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Strategies to Meet the Health Needs of Adolescents: A Review

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Glossary

AFLE	Adolescent Family Life Education
AHI	Assistant Health Inspector
AIDS	Acquired Immune Deficiency Syndrome
ASD	Assistance for Slum Dwellers
BCC	Behaviour Change Communication
BDHS	Bangladesh Demographic and Health Survey
BMI	Body Mass Index
BPHC	Bangladesh Population Health Consortium
BRAC	Bangladesh Rural Advancement Committee
BWHC	Bangladesh Women's Health Coalition
CDS	Centre for Development Studies
CMES	Centre for Mass Education in Science
CPD	Cephalo Pelvic Disproportion
CWFP	Concerned Women for Family Planning
DFP	Directorate of Family Planning
ESP	Essential Services Package
FDSR	Family Development Services and Research
FPAB	Family Planning Association of Bangladesh
FP	Family Planning
FPHP	Fourth Population and Health Programme
GoB	Government of Bangladesh
H&FWC	Health and Family Welfare Centre
HIV	Human Immuno-deficiency Virus
HA	Health Assistant
HI	Health Inspector
HPSP	Health and Population Sector Programme
ICPD	International Conference on Population and Development
ICDDR,B	International Centre for Diarrhoeal Disease Research, Bangladesh
IEC	Information, Education and Communication
ILO	International Labor Organization
INACG	International Nutritional Anaemia Consultative Group
IUD	Intra-uterine Device
MA	Medical Assistant
MCH-FP	Maternal and Child Health and Family Planning
NCTB	National Curriculum and Textbook Board
NFPE	Non-formal Primary Education
NGO	Non-government Organization
NIPORT	National Institute of Population Research and Training

Glossary *(Contd.)*

NM	Nari Maitree
OMI	Organizations for Mothers and Infants
ORP	Operations Research Project
PDAP	Participatory Development Action Programme
PHSD	Public Health Sciences Division
PI	Pathfinder International
PSTC	Population Services and Training Centre
RTI	Reproductive Tract Infection
SC	Satellite Clinic
STD	Sexually Transmitted Diseases
SHPP	School Health Pilot Project
TOT	Training of Trainers
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
VHSS	Voluntary Health Services Society
WEPP	Women Empowerment Pilot Project
WHO	World Health Organization

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Summary

The International Conference on Population and Development (ICPD), held in Cairo in 1994, recognizes the fact that adolescence, the rapidly expanding sub-group of the population aged 10-19 years, is a particularly vulnerable group, and urges government and non-government organizations to meet the special health needs of adolescents. Until recently, however, very little effort has been directed toward adolescent health issues.

Under the current Health and Population Sector Programme (HPSP) of the Government of Bangladesh (GoB), and the National Integrated Population and Health Programme (NIPHP), adolescents have been identified as a priority target group. Operations Research Project (ORP), the operations research partner of NIPHP, has been given the responsibility to develop and test strategies to address the health needs of adolescents. Prior to the development of strategies, ORP has done an extensive review of the information available relating to adolescent health. Different initiatives, which have been undertaken in Bangladesh and other developing countries to address the health need of adolescents, were also reviewed. All of this information has been compiled for this review report.

Review of the existing information on adolescent health suggests that although progress has been made with respect to schooling, age at first marriage, adolescent fertility and contraception, more effort will still be required. There is a scarcity of data on the reproductive health knowledge of adolescents. Only a few studies exist, and these are on knowledge and practices concerning menstruation. Similarly, little is known about the sexual behaviour of this age group. One study has suggested that pre-marital sex is substantially high among both males than females and higher in urban than in rural areas. Information on how adolescents in Bangladesh make decisions about reproductive health behaviour is also lacking. And, in general, information on the reproductive health needs of adolescents is not available.

There is paucity of data on the incidence and prevalence of medical problems among adolescents. Evidence suggests, however, that a high proportion of death among adolescent girls is attributed to maternal causes. Maternal mortality is estimated, in fact, to be three to four times higher among adolescent women than adults. About half of married adolescent girls also suffer from under-nutrition. The limited nature of the information available on the use of health care facilities by adolescents suggests that access to, and utilization of health services by this population group is very limited.

The existing literature suggests that four different approaches have been tried to address the reproductive health needs of adolescents, globally. These are school-based programmes, outreach programmes, clinic-based programmes, and social marketing and mass media programmes. All of these approaches have their own unique advantages and disadvantages.

If we look at the GoB initiatives intended to address the health needs of adolescents it should be noted that, in the past, the health and family planning programme of Bangladesh primarily targeted married women of reproductive age and children, thereby largely ignoring the health needs of adolescents. In the current HPSP, adolescent health has been included as a part of Essential Services Package (ESP) and a separate programme titled "Maternal Nutrition and Adolescent Health" has been created to deal with adolescent health issues.

With respect to non-government organizations, there have been an impressive number of activities aimed at addressing reproductive health and other needs of adolescents during the past decade. However, these activities have tended to be mostly community-based, relatively small-scale, pilot efforts and with limited impact. Moreover, these efforts have primarily focused on adolescent girls. These programmes have also tended to be poorly documented and evaluated.

