has specific health and developmental needs. There is a growing understanding that adolescence is a bridge between childhood and adulthood. The newer focus on RCH also has been invigorated by the continuing realization of the importance of women’s health; it is now widely accepted that if the health of women is to be improved, the health of adolescents must be given high priority in Indian policy and program development and implementation.

Unfortunately, the special needs of adolescents are rarely addressed by the educational, health, and family welfare programs in India. Adolescence is a transition phase through which a child becomes an adult. It is the period during which rapid physical growth, physiological and psychosocial changes, the development of secondary sexual characteristics, and reproductive maturation occur. During adolescence,
an intense sexual drive develops and adolescents typically start exploring relationships with the opposite sex. Adolescents start defining social relationships outside of the family. Their behavior is guided by an intense desire for independence and identity. In the process, adolescents undergo intense psychological stress and personality change.\(^3\)

**ARH indicators in India**

---

**Figure 1. Total Adolescent Population (Ages 15-24)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>200,000</td>
<td>150,000</td>
</tr>
<tr>
<td>2005</td>
<td>220,000</td>
<td>170,000</td>
</tr>
<tr>
<td>2010</td>
<td>240,000</td>
<td>190,000</td>
</tr>
<tr>
<td>2015</td>
<td>260,000</td>
<td>210,000</td>
</tr>
<tr>
<td>2020</td>
<td>280,000</td>
<td>230,000</td>
</tr>
</tbody>
</table>

---

**Figure 2. Years of Education Completed (Ages 15-24)**

<table>
<thead>
<tr>
<th>Year</th>
<th>No Education</th>
<th>Primary Incomplete</th>
<th>Primary Complete/ Some Secondary</th>
<th>Secondary Complete and Higher</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>30%</td>
<td>40%</td>
<td>20%</td>
<td>10%</td>
</tr>
<tr>
<td>1999</td>
<td>20%</td>
<td>30%</td>
<td>40%</td>
<td>10%</td>
</tr>
</tbody>
</table>

---

**Figure 3. Annual Pregnancies and Outcomes (Ages 15-24)**

- Births
- Abortions
- Miscarriages

---

**Figure 4. Total Unmet Need for FP (Ages 15-24)**

<table>
<thead>
<tr>
<th>Year</th>
<th>15-19</th>
<th>20-24</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>15%</td>
<td>20%</td>
</tr>
<tr>
<td>1999</td>
<td>15%</td>
<td>20%</td>
</tr>
</tbody>
</table>

---

Note: See Appendix 1 for the data for Figures 1 through 4

---

\(^3\) Rao, 1995.
Among the most important aspects of the social context of ARH to consider are gender socialization, education and employment, and marriage. These are discussed below.

**Gender socialization**

India has traditionally been a male dominated society. There is a strong son preference in most parts of India, and girls tend to be discriminated against by their families. It is not enough, therefore, to highlight adolescence in general; a larger focus of the girl child also must be addressed. Demographic trends indicate deep-rooted gender discrimination. Discrimination begins with female feticide and prenatal sex determination. Sex preselection is popular in many states in India, namely Maharashtra, Rajasthan, Punjab, Haryana, and Tamil Nadu. There is an unfavorable sex ratio of 927 females to 1,000 males, except in the states of Kerala and Goa. The female infant mortality rate of 71.1 per 1,000 live births, is lower than the male infant mortality rate of 74.8, but the child mortality rate is considerably higher for girls (37 deaths per 1,000) than for boys (25 deaths per 1,000). Girls are deprived of nutrition, access to health care, and opportunities for education and employment. They are taken out of schools when they reach menarche. From the very beginning of life, girls are groomed to accommodate the male-dominated, patriarchal society. Girl children grow into adulthood without being able to experience the important period of adolescence. They work in the home, look after siblings, and assist their mothers in the fields. Then they are married off early to soon become mothers themselves, still unarmed with knowledge about reproductive needs and rights. The situation is similar, more or less, in different states of the country.

**Education and employment**

Nearly twice the percentage of girls, 46.6 percent, are illiterate compared with males (25.5 percent). The comparison of the results obtained from the 1991 and 2001 censuses indicates that illiteracy has been declining among males and females in most states. However, the situation is still critical in states like Bihar, Rajasthan, Jammu, and Kashmir, where female illiteracy is much higher than the national average. There are only three states—Kerala, Delhi, and Goa—where female illiteracy is 25 percent or less.

There is visible and strong gender discrimination in education. The 1998–99 National Family Health Survey-2 (NFHS-2) reported that among young female adolescents (ages 10–14 years), 67 percent attended school. The corresponding figure for male adolescents was 80.2 percent. There was a sharp decline in the proportion of female adolescents (ages 15–17) attending the school. Only 40.3 percent attended school compared to 57.7 percent of their male counterparts. Location had a significant influence on the schooling of females. In rural areas, only 32.7 percent of female adolescents (ages 15–17) attended school compared with 60.5 percent of female adolescents in urban areas.

Why did a fairly large number of adolescent girls not attend school? More than one-quarter of girls’ lack of education was ascribed to their responsibilities for caring for siblings at home and other household

---

5 IIPS, 2000.
7 IIPS, 2000.
responsibilities. Another quarter was ascribed to the cost of education. Among the boys, the main reasons identified for not attending school were a lack of interest in studies and the cost of education.