In spite of the above-mentioned limitations with regard to adolescent initiatives, the successes made by these projects should not be overlooked. Although the successes of these projects cannot be measured in terms of impact due to inherent difficulties in programme planning and documentation, the effectiveness could be partly judged by the level of community mobilization these programmes have been able to initiate. There are other accomplishments, which could also be regarded as milestones in addressing adolescent health issues in Bangladesh. These include holding different meetings; formation of adolescent forums; development of AFLE curriculum and IEC materials; and development of training curriculum specifically for adolescents.

In the review, certain areas that still need to be addressed have been identified. These are as follows:

- identification of the reproductive health needs of adolescents by conducting qualitative and quantitative studies;
- documentation and evaluation of existing adolescent programmes to use lessons learnt from these projects;
- designing and testing various approached to address the health needs of adolescents;
- involving adolescents in the designing, planning and implementation of programmes for their own age group;
- upgradation of the healthcare system to address the health needs of adolescents;
- ensuring involvement of community groups in these programmes; and
- conducting operations research in designing, implementing and evaluating adolescent programmes.

Background

Adolescents comprise a large part of the world's population. In many countries, they form 20-25 percent of the total population. This is also true for Bangladesh [1,2]. As of January 1995, 23 percent of its total population fell into the age group 10-19 years--a group that is about 27 million strong [2]. In terms of sheer numbers, these young people have tremendous demographic significance. Because of population momentum, even if there were to be a rapid decline in age-specific fertility rates among the young people, a stabilization in the country's population would not occur for at least next 10-20 years. Because during this time, the population of this age group would reach the reproductive age [3]. Moreover, adolescents are at a stage associated with an increased likelihood of sexual activity and, thus, at an increasing risk of contracting sexually transmitted diseases (STDs), including human immune-deficiency virus/acquired immuno deficiency syndrome (HIV/AIDS). Further, adolescence is also a time during which young adults form some habits that endure throughout their life. Thus, if an adolescent adopts a healthy lifestyle, it is likely that he or she would remain healthy and will be capable of contributing to the welfare of upcoming generations.

Adolescents particularly being a vulnerable group, the programme of action of the International Conference on Population and Development (ICPD), held in Cairo in 1994, urges governments and non-government organizations (NGOs) to meet the special health needs of adolescents by establishing appropriate adolescent programmes. Until recently, however, very little effort has been directed towards adolescent health issues. Like many other societies in the world, adolescents are generally considered to be healthy in Bangladesh, since they have survived the illnesses of infancy and childhood [3]. As a result, the health of adolescents has traditionally received low priority. Health programmes in Bangladesh primarily target children and married women. It is, therefore, of the highest importance to identify adolescent health needs and to design appropriate health programmes for this group.

Apart from the general working definition that adolescence is the period between childhood and adulthood, WHO has designated the period of 10 to 19 years as the adolescent period. WHO further describes the period as being marked by the following characteristics:

- Biological development from the onset of puberty to full sexual and reproductive maturity;
- Psychological development from the cognitive and emotional patterns of childhood to those of adulthood;
- Emergence from the childhood state of total socioeconomic dependence to one of relative independence [4].

Although the onset of adolescence is usually associated with the commencement of puberty and the appearance of secondary sexual characteristics

which vary between individuals, minimum and maximum age limits defining adolescence vary from person to person. In addition to this, the duration and defining characteristics of adolescence also vary across time, cultures, and socioeconomic situations. Thus, the definition of adolescence varies from culture to culture and from social class to social class.

In Bangladesh, although the definition of adolescence varies in terms of age, the minimum age identified by organizations working with adolescents is nine, and the maximum age is 19 (Table 1).

Table 1. Age groups identified as adolescents by different organizations in Bangladesh

Organizations	Age range (in years)
Voluntary Health Services Society	9-19
ACTION AID Bangladesh	10-19
Bangladesh Population & Health Consortium-funded NGOs	12-18
Concerned Women for Family Planning	9-19
Population Services and Training Centre	9-19
Population Council, Dhaka	13-19
Government of Bangladesh	10-19

Whatever may be the age, adolescents are not a uniform group. There are a number of ways to subdivide adolescents, such as gender (male/female), residence (rural/urban), economic status (poor/middle class/rich), maturity (early adolescence/late adolescence), sexual activity (active/not active), and marital status (married/unmarried). These distinctions should be considered when the health needs of adolescents are discussed.

This review report has been prepared primarily based on the available evidence concerning health behaviour among adolescents in Bangladesh. It analyzes possible causes and consequences of this behaviour, and attempts to initiate a discussion on how best to design programmes to address the health needs of adolescents. Although most data refer to reproductive health, the report has attempted to uncover few other health issues relating to adolescents.

Since little is known about the health behaviour of unmarried adolescents in Bangladesh, the information presented here is mostly related to married adolescents, and was mostly collected from published literature. To supplement this, the authors reviewed (by informal discussions with project managers and visits to the project sites)

different initiatives which have been undertaken to address adolescent health needs in Bangladesh. The report also highlights findings of research (published and unpublished) on a number of key initiatives undertaken in other developing countries to address adolescent reproductive health needs.

Due to the paucity of information on adolescent boys, this review will report predominantly on the information about adolescent girls. Nevertheless, it will consider the need for more information and additional health service interventions for both adolescent boys and girls.

Levels and Trends

Key events during adolescence

Menarche

Limited information available shows an apparent declining trend in the age of menarche among Bangladeshi girls over the years. Chowdhury *et al.* found, 20 years ago at Matlab, that the mean age of menarche was 15.8 years [5]. A recent study, conducted by Chowdhury *et. al.* in four rural villages of Bangladesh, found that the average age of menarche is 13 years [6]. This finding is supported by experiences from other developing countries where the mean age of menarche also seems to be falling [7].

Schooling

The widely recognized social, economic, and demographic benefits of education for individuals and societies have led to a rise in demand among parents for their children's schooling and to large new investments in the education sector. As a consequence, school attendance by both boys and girls has risen substantially over the past three decades virtually in all developing countries including Bangladesh [7,8].

According to the Bangladesh Demography Health Survey (BDHS) 1996-1997, 7 of every 10 children aged 11-15 year are enrolled in school, although there are variations in school enrollments according to sex and residence (Table 2). Enrollment drops substantially after the age of 15 years; only about one-third of older teenagers (32%) are still in school and only one of seven in their early 20s (14%) are still in school. While comparing the 11-15 years and the 16-20 years age groups, it appears that females have an enrollment rate reduced by two folds in urban areas and by three folds in rural areas. It hardly changes in urban men but does in rural men.

The substantial decline in men's enrollment after the age of 15 years may be partly due to the fact that many families need them for work or do not have the means to bear their educational expenses. In case of females, it is likely that females in the 16-20-year age group are not enrolled (or leave) the school due to marriage, particularly in rural areas.

Table 2. Percentage of household population aged 11-24 years enrolled in school by age groups, sex, and place of residence, Bangladesh, 1996-1997

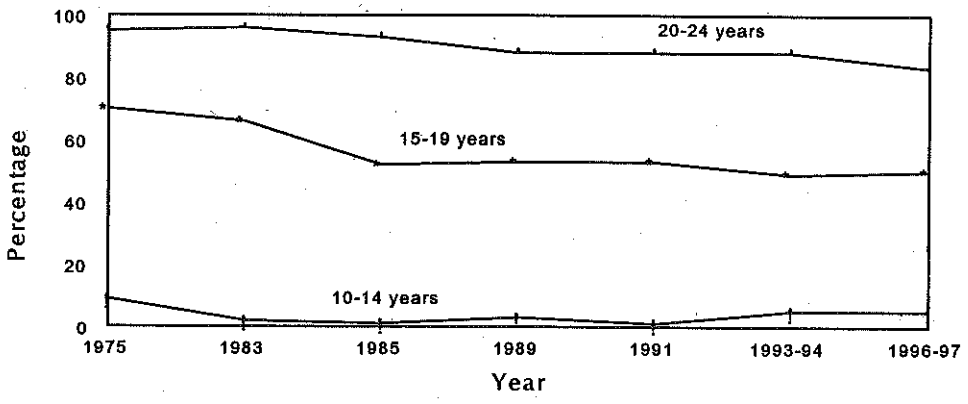
Age group (in years)	Male			Female			Total		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
11-15	66	66	66	62	66	65	64	66	66
16-20	52	38	40	38	23	25	45	30	32
21-24	36	19	21	27	7	10	30	12	14

A key implication of these findings is that an increasing proportion (66%) of early adolescence (11-15 years) is spent in school. Therefore, school could be an important vehicle to reach adolescents of this age group. At the same time, attention should, however, be given to adolescents who have dropped out of school, especially adolescent girls beginning married life.

Entry into marriage

Despite legislative attempts to restrict the minimum age for marriage for girls at 18 years, the BDHS1996-97 shows that half adolescent girls (15-19-years) have ever been married, although the proportion of 15-19-year-old married women has declined from 70 percent in 1975 to 50 percent in 1996-1997. This decrease is more marked among the 15-19-year and 20-24-year age groups compared to the 10-14-year age group (Fig. 1) [8].

Fig.1. Trends of females ever married by selected age groups: Bangladesh, 1975-1997



Source: Bangladesh fertility survey, 1975; Contraceptive prevalence survey, 1983,1985, 1989; Bangladesh demographic and health survey, 1993-1994, 1996-1997

Regarding the age at first marriage, the BDHS 1996-1997 indicates that, over the past 25 years, there has been a slow but steady increase in the age at which Bangladeshi women first marry. According to the 1996-1997 BDHS, the median age at marriage has increased from 13.3 among women currently aged 45-49 years to 15.3 for those who are now aged 20-24 years. By comparing the data from the 1993-94 and the 1996-97 BDHS, it however, appears that the median age at first marriage among women aged 20-49 years has remained constant, at 14 years.

The age at which men marry receives less attention than women's age at marriage; little comparable information is also available. Although young women who remain single are becoming increasingly common, single young men have long been common in most parts of the world including Bangladesh. However, during 1981-1994, a slight increase in the mean age at first marriage was observed among males; the mean age at first marriage was 25 and 25.4 years in 1981 and 1994 respectively [9].

An important consequence of a rising age at marriage combined with a decline in the age at menarche is that the number of years between menarche and marriage increases substantially over time. In the most traditional and poorest population, girls typically marry shortly after menarche. In contrast, in some of the more advanced developing countries, the period between menarche and first marriage approaches a decade. This trend results in an increase in large number of sexually mature, but unmarried adolescent girls as countries develop, thus potentially leading to a higher prevalence of sexual activity, unplanned pregnancy, and abortion among the unmarried [7].