In India, the minimum age for working in any factory or mine is 14 years and the minimum age for government jobs is 18 years, but use of young child laborers is quite prevalent. The Planning Commission of India estimated about 20 million child laborers in the year 2000. In 1998, the National Survey Organization found that approximately 6 percent of female and male children ages 5–14 years are working in rural areas and about 5 percent are working in urban areas. They are primarily involved in work in the non-formal sectors, which is not visible and goes unreported. The 1998–1990 National Sample Survey Organization (NSSO) showed that 48.9 percent of the female work force in the 10–14 year-old age group were involved in the self-employed, non-agricultural sector.

Marriage

Indian culture promotes universal marriage. Of importance to ARH is the traditional young marriage age of girls—referred to as early marriage. The national average age at marriage for women in India is 16.4 years, although there are vast regional variations. Most northern and north-eastern states, as well as Tamil Nadu and Kerala in the south and Goa in the west, have a higher age at marriage, ranging from ages 18–22. The majority of the states in the western, central, and eastern parts of India reported an average age at marriage similar to the national average. However, NFHS-2 reports that in states like Rajasthan, Bihar, Uttar Pradesh, Madhya Pradesh, and Andhra Pradesh, girls are married at around age 15.

According to NFHS-2, about one-third of women were married by age 15 and two-thirds (64.6 percent) by age 18. Marriage by age 18 is most prevalent in Rajasthan, Bihar, Uttar Pradesh, Madhya Pradesh, and Andhra Pradesh, where nearly 80 percent of girls are married by age 18. In these states, almost one-half of the girls are married by the time they are 15 years old. Child marriages, including marriages that take place with girls in the laps of their parents, are widely practiced in the state of Rajasthan.

Nationwide, the district-based Rapid Household Surveys (RHSs) found that in 145 of the 504 districts in India, one-half of women were married before age 18. In some districts, the proportion married by age 18 was as high as 75 percent.
Adolescents constitute perhaps the healthiest group in the population, having the lowest mortality and morbidity compared with other population age groups. However, the period of adolescence, beginning with the onset of puberty, is a crucial transition into adulthood. Most adolescents go through adolescence with little or no knowledge of the body’s impending physical and physiological changes. In a country like India, where discussion about sexuality with young children is almost absent, adolescents are not prepared mentally or psychologically to cope with these changes.

**Psychosocial health**

During the transition to adulthood, lack of knowledge and awareness about reproductive organs, physiological changes, or sexuality can promote psychosocial stress. This is particularly so for girls, who also face gender discrimination. Adolescent girls and boys experience psychosocial stress. A study conducted by the State Education Resource Centre (SERC) in Uttar Pradesh established that gender equality was unknown and adolescent girls felt that they were a burden on their families and had poorer self-image while their counterparts felt superior. A recent study revealed that 14 percent of boys and 8 percent of girls had trouble with sexual thoughts, and nearly 9 percent of the boys and girls perceived premarital stress. This is particularly true for girls given that the majority of them have no knowledge of menstruation. In most cases, their mothers are the only source of information. Most girls perceive menstruation as disgusting and as a curse. Adolescent girls are also at higher risk of psychosocial stress because of gender discrimination.

There is a lack of knowledge and awareness among adolescents about health issues and problems. An Indian Council of Medical Research (ICMR) study showed that knowledge and awareness about puberty, menstruation, physical changes in the body, reproduction, contraception, pregnancy, childbearing, reproductive tract infections, sexually transmitted infections (STIs), and HIV was low among boys and girls, especially in younger adolescents (ages 10–14). Among the younger adolescents, 40 percent had little knowledge about the sex organs and most girls had not been informed about menarche prior to its onset. About one-half of the adolescents were not aware of condoms and were confused about the various modes of HIV/AIDS transmission. The study reported, however, that older adolescents (ages 15–19) had better knowledge. About 80 percent had knowledge of STIs, including HIV. Older adolescent girls were more aware than younger adolescent girls of the physical and physiological changes that take place in the body. Only one-half of the adolescents were aware of various family planning methods, and young people’s knowledge about spacing methods, such as through the use of intrauterine devices (IUDs) or oral contraceptive pills, was very low.

**Reproductive health**

High fertility rates, high rates of teenage pregnancy, high risk of STI/HIV, and poor nutritional status are the main health problems among the adolescent population in India. High fertility is related to early marriage. The age-specific fertility rate (ASFR) among 15–19 year-old female adolescents is as high as

---

16 Kaila, 2001
17 Gupta, 1998
That means one of every 10 women would have a child. There are wide urban and rural differentials in the ASFR. The rural ASFR, 0.121, is twice that of urban areas.\textsuperscript{20}

The NFHS-2 showed that over one-third of married adolescents (ages 15–19) had given birth to their first child and another one-tenth to their second child. The average age of women at the birth of their first child was 19.2 years. Births to teens in states such as Rajasthan, Madhya Pradesh, Uttar Pradesh, Bihar, Maharashtra, Karnataka, and Andhra Pradesh are more common than in other states in India, with many women younger at first birth less than the national average.\textsuperscript{21}

NFHS-2 also revealed that only 8 percent of married adolescents were currently using a method of contraception to avoid pregnancy. The use of contraceptives was lower in rural areas compared with urban areas, at 7.7 percent and 9.9 percent, respectively. Eighty-six percent of adolescents had never used contraceptives and only 7 percent used contraceptives before having any children. The remaining, ever users, 7 percent, only gave birth to one or more children before starting contraceptive use. Over one-quarter (27.1 percent) of married adolescents have an unmet need for family planning services—primarily for spacing methods (25.6 percent).\textsuperscript{22}