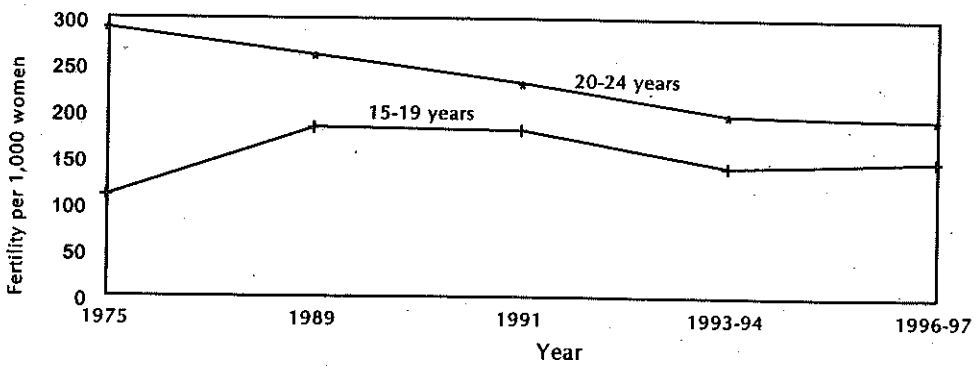
Adolescent fertility and first birth

Childbearing begins early in Bangladesh, with the large majority of girls becoming mothers before they reach the age of 20 years [7]. The proportion of all births that are to teenagers has been steadily rising, and in 1996-1997 over one-fifth of all births were to teenagers [7]. Although the age-specific fertility rates of women aged over 20 years has declined substantially over the past 15 years, teenage fertility, which is 147, has not declined and may have even increased in recent years (Fig. 2) [7].

As would be expected, adolescent fertility was higher in rural than in urban areas. This trend is evident from the 1996-1997 BDHS survey, suggesting that 37 percent of the rural adolescents had begun childbearing compared to 25 percent of their urban counterparts [7]. There were significant differences by the level of education: 54 percent of adolescents with no education compared to 19 percent with secondary or higher education had begun childbearing.

The median age at first birth is between 17 and 18 years [8]. Twenty-seven percent of the adolescent girls in Bangladesh have already become mothers, and another 6 percent are pregnant with their first child [8]. Thus, one in three such women has begun childbearing. As expected, the proportion of women who have begun childbearing rises rapidly with age from 11 percent of those aged 15 years to 59 percent of those aged 19 years [8].

Fig. 2. Trends in current fertility (15-19 and 20-24 years), Bangladesh, 1975-1997



Source: Bangladesh fertility survey, 1975, 1989; Contraceptive prevalence survey, 1991; Bangladesh demographic and health survey, 1993-1994, 1996-1997

An important consequence of this early child-bearing is that both mothers and offspring have greater chance of mortality and morbidity. In addition, these women are more likely to obtain less education, fewer job possibilities and lower income, be divorced or separated from their partners, and live in poverty [10].

Knowledge and sexual behaviour

Adolescent knowledge about STDs and RTIs

In Bangladesh, there is a scarcity of data on the degree of knowledge among adolescents about reproductive health. The prevailing sociocultural norms, inhibit disclosure of information about sexual activity of adolescents. This inhibition prevents adolescents from getting accurate information about reproductive health. Studies conducted with this age group support these assumptions [8,11,12]. The study conducted by the Population Council found very poor knowledge of selected reproductive health issues. Regarding STDs, about half the adolescents could not correctly identify a single STD symptom. About 60 percent of the adolescents gave no response or gave an incorrect response with regard to RTI symptoms. Sixty-four percent either gave no answer or failed to correctly identify a single symptom associated with AIDS [11].

The study of the Population Council also found that more than half the adolescents could not correctly identify a mode of STD transmission. More than two-thirds of the adolescents gave no answer or gave an incorrect response when asked about the mode of transmission of RTIs or AIDS. The majority of the adolescents could not correctly identify any of the preventive measures for STDs/RTIs or AIDS. Moreover, the BDHS 1996-1997 suggested that only 17 percent of the ever-married adolescent women had ever heard of AIDS [8].

The experience of the Rural MCH-FP Extension Project of ICDDR,B supporting this finding suggests that adolescents have little knowledge about reproductive health. This study revealed that knowledge regarding syphilis and gonorrhea among the rural married women varied from 12 percent among teenagers to over 30 percent among women aged 30 years or over [12].

Adolescent knowledge and practice regarding menstruation

Information on adolescent knowledge and practice regarding menstruation is available from several studies [11,13,14,15]. One study, conducted by BRAC, reported perceptions surrounding puberty and menstruation by rural adolescents. The study found that 89 percent of the adolescents believed the onset of puberty to be 11 years or more [13]. Sixty-seven percent defined menstruation as a periodic secretion of blood. Another study, conducted in urban slums in Dhaka, showed that 38 percent had known about menstruation before experiencing it [14]. The study of the Population Council also supports this finding [11]. Since a large proportion of the girls had not been aware of menstruation, 84 percent of them, in fact, reportedly experienced shock, surprise, or fright when they reached menarche.

Regarding ideas about menstruation, 99 percent of the girls in the urban slum study associated menstruation with pollution, or a state of being impure [14]. The result of the study indicated that girls received their initial information about menstruation from their elder sisters/sisters-in-law (36%), mothers (20%), friends (19%), aunts (9%) and grandmothers (8%). The Population Council study, however, found that about one in three respondents first obtained menstrual information from their friends [9]. The BRAC study found that most post-menarche girls (95%) were cognizant of the time interval between two menstrual periods [13].