Teenage pregnancy, almost all of which takes place within marriage, is the major cause of poor reproductive health and health outcomes among adolescents. About 15 percent of pregnancies are among teenage girls under age 18 who have a two to five times higher risk of maternal death. Adolescent pregnant mothers, who are often already poorly nourished before becoming pregnant, run a high obstetric risk for premature delivery, giving birth to a low birthweight baby, prolonged and obstructed labor, and severe intrapartum and postpartum hemorrhage.\textsuperscript{23, 24}

Early pregnancy has shown an association with high neonatal mortality, and infant and child mortality. The NFHS-2 results show that mothers who are younger than 20 years old at the time of first birth were associated with a 1.7 times higher neonatal mortality rate and a 1.6 times greater infant mortality rate than were mothers giving birth between ages 20–29.\textsuperscript{25}

Induced abortions are yet another important reason for the poor reproductive health of women in general and adolescents specifically. An estimated six million induced abortions are performed in India, and anecdotal evidence suggests that a fairly large proportion of them are performed for adolescent mothers and unmarried teenage girls. While no realistic or accurate data are available, the enormity of the problem may be judged by the fact that 8–10 percent of those who seek medical terminations of pregnancy are teenage mothers and unmarried girls. The real percentage may be far larger. While induced abortion was legalized in India under the Medical Termination of Pregnancy (MTP) Act, a major proportion (approximately 80 percent) of all induced abortions are still performed illegally by private and untrained persons in unhygienic conditions.\textsuperscript{26} Induced abortions account for more than 11 percent of maternal deaths and significantly influence women’s reproductive health.\textsuperscript{27, 28}

\textsuperscript{20} IIPS, 2000.
\textsuperscript{21} Sabu, et al., 1999.
\textsuperscript{22} IIPS, 2000.
\textsuperscript{23} Jejeebhoy, 2000a.
\textsuperscript{24} Verma and Das, 1997.
\textsuperscript{25} IIPS, 2000.
\textsuperscript{26} Chhabra and Nuna, 1997.
\textsuperscript{27} Registrar General, India, 1993.
\textsuperscript{28} Jejeebhoy, 2000b.
A large proportion of adolescent girls suffer from various gynecological problems, particularly menstrual irregularities such as hypermenorrhea, hypomenorrhea, menorrhagia, and dysmenorrhea. As many as 40–45 percent of adolescent girls report menstrual problems. These are mainly due to psychosocial stress and emotional changes. Vesico-vaginal fistula and urinary incontinence are not uncommon. A study conducted in Madras city revealed that 42 percent of the college and 34 percent of the school-going students reported problems during menstruation. The problems included headache, stomach pain, excessive bleeding, and other vague or non-specific symptoms like lethargy and loss of appetite. Nearly two-thirds of those who had problems sought medical treatment. Although most of these are normal symptoms of menstruation among adolescents, these need to be mentioned particularly in the Indian context because most of the girls are not aware of this natural phenomenon.

There are several gynecological problems among female adolescents. These problems arise primarily as a result of changing hormone patterns (due to changes in endocrine activity during the transition from pre-puberty to puberty) and emotional, psychological, and physical changes associated with adolescence (although puberty is a normal physiological process, menstrual irregularities and dysmenorrhea may frighten young adolescents). The age of menarche among Indian girls, which is reported to be declining, ranges from 11.5–14.5 years, with the current average age being 13.5 years. This has resulted in earlier onset of puberty and secondary sex characteristics, and increased reproductive exposure. This has special significance in the Indian cultural context because early marriage and indeed, child marriage, is commonly practiced in many of the states’ rural areas.

Reproductive tract infections (RTIs) and STIs are not uncommon. In India, STIs rank third among the major communicable diseases. Of concern, however, is that approximately 12–25 percent of all STI cases are among teenage boys. STIs often go undetected or untreated among young women, who, embarrassed or stigmatized by the presence of an STI, are reluctant to seek help. Yet STI agents, such as chlamydia and human papilloma virus, can have dire consequences, such as infertility or cervical cancer. STIs also facilitate the transmission of HIV. There is very little information on the female sex partners of unmarried male students. Increased sero-positivity has been reported in Mumbai, rising from 2 percent to 30 percent in two years among commercial sex workers (CSWs), the primary makeup of whom are adolescents.

Anemia is a widely prevalent health problem among adolescent girls. Both the 1992 ICMR study on iron and folic acid supplementation and UNICEF have reported low mean hemoglobin levels and low nutritional intake of proteins, calories, and macro/micronutrients among adolescent girls and pregnant mothers. Poor physical growth and stunting are the primary outcomes of poor nutrition. The 1998–99 NFHS-2 reported that the prevalence of anemia was the highest (56 percent) among adolescents (ages 15–19) compared with other groups of women of reproductive age. Even in the prosperous state of Gujarat, over 61 percent of adolescent girls were found to be anemic with mean hemoglobin levels of 11.4 g/dl. The serum ferritin levels were less than 20 mcg/l among 58 percent of girls, indicating a severe depletion of iron. A series of studies during 1992–97 in urban areas in different parts of the country reported that 64 percent of adolescent girls were anemic. A collaborative study done in the cities of Hyderabad,
Calcutta, and Madras showed the prevalence of anemia in girls between the ages of 6 and 14 was 63.8 percent, 65.7 percent, and 98.7 percent, respectively.\(^\text{38}\)

**Sexual health**

Adolescence is shrouded in myths and misconceptions about sexual health and sexuality. In Indian culture, talking about sex is taboo. Consequently, little information is provided to adolescents about sexual health. Instead, young people learn more about sexual and reproductive health from uninformed sources, which results in the perpetuation of myths and misconceptions about puberty, menstruation, secondary sex characteristics, physiological and body changes, masturbation, night emissions, sexual intercourse, and STIs.

In India, one-half of all young women are thought to be sexually active by the time they are 18, and almost one in five are sexually active by the time they are 15. There are approximately 10 million pregnant adolescents and adolescent mothers throughout India at any given time. A study conducted in 1997 of boys and girls from the selected colleges of Mumbai revealed that a large percentage of boys and girls reported engaging in non-penetrative sexual experiences (e.g., kissing, hugging, touching sexual organs), but only 26 percent of boys and 3 percent of girls reported that they had experienced sexual intercourse.\(^\text{39}\) The study also revealed that less than 50 percent of the boys who reported that they had experienced sexual intercourse had used a condom, although all of them said they knew about condoms and their function. Another study on sexual behavior and attitudes among urban college students reported that 28 percent of males and 6 percent of females were sexually active.\(^\text{40}\) A study in 2000 in Madras found that 13 percent of male school-going adolescents and 10 percent of female school-going adolescents clearly approved of premarital sex. The study also revealed that 14 percent of the students, both boys and girls, stated that premarital sex is allowable for males only.\(^\text{41}\)

A study conducted in Rajasthan on adolescent boys’ and girls’ knowledge and awareness of sexual behavior revealed that more than half of the adolescent boys (ages 15–21 years) reported that they masturbated, and the practice was reported more often among rural and older boys.\(^\text{42}\) More than one-third of the adolescents said they touched their body in some sexual manner, and about 20 percent had touched their genitals. The study also revealed that 15 percent of the adolescents had experienced sexual intercourse and 21 percent of those reported having had a homosexual relationship.

\(^{38}\) Kumar, 2001.
\(^{40}\) Watsa, 1993.
\(^{41}\) Sirur, 2000.
\(^{42}\) Gupta, 1998.
Various ministries of the government of India have developed policies related to ARH. Some of the policies deal explicitly with adolescent health and development issues, whereas others have done so implicitly. Important relevant policies and plans that have been developed in India over the past 25 years include:

- The Children’s Code Bill, 2000
- National Health Policy, 1983
- National Nutrition Policy, 1993
- National Plan of Action for Children (Planning Commission of India), 1992
- National Policy for Children, 1974
- National Policy in Education 1986 (Modified 1992)
- National Policy on Child Labor, 1987
- National Population Policy, 1997
- National Population Policy, 2000

Some Indian states have developed their own Population Policy and Policy on Women. Where applicable, these have included concerns about adolescent health and development.

Adolescent health is the domain of the Ministry of Health and Family Welfare and the Departments of Health and Family Welfare of the states. The Ministry of Women and Child Development is significantly involved with the issues of nutrition and development of children, particularly girl children.43,44

The National Health Policy of 1983 (the draft National Health Policy 2000 is in the process of finalization) aimed at attaining health for all through primary health care.45 While the policy did not mention adolescence specifically, it emphasized safe motherhood and child survival as well as the need for the provision of health care for school-going children through the school health program. The major thrust to adolescent health, however, was given in the National Population Policy 2000.

Recognizing that the needs of adolescents, including the need for protection from unwanted pregnancies and STIs, have not been specifically addressed in the past, India’s National Population Policy 2000 underscored adolescent health as a strategic focus in achieving socio-demographic goals. The policy aims at ensuring that adolescents’ need for information, counseling, population education, and contraceptive services are accessible and affordable; food supplements and nutrition services are available; and the legislation on restraint of child marriage is enforced. The population policy also emphasized that reproductive health services for adolescent girls and boys are especially needed in rural areas, where adolescent marriage and pregnancy are most prevalent. The policy also underscored the need for programs that encourage delayed marriage and childbearing and the need for education about the risks of unprotected sex.46

---

46 Government of India, 2000b.
Another landmark policy initiative was identified in the National Education Policy, 1974, which recognized the right to education for all segments of the population and made elementary education for all children compulsory, including adolescent boys and girls. Programs have been developed and implemented to universalize education and reduce school dropouts, especially among adolescent girls. In many states, the education of girls is free until the graduate and postgraduate levels.\textsuperscript{47}

The National Youth Policy, 1986 (New Draft National Youth Policy, 2000) placed adolescent health as a subsection under the health sector. Youth empowerment and gender justice were recognized as the major thrust areas of the policy.\textsuperscript{48}

Apart from various policies, several legislative provisions have also been introduced that directly or indirectly protect the rights of adolescents. Besides constitutional provisions, some other legislative acts have been promulgated to safeguard the health and social protection of children, such as the Immoral Traffic (Prevention) Act, 1956; the Child Marriage Restraint Act, 1976; the Juvenile Justice Act, 1986; and the Child Labor (Prohibition and Regulation) Act, 1986. More recently, the Prenatal Diagnostic Techniques (Regulation and Prevention of Misuse) Act of 1994 has been promulgated to prevent selective female feticide.

\textsuperscript{47} Government of India, 1996.
\textsuperscript{48} Government of India, 2000a.
Governmental and nongovernmental organizations (NGOs) have initiated various programs as a part of the strategy to implement policies. These program initiatives have also received support from regional and international organizations and agencies. Most of the NGO programs are supported by funding as well as by technical assistance. These support organizations include governments, NGOs, and international organizations in addition to government ministries and departments. Among the major international and bilateral organizations are: UNFPA, UNICEF, UNESCO, WHO, World Bank, and DANIDA. However, the work of NGOs is still on a small scale, covering a small proportion of the adolescent population and confined to certain pockets of the country. While most of the NGOs demonstrate innovative and creative approaches, some are really in a nascent phase. The range of programs varies because of organizations’ varying experiences and capacities to undertake adolescent-related issues. There is a need to scale up these efforts in order to have a larger impact.