The major problems reported by the girls during menstruation were lower abdominal pain, irregularity in menstruation, loss of appetite, excessive bleeding, and vertigo [11]. The majority (59%) of the girls did not take any measures to alleviate such menstrual problems. About 16 percent took traditional medicines, and 20 percent consulted health workers or doctors, while only four percent took modern medicines. Girls rarely turned to their mothers for help, but a few of them indeed discussed problems with their sisters-in-law. A study by Khan and Huq reported that the girls, who got tablets from a doctor for abdominal cramps, complained first to an aunt or cousin, who told her mother, and eventually the father told the doctor [15]. This situation could cause a distortion of the message resulting also in poor quality of care.

Most girls (80%) in the BRAC study used pieces of old rags (*nekra*) as pads during menstruation, while others did not use anything [13]. The same rags were washed and used, again and again, from 2 to 7 times, by most of them. Sixty percent of the adolescent girls used rags which had been dried unhygienically or even wet. Both married and unmarried girls followed similar unhygienic practices. This finding has implications for the prevention and management of RTIs.

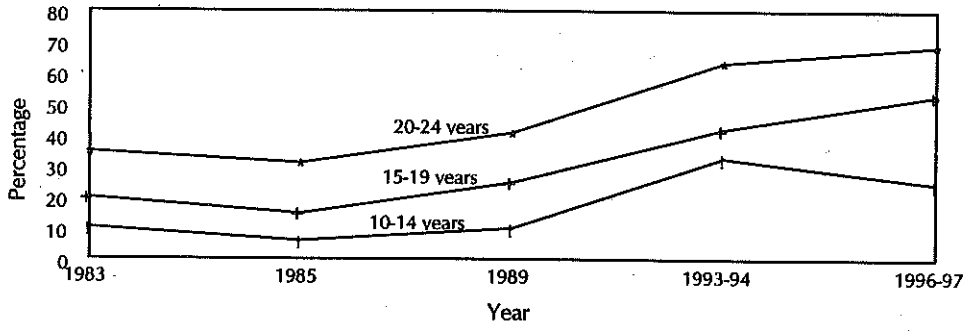
The girls, however, took certain precautions during menstruation, such as increased general cleanliness and reduction in workload. They also followed relative isolation and abstinence from religious rituals. Some of the married adolescent girls, however, abstained from intercourse during menstruation.

Adolescent knowledge and practice regarding family planning

Encouraging changes are occurring with regard to the knowledge and behaviour of married adolescents with regard to family planning (FP). In 1993-1994, 99 percent of the adolescent group (10-19 year) had the knowledge of at least one method of FP [16]..

There was a steady increase in ever use of FP methods among married adolescents between 1983 and 1994 in both 10-14-year and 15-19-year age groups. Between 1994 and 1997, however, this figure decreased in the 10-14-year age group, (Fig. 3), the reason of which is difficult to explain.

Fig. 3. Trends in ever use of contraception among ever married women by selected age groups: Bangladesh, 1983-1997

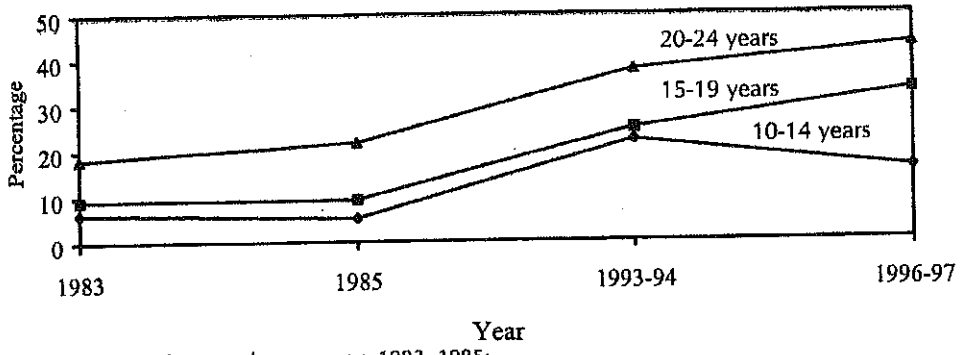


Source: Contraceptive prevalence survey, 1983, 1985, 1989; Bangladesh demographic and health survey, 1993-1994,1996-1997

The current use of FP methods has also recently decreased among the 10-14-year age group (Fig. 4). On the other hand, the current use of FP among the 15-19-year age group has been increasing since 1983. It is impressive to see that one in three married women aged 15-19-year has been using a method, providing clear evidence that younger women have begun to appreciate the advantages of deliberately controlling childbirth early in marriage. Since 1993-1994, the contraceptive use has increased much more rapidly among women aged 15-19-years than others by 33 percent, from 25 to 33 percent as shown in the BDHS 1996-1997.

A comparison between the data from the BDHS 1993-1994 and BDHS 1996-1997 reveals that the relative share of modern method adopters in the 15-19-year age group is increasing [8]. For modern methods, like other age groups, the pill is the most widely used method among the 15-19-year age group. The pill is followed by injectable methods, condom, and intra-uterine device (IUD) [8].