**RCH Services Program:** The RCH Program was launched nationwide in 1996 to provide holistic reproductive and child health care through the existing, vast network of the primary health care system. The RCH Program encompasses provisions for all aspects of safe motherhood and child survival interventions, including a focus on increased access to contraceptives, safe management of unwanted pregnancies, enhanced nutrition, prevention and management of RTIs and STIs, availability of reproductive health services to adolescents, and educational outreach. The RCH Program also focuses on providing services for gynecological problem management and cancer screening for women. The program has been in operation since 1996 and is being monitored through periodic nationwide, district-based Rapid Household Surveys.

**Integrated Child Development Services (ICDS) Scheme:** The ICDS scheme offers an integrated package of early childhood care services. These services include supplementary feeding, immunization, health checkups, referral services for children up to six years of age and for expectant and nursing mothers, and nutrition and health education for mothers. The ICDS Scheme covers almost 85 percent of the blocks in the country. There is an increasing focus on girl children under the scheme.

**Adolescent Girl Scheme:** This special intervention for girls ages 11–18 started in 1991–92 to meet their special nutrition, education, and skill development needs. This scheme has been extended to 3.9 million adolescent girls in 507 blocks throughout the country, which were selected through the ICDS scheme. The scheme also envisages imparting skills and encouraging the involvement of girls in useful economic activities later in life. The scheme has two subsets of target groups: the Girl-to-Girl Approach for adolescent girls ages 11–15 and Balika Mandal, which focuses on reaching adolescent girls ages 11–18. Under the scheme, an additional 1,493 blocks will be added to expand program coverage.

**State Plans of Action for the Girl Child:** State governments are to formulate State Plans of Action for the Girl Child appropriate to the conditions prevailing in their respective states. Thus far, the governments of Karnataka, Madhya Pradesh, Tamil Nadu, and Goa have formulated state plans of action.

**District Primary Education Program:** This Department of Education program provides a special thrust to achieve universal coverage of primary education through decentralized planning and management, decentralized target setting, community mobilization, and district- and population-specific planning.

---

50 For administrative purposes, a district is divided into smaller segments having a population of 100,000 to 120,000. These are called “blocks.”
Specific strategies have been designed to enhance girls’ access, enrollment, and retention in the school system. At present, 219 districts in 15 states are covered under the program. As a result, there has been a spurt in enrollment and an increase in learning achievements among girls. Increased community involvement, improvement in classroom processes, and a concerted equity focus have emerged as key success markers of the program.

**Baika Samriddhi Yojana, 1997:** This scheme works to raise the status of girl children born in families below the poverty line by providing financial help to these families. Some specific criteria have been laid down to provide financial assistance to the mother of a newborn girl child in the form of grants and investments through a postal financial instrument to be applied toward the education and economic independence of that child. The scheme also provides a scholarship provision for the girl’s school education. The deposit will mature and be paid to the girl if she remains unmarried until she reaches 18 years of age. More than two million girls have benefited from the scheme so far.

**National Plan of Action for the SAARC Decade of the Girl Child (1991–2000):** The heads of the government of the SAARC region declared 1991–2000 as the “SAARC Decade for Girl Child” and developed this plan of action.\(^5\) In fulfillment of this commitment, the government of India identified “Survival, Protection, and Development” as a major theme, focusing on gender-specific needs and requirements to the fullest possible extent. This was a conscious effort to ensure equitable rights, opportunities, benefits, and status to girl children.

Several other initiatives that have been taken to promote the development of children and adolescents include the following:

- The Department of Education has been running a program of nonformal education since 1979 to reach marginalized children in the 6–14 year-old age group. The plan is being implemented in 25 states/urban territories (UTs), particularly for those who have dropped out of school, working children, children in environments without schools, and girls who cannot attend formal schools on account of domestic chores.

- The National Service Scheme (NSS) was launched in 1969 with a primary focus on students’ personality development and community service. NSS involved more than 1.6 million student volunteers from more than 175 universities and 22 senior secondary councils. The scheme’s programs include “regular activities” and “special campaign programs.”

- *Bharat* Scouts and Guides, the third largest youth organization in the world, has enrolled 2.3 million guides and scouts. Scouting and guiding movements aim to develop boys’ and girls’ characters with the goal of making them good citizens of India. It inculcates in them a spirit of patriotism and promotes balanced physical and mental development.

- The Ministry of Labor is running 76 national child labor projects in the country, covering 150,000 out-of-work children in 10 States/UTs with high unemployment levels. To ensure the welfare of these children, special schools have been set up to provide basic services such as nonformal education, vocational training, supplementary nutrition, and health care.

- The Ministry of Social Justice and Empowerment has been implementing the “Integrated Program for Street Children” since 1992–93. One of the important initiatives under the program’s revision in 1998 was the establishment of the Child Help Line Services in a number of

---

cities. The Child Help Line provides emergency assistance to children. Continued involvement in the program is based on the need of the child, who is referred to an appropriate organization for long-term follow-up and care.

NGOs have addressed a range of issues related to the health and development of adolescents. These include reproductive and sexual health, general health, education, employment/skill development, gender equality, personality development, groups with special needs, and alcohol and drug abuse. Most of the NGOs work on sexuality is based on two distinct models: programs focusing on providing information on sexual issues to unmarried adolescents, and programs providing information and services.

**Population Council:** The Population Council has supported initiatives on adolescent transition in different states in collaboration with several NGOs, namely RUWSEC in Tamil Nadu, SUTRA in Himachal Pradesh, ADITHI in Bihar, CINI in West Bengal, and CHETNA in Gujarat and Rajasthan. The Population Council supported programs on adolescence run by Mahila Samakhya in Karnataka and Andhra Pradesh and in the state of Haryana, *Apni Beti Aapna Dhan*.

**MAMTA:** The Health Institute for Mother and Child in New Delhi has made significant efforts to promote the cause of adolescent health.

**Society for Social Uplift through Rural Action (SUTRA):** Sutra is based in the hilly region of Jagjit Nagar, Himachal Pradesh and regularly undertakes training programs, seminars/workshops, and courses for capacity building among various groups. These groups include *mahila mandals* (women’s groups), *panchayats* (local governing councils), and *yuvati sangathans* (adolescent girls’ groups). The organization operates in five districts (Solan, Sirmaur, Mandi, Hamirpur, and Kullu) and 10 development blocks of Himachal Pradesh. The staff works closely with 400 mahila mandals, 131 yuvati sangathans, and 100 *gram panchayats* directly through training and convening meetings or through sister organizations. The activities are geared toward wide understanding of reproductive health. The encompassing issues are body care, menstruation, RTIs, abortion, family planning, sexual relations, violence, liquor, and adolescent health.

**ADITHI:** This nongovernmental development organization, established in Bihar in 1988, has been working on adolescent issues since 1995, focusing specifically on adolescent girls ages 11–18. ADITHI started Balika Kishori Chetna Kendras (awareness centers for young unmarried girls) with support from UNICEF. The aim of the kendras is to build a community where women and men have equal status and importance. There are more than 18 kendras in 18 villages, with a total of 465 participants, of which 351 participated regularly. These kendras are now run with support from Action Aid. There are about 20–25 girls in each centre. Unlike the nonformal education centers, which are targeted at girls who have either never attended or dropped out of school, these centers are open to all, including girls attending schools or nonformal education centers.

**Prerana:** Prerana initiated adolescent programs in 1987 and in 1990, Prerana further enhanced its initiatives by launching the Better Life Demonstration Project for Girls and Young Women and a parallel program of Better Life Development Program for Boys and Young Men. The objective of each program is to create an environment of dignity and opportunity for adolescents, enabling them to achieve their full potential in terms of personal growth and ability to contribute to family, community, and societal development. The programs were implemented as a development project in six villages along the periphery of Delhi. The program targeted individuals and their peer groups, families, and communities. Learning modules included information, education, and services in the areas of personality development,

---

education, health, reproductive health, economic participation, and life skills training. Over 5,000 adolescent girls and 1,800 adolescent boys have been reached through direct field programs.

**CHETNA:** This Ahmedabad-based organization has been working on adolescent health issues in the state of Rajasthan and Gujarat. It works directly and indirectly with adolescent girls in an effort to build local capacity to address their needs. The organization conducts health camps in collaboration with local organizations and provides health services to adolescent girls. It also trains local organizations in the two states to raise awareness and address the needs of adolescent girls in their project area. Advocacy is also a key aspect of their program.

**India INCLEN:** India INCLEN, in Lucknow, developed an instrument for reproductive health counseling in the hopes of educating sexually active adolescent boys about STIs and reducing their risk behavior.

**Healthy Adolescent Project in India (HAPI) Project:** This project is based in West Bengal and works with guides and scouts in both the main city of Calcutta and other, less urban areas in the state. The project was initiated in 1999 with support from the David and Lucile Packard Foundation.

**Adolescent Girls’ Health Project – Jabalpur:** This ongoing, six-year program was initiated with support from CARE and is designed to address the reproductive health needs of nearly 32,000 adolescent girls, both married and unmarried, living in the slums of Jabalpur in Madhya Pradesh. CARE trains medical staff, community health workers, and traditional birth attendants in adolescent health issues, reproductive health care, and birth spacing. Health care workers train adolescent girls to educate their peers through school and community group meetings. The focus is on establishing a network of Adolescent Girls’ Health Guides. In addition, the project targets adolescent boys, husbands of adolescent girls, parents, teachers, and community leaders.

**Pathfinder/India:** Pathfinder’s adolescent health program will work in partnership with Indian NGOs, initially focusing on the provision of reproductive health information, education, counseling, and services for adolescents.

**International Center for Research on Women (ICRW):** ICRW is coordinating a multi-site intervention and research program to develop effective programs for adolescent sexual and reproductive health and development in India. The research has provided urban and rural community-based data on adolescents’ lives, particularly their reproductive health needs. The studies confirmed that a lack of power, decision-making opportunity, autonomy, and access to resources underlie the reproductive health risks faced by adolescents, particularly adolescent females, and those who are unmarried. The project is being implemented in two phases. Phase I (1996–1999) addressed the paucity of basic research on adolescents in India and provided urban and rural community-based data on adolescents’ lives, particularly their reproductive needs. In Phase II (1999–2005), ICRW is collaborating with five organizations in India to test multiple intervention approaches addressing the adolescents’ needs identified in Phase I.