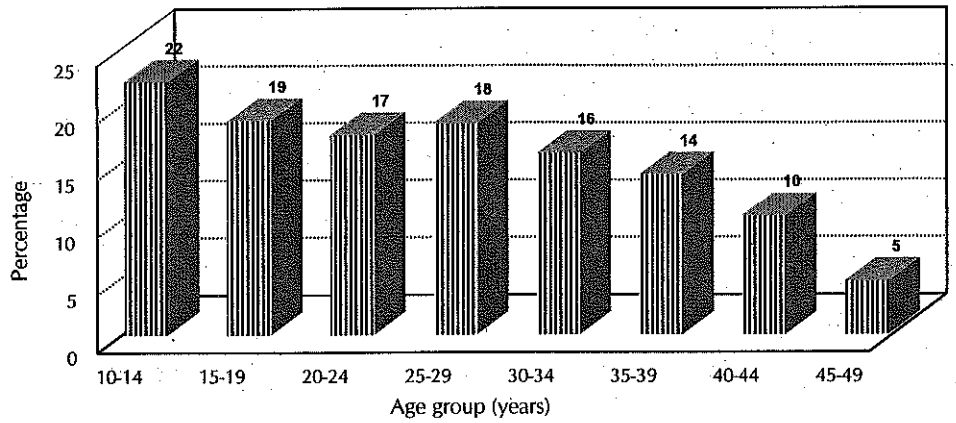
Fig. 4. Trends in current use of family planning methods among selected age groups of currently married women, Bangladesh, 1983-1997



Source: Contraceptive prevalence survey, 1983, 1985; Bangladesh demographic and health survey, 1993-1994, 1996-1997

Although the current use of contraception is on the increase among the married adolescents, the unmet need still remains high among this group. In fact, among all the age groups, the unmet need for contraception is the highest among the adolescents (Fig. 5) [8]. Between 1991 and 1996-1997, the level of the unmet need for FP decreased from 28 to 19 percent for the 15-19-year age group compare to 27 to 17 percent for women aged 20-24 years. Moreover, there was the greater unmet need among the girls aged 10-14 years than among the adolescents aged 15-19 years (33% and 22 % respectively). Over 95 percent of the unmet need in adolescents for contraceptive required is for spacing [8].

Fig. 5. Unmet need for family planning services among currently married women, by age groups: Bangladesh, 1996-1997



Source: Bangladesh demographic and health survey, 1996-1997

Sexual behaviour

Adolescents are also at risk of acquiring STDs. Since STDs largely depend on the sexual behaviour of an individual, the information available on this topic was examined. Information on sexuality is very limited in Bangladesh, where sexual relations are only condoned in the context of marriage, and a substantial policy on the subject of sex (either through the media or through formal institutions) is lacking. A recent study conducted by the Population Council, however, shed some light on adolescent sexuality, especially among unmarried adolescents, suggesting that pre-marital sex is substantially higher among males than females and higher in urban than in rural areas [11].

The results of the study showed that knowledge about sexual intercourse was substantial among the majority of the adolescents (15-19 years). Forty-one percent of the married female adolescents, however, said that they had no knowledge about sex before they had been with their husbands.

The study identified high rates of pre-marital sex among the unmarried male adolescents. By the age of 18 years, for example, 88 percent of the unmarried urban boys and 35 percent of the unmarried urban girls had engaged in sexual activity. By this age, unmarried boys and girls living in rural areas also reported having engaged in sexual activity (38% and 6% respectively). It was also shown that with the exception of unmarried adolescent women in rural areas, the prevalence of premarital sex increased with age.

Reporting of very high pre-marital sex among unmarried adolescents in this study needs clarification. Although investigators of this study claimed that all necessary explanations were given prior to collection of information on sex act/intercourse (*jouna kria*), it is not clear from the report that whether the definition of sexual activity included contact or penetration. It is particularly important from the STD point of view.

In the study, adolescents were also asked about their preference regarding source of information about sex. Responses given by the female and male participants were completely different from each other. Female adolescents preferred grandmothers, who were followed by female friends and elder sisters. Male adolescents showed an overwhelming preference for media sources, with the majority mentioning radio and television, followed by newspapers, magazines, and books.

Similar to pre-marital sexual exposure, pre-marital pregnancy is not uncommon in Bangladesh. But due to social and legal barrier, people conceal the matter and undergo menstrual regulation or illegal abortion [17].

Decision-making process regarding sexual behaviour

Rising rates of pre-marital sexual activity in developing countries have drawn attention to the process by which adolescents make decisions about various aspects of reproductive behaviour. Gathering this information is critical because of the increased

vulnerability of adolescents to the risk of STDs, including AIDS, the potential risks to adolescent health of early pregnancy, and the negative consequences of an early and extramarital childbearing. Unfortunately, comprehensive studies on how adolescents in developing countries make decisions about reproductive behaviour have rarely been undertaken [18]. This is specially true for Bangladesh. But understanding the ways that adolescents make reproductive choices will enable health professionals to design intervention strategies that target the most influential components of adolescent sexual behaviour.

Gage, 1998 has reviewed the available literature concerning adolescents' decision-making process, including their perceptions of costs and benefits of engaging in sexual behaviour, assessment of their own susceptibility to the potentially negative consequences of their behaviour, and the roles of families and peers in shaping their reproductive decisions [18]. He concluded that, although some adolescents appear to weigh the pros and cons of engaging in certain behaviours, not all decisions are made rationally. For instance, decisions to engage in unprotected sexual intercourse may be based on insufficient knowledge or on distorted judgements concerning the risks of pregnancy or of acquiring STDs. Non-decision-making can occur because of ambivalence about pregnancy or STDs, particularly among younger adolescents.

Cultural values regarding sexuality and gender roles, power dimensions of adolescents' intimate relationships, and economic disadvantage exert powerful influences on how adolescents in developing countries make sexual and reproductive decisions. Family opinions and attitudes appear to be given relatively less weight than are those of peers and partners, particularly in setting where traditional cultural values have been eroded.

As part of the decision-making process, adolescents often look to their peers, teachers and to their school environment for cues regarding various aspects of sexual behaviour and to evaluate the degree to which their beliefs agree or disagree with group norms [18]. Consequently, schools offer great potential for intervention because, for many adolescents, much of their socialization takes place within the halls and classrooms of the school building.

Adolescent mortality and morbidity

As a result of the early marriage norm and the culturally ingrained practice of not using contraception by many adolescent girls in Bangladesh, most new brides become pregnant soon after marriage. Evidence suggests that there is an increased risk associated with an early childbearing; about 40 percent of deaths among adolescent girls is attributed to maternal causes [19,20,21]. The results of Chen's study in Matlab showed that girls aged 10-14 years had a maternal mortality rate nearly five times higher than that of women aged 20-24 years, and that girls aged 15-19 years had a maternal mortality rate almost twice that of women aged of 20-24 years [22]. The major causes of maternal mortality among the adolescents of this study were toxaemia and

Cephalo Pelvic Disproportion (CPD). The study also found that the proportion of deaths caused by eclampsia decreased with age (15-19 years: 18%; 20-34 years: 13%; 35-44 years: 1%). This cause was closely followed by injury, violence, and abortion. Fauveau's study also supported these findings [23].

In another study of reproductive health carried out among adolescents in Bangladesh, Rahman *et. al.* observed that maternal age was associated with neonatal death and pregnancy wastage [24]. The study also revealed that neonatal death in Bangladesh decreases with the increasing age of the mother. There is also evidence suggesting that low birth weight is more common among babies born to adolescent mothers [19].

Other than this limited information on adolescent maternal mortality, there is a paucity of data on the incidence and prevalence of medical problems among adolescents. A study conducted by Islam *et. al.* presented proportional morbidity among adolescents from 20 of the most common diseases [25]. The results of the study indicated that adolescents had the lowest prevalence of morbidity of all the age groups. For a reference period of 90 days, adolescents had a morbidity prevalence rate of 75 per 1,000 adolescents, which was less than half of the overall morbidity prevalence rate as found by the study. Children aged less than 10 and adults aged 20-59 years had a higher prevalence of morbidity than adolescents. For example, the prevalence of fever was found to be 9 percent in the 10-19 year age group, but it was 24 and 18 percent in the 0-9-year and 20-59-year age groups respectively. Similarly, the prevalence of diarrhoeal diseases among adolescents was 7 percent; among the 0-9 year age group, 28 percent; and among the 20-59-year age group, 16 percent.

Differential analysis of adolescent morbidity from the study indicates that male adolescents have higher prevalence than female adolescents. It has been observed that males suffer more from malaria, scabies, common cold/ARI, diarrhoea, dyspepsia, ear infection, and bronchitis than females. It was also seen that urban adolescents had higher prevalence of morbidity than those in rural areas [25]. The study, however, does not give a comprehensive picture of adolescent morbidity since the analysis was only done for a subset of the main population, and data were not collected for some important morbidity variables, such as RTIs/STDs or menstrual problems.

A similar study conducted by Islam and Hossain filled up gaps in reporting RTIs/STDs by the earlier study. In this study, it was reported that a large number of married adolescents suffered from abnormal vaginal discharge [26].

Although there is a scarcity of data on the prevalence of STDs among the general population as well as on adolescents in Bangladesh, it is documented that, globally, adolescents and young adults have the disproportionate number of STDs compared to adults. In fact, worldwide, the highest reported rates of STDs are found among the young people aged 15-19 and 20-24 years. In the developed world, two-thirds of all reported STD infections occur among men and women aged less than 25 years [27]. In the developing countries, the proportion is even higher [27]. Adolescents are particularly vulnerable to STDs for both biological and behavioural reasons. Even

if sexually active adolescents do plan ahead to prevent pregnancy, they still may be vulnerable to STDs if they do not use condoms consistently or correctly.

A small study, conducted by the Save the Children, USA, in a rural area of Bangladesh, documented that the prevalence of RTI among the married women aged less than 20 years was 53 percent (n=36) compared to 56 percent among older women (n=153) [28].

The extent of the STDs-related problems should not be considered only in terms of the people affected, but also to the serious health consequences STDs have to adolescents and their offspring. Because women often show no symptoms for the most common STDs, chlamydia, and gonorrhoea, and are diagnosed and treated less frequently than men who generally have symptoms. Women face obstacles in obtaining diagnosis and treatment even when symptoms are visible in them. Evidence shows that they are reluctant to seek care, and/or providers are often hesitant to treat them [27]. Because STDs increase an individual's susceptibility to HIV infection, it is extremely important to treat these diseases [29,30]. STD can also cause tubal infection, resulting in infertility.