**Centre for Development and Population Activities (CEDPA):** CEDPA, an international NGO with operations in Delhi, in collaboration with local NGOs, UNFPA, UNESCO and USAID, has adapted “Choose a Future: Issues and Options for Adolescent Boys” to the Indian cultural context and is currently implementing programs in 11 states. The package has been designed to effectively challenge gender inequalities and address male involvement. It helps to foster true partnerships in relationships, responsible fatherhood, and alternatives to violence.
Planned Parenthood Federation: Planned Parenthood has promoted four major projects with the help of local NGOs:

1. *Improving the Reproductive Health of Young Women and Men:* The goal of the project is to improve the lives of adolescents and youth by providing contraceptive services and sexuality education in 20 rural villages in a district in West Bengal with a local NGO.

2. *Couple to Couple: Improving the Reproductive Health of Young Couples in Rural India:* The project employs peer couples to work with groups of newlyweds and other young couples to motivate them to increase gender awareness, encourage supportive relationships, and plan for their new families together. The aim of this project is to create an enabling environment for young couples to overcome social, cultural, and gender barriers to plan and space their children’s births and achieve positive reproductive and child health.

3. *Improving the Reproductive Health of Adolescents and Youth:* Located in Jharkhand state, the project aims to increase young people’s knowledge and understanding about sexuality and reproductive health and help them develop communication and decision-making skills so that they may lead healthy reproductive lives.

4. *Reproductive Health Through Advocacy and Services:* The project is a part of a larger program to improve the reproductive health and rights of adolescents and youth in the Indian states of Bihar and West Bengal. The program aims to improve the general reproductive health of adolescents and young people and develop the capacity of NGOs, private providers, and government facilities to plan, sustain, and advocate for adolescent and youth reproductive health programs.
There are several barriers to ARH in India. The reproductive health needs of adolescents differ according to age, socio-cultural environment, and marital status. Some of these barriers are the following:

- Young and growing children have poor knowledge and lack of awareness about physical and physiological changes associated with the onset and presence of adolescence. They learn about sexuality and secondary sex characteristics primarily from their peer groups or other, inappropriate sources. Most girls are not informed about menarche and how to manage menstrual bleeding, and adolescents also lack knowledge about reproductive health issues. These situations could largely be remedied by effective implementation of school health programs.

- Married adolescents are more vulnerable because of the serious reproductive health risks associated with early marriage, early sexual activity, and early child bearing. Very few programs have been able to distinguish between the special reproductive health needs of married and unmarried adolescents.

- In Indian culture, it is not socially acceptable for parents to talk with children about sexuality and reproductive changes. Parents, who could—or should—be the major source of information and preparation for the transition into adulthood, have largely been uninvolved with educating their children. In most cases, mothers do not even talk to their daughters about menstruation. To encourage parents to take on this role, there needs to be a focus on increasing awareness and strengthening the environment in which this becomes acceptable behavior.

- There is a lack of proper information about programs and availability of services provided by the public sector and NGOs. Information, education, and communication (IEC) activities are poorly planned and managed.

- Adolescent health is not a mainstream strategic component of health care in India. Of late, adolescent health has been included as a component of the reproductive health package in the RCH Services Program. However, there is no clear definition of a strategic approach and activities to provide adolescent health care.

- Access and availability of public health care services are severely limited in general and in particular so for adolescent populations, given their specific health and psychosocial needs.

- Poor counseling skills and services are the major constraints to improved ARH. Health care providers have not received any training in sexuality and reproductive health counseling and are not sensitized to adolescent health needs. Counseling services hardly exist.

- Poor implementation of programs and special schemes in various sectors can be attributed to a lack of identification of clearly defined objectives, a lack of clearly outlined action plans, a lack of coordination, and a lack of project monitoring processes.

- Programs are not being sustained. NGO programs implemented are implemented for a limited period of time and depend on the availability of funds. In the public sector, too, the state government depends on the central government for funds. Funds flow irregularly and are often
delayed. Lessons learned are rarely shared and efforts to sustain programming are rarely given serious thought.
Recommendations

In India, there is an appreciable surge in policy initiatives in various concerned ministries and departments and the right policy environment exists at the national and state levels. NGOs have exhibited high levels of enthusiasm about adolescent health and development issues, especially sexuality, HIV/AIDS and STIs, and reproductive health. Several programs have been initiated in the public and NGO sectors. It is a good time to use the potential of these sectors to promote sexual and reproductive health among adolescents. Important recommendations are briefly outlined below:

- **Strengthen the public health care system at all levels, particularly RCH services**, with clearly specified strategies and activities focusing on adolescent population. The public health system needs to develop additional physical facilities and equipment and enhance and provide additional resources.

- **Promote and strengthen intersectoral coordination at the policy and program levels.** The existing policies and strategies are complimentary and supplementary to each other and have a common theme. The integration of policies and programs will help to avoid the duplication of efforts and will also bring synergy in both action and outcome.

- **Develop a systematic and in-depth assessment of adolescents’ health and development needs.** The assessment should be participatory and reflect the perspective of adolescents. It will require biomedical, social, and psychological research to understand the issues related to adolescents’ behavior, myths and misconceptions, practices, and risks associated with sexual and reproductive behavior.

- **Network with and involve NGOs to a much greater extent.** There should be information sharing and capacity building of NGOs. More importantly, there should be a common understanding of issues and approaches to meet adolescents’ reproductive and psychosocial needs.

- **Provide mechanisms for resource mobilization for funding long-term adolescent health programs and interventions to ensure the sustainable flow of funds and program activities.** Organizations must be encouraged to build and develop institutional capacity to undertake programs and activities on a continuous basis.