Adolescent nutrition

Available information on adolescent nutrition indicates that about half the adolescent girls in Bangladesh are under-nourished. The BDHS 1996-1997 data showed that 50 percent of the married adolescent girls aged 15-19 years had a body mass index (BMI) of less than 18.5 kg/m^2 [8]. A study conducted in the urban slums of Dhaka supported this finding, indicating that mean BMI for adolescent girls was 18.6 [31]. In 1996, Talukder *et. al.*, in a cross-sectional study of women aged 10-17-years, conducted in four villages, found that 67 percent of the adolescents were thin (defined as BMI < 5th percentile of the WHO-recommended reference) [32]. The prevalence of stunting (height for age < 3rd percentile) was 48 percent for both girls and boys.

Besides undernutrition, adolescents suffer from micronutrient and vitamin deficiencies. According to the International Nutritional Anaemia Consultative Group (INACG) cut-off values for anaemia, 94 percent of the boys and 98 percent of the girls were anaemic (9.5 g/dl) in the above-mentioned study. Forty-three percent of the girls had angular stomatitis, and 29 percent had glossitis, suggesting vitamin deficiencies [32].

The undernourished state among adolescent girls could be related to their food habits. More than half the adolescent girls of a BRAC study reportedly believed that they should not consume a variety of foods during their menstruation [33]. These were sour foods, dried fish, eggs, milk, and meat.

With regard to knowledge about the amount of food to be taken during pregnancy, about half the adolescent girls in this study said that pregnant women should take less food compared to non-pregnant women; a quarter of girls also favoured certain food restriction during pregnancy. These include: duck, its egg and

or pigeon meat, and different types of fish, such as dried fish and *hilsa* fish. A small proportion was also in favour of restriction of milk, fruits, and rice/flour during pregnancy [33].

On the contrary, 83 percent of the adolescent girls of the same study suggested that lactating mothers should take more food than normal. About food restrictions during lactation, 29 percent of them thought that the child would become sick or get a cold if the lactating mother do not follow certain food restrictions. Only 40 percent knew that the newborns should be given colostrum. Interestingly, the unmarried girls were more aware of colostrum. Regarding knowledge about anaemia, paleness of the body was one of the most commonly cited symptoms [33].

Adolescent employment

Adolescents are involved in various occupations ranging from domestic servants to sex workers. The most common occupations of the adolescents in Bangladesh are domestic work, factory work, helpers in various professions, vendors, rickshaw pullers, porters, and even prostitution [17]. It is believed that the employers recruit adolescents taking advantage of low wages, and less chances of revolt in case of any repression.

Although there are no reliable data on the number of adolescent workers in the country, yet it can be assumed that it is significantly high. According to the 1991 national census, 12 percent of the labour force in Bangladesh consist of children aged less than 14 years. According to the International Labor Organization (ILO), 30 percent of the children in the age group 10-14 years are employed, while the rate is 67 percent in the age group of 15-19 years. About 73 percent of the male adolescents aged 15-19 years are employed compared to 60 percent of the female adolescents [17].

A study conducted by Amin *et. al.* reported that about 75 percent of the garment workers are aged less than 25 years [34]. They reported that the female adolescents aged 10-19 years work more hours in a day than their male counterparts in Nepal, Java, and Malaysia. However, in Bangladesh the male adolescents work slightly more hours than the female adolescents. Adolescents in the age group of 10-19 years work on an average of 7-10 hours a day. They further reported that the garments workers have to work 8-12 hours per day for six days a week [35].

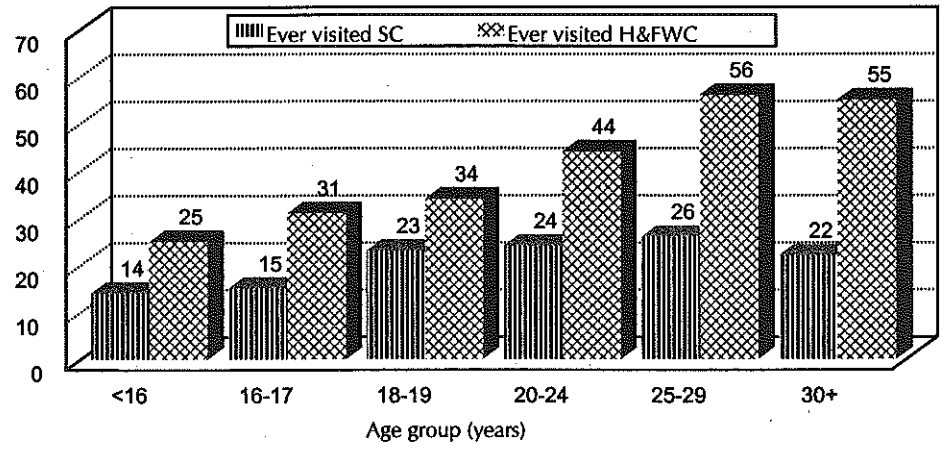
A number of adolescent girls also work as prostitutes. Even though there is no reliable statistics on how many adolescents have been working or forced to work as prostitutes in Bangladesh, but Blanchet estimated that about 1,200 (40 percent) of the 3,000 prostitutes are aged less than 18 years [36].

Healthcare use

Generally, information on the use of healthcare facilities by adolescents is very limited. A study conducted by Islam *et. al.* demonstrated that only 48 percent of the adolescents (12-19 years) had ever visited the centre even though 71 percent of them were aware

of the presence of government healthcare facilities in their neighbourhoods [37]. Knowledge about the presence of health facilities, and the ever-use rate of those facilities were more than two times higher among the older adolescents (15-19 years) than it was among their younger counterparts