- **Develop interventions to modify various levels of school curricula to incorporate lessons on reproductive biology, sexual health, and contraception.** Teacher training programs can be organized to impart the teaching skills necessary for presenting these issues to young populations in classrooms.

- **Involve parents in reproductive education and one-one-one, home-based counseling,** which could result in a path-breaking success. This would require that parents be educated, be able to change their perceptions and attitude about reproductive and sexual health, and show a willingness to initiate age appropriate dialogue with their children.

- **Activate youth forums at the village level** to remove myths and misconceptions about sexual health, and channel the energy of youth and adolescents in constructive, income-generating activities.
• **Encourage community involvement to mobilize adolescents, increase the age of marriage, promote the use of contraception, and implement various programs aimed at adolescent health and development.** Working through panchayati raj institutions\(^5^3\) would be particularly useful in creating an environment that supports healthy adolescence through awareness generation among adolescents, parents, and service providers. They would also be helpful in ensuring availability and utilization of services for adolescents at the local level.

---

\(^{53}\) Panchayats are elected bodies constituted by locally elected peoples’ representatives. These are responsible for decision making and implementation of the development programs at the local level.
### APPENDIX 1. Data for Figures 1 through 4

#### 1. Adolescent Population (15–24) (000’s)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>98,958</td>
<td>107,192</td>
<td>112,930</td>
<td>115,209</td>
<td>110,077</td>
</tr>
<tr>
<td>Females</td>
<td>91,295</td>
<td>99,430</td>
<td>105,342</td>
<td>108,111</td>
<td>104,212</td>
</tr>
</tbody>
</table>

#### 2. Level of Education (%)

<table>
<thead>
<tr>
<th></th>
<th>1993 Males</th>
<th>1993 Females</th>
<th>1999 Males</th>
<th>1999 Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Education</td>
<td>20.9</td>
<td>47.8</td>
<td>16.8</td>
<td>38.4</td>
</tr>
<tr>
<td>Primary Incomplete</td>
<td>7.5</td>
<td>6.2</td>
<td>7.5</td>
<td>6.8</td>
</tr>
<tr>
<td>Primary Complete/Some Secondary</td>
<td>16.7</td>
<td>13.8</td>
<td>18.7</td>
<td>16.2</td>
</tr>
<tr>
<td>Secondary Complete and Higher</td>
<td>54.9</td>
<td>32.2</td>
<td>57.1</td>
<td>38.6</td>
</tr>
</tbody>
</table>

#### 3. Pregnancy Outcomes (000’s)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Pregnancies</td>
<td>20,204</td>
<td>22,106</td>
<td>23,503</td>
<td>24,255</td>
<td>23,657</td>
</tr>
<tr>
<td>Births</td>
<td>14,983</td>
<td>16,404</td>
<td>17,449</td>
<td>18,022</td>
<td>17,607</td>
</tr>
<tr>
<td>Abortions</td>
<td>2,191</td>
<td>2,386</td>
<td>2,528</td>
<td>2,595</td>
<td>2,501</td>
</tr>
<tr>
<td>Miscarriages</td>
<td>3,031</td>
<td>3,316</td>
<td>3,525</td>
<td>3,638</td>
<td>3,549</td>
</tr>
</tbody>
</table>

#### 4. Unmet Need (%)

<table>
<thead>
<tr>
<th></th>
<th>1993</th>
<th>1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Unmet Need (15–19)</td>
<td>30.4</td>
<td>27.1</td>
</tr>
<tr>
<td>Total Unmet Need (20–24)</td>
<td>27.9</td>
<td>24.4</td>
</tr>
</tbody>
</table>

**Assumptions and Sources:**

Figure 1. Adolescent Population Projections were made by entering the base year population estimates from the UN medium population projection, *World Population Prospects, The 2000 Revision*, into the POLICY Project’s SPECTRUM Model and projecting the population to 2020.

Figure 2. Level of education for 1993 was taken from the 1993 Indian NFHS report, and for 1999 was taken from the 1999 Indian NFHS report. The figures cited are a weighted average of household educational attainment statistics for 15–19 and 20–24 year-olds.

Figure 3. Births, abortions, and miscarriages were calculated by multiplying the appropriate age-specific rates (i.e., TFR, abortion, and miscarriages) by the estimated number of adolescent females (single-age population estimates were calculated using the SPECTRUM Model). Total pregnancies were calculated by summing the total number of births, abortions, and miscarriages. Total fertility rate (TFR) and age-specific fertility rate (ASFR) for the base year were taken from the Indian FHS 1999 report. TFR assumptions for future years were derived from the World Population Prospects data. Mortality and migration rates were derived from World Population Prospects data. The abortion rate was assumed to be 24 per 1,000 (Profiles estimate). Since no age-specific rates were given for adolescents, the overall abortion rate for women was used. The miscarriage rate was assumed to be 15 percent (Guttmacher Institute estimate). Since no age-specific rates were given for adolescents, the overall miscarriage rate for women was used.

Figure 4. Levels of unmet need were taken from the 1993 and 1999 Indian NFHS reports.
REFERENCES


Kumar, Anant. 2001. “Poverty and Adolescent Girl Health.” Centre of Social Medicine and Community Health, School of Social Sciences, Jwaharlal Nehru University, New Delhi.


For more information, please contact:

Director, POLICY Project
Futures Group International
1050 17th Street, NW
Suite 1000
Washington, DC 20036
Tel: 202-775-9680
Fax: 202-775-9694
Email: policyinfo@tfgi.com
Internet: www.policyproject.com
         www.futuresgroup.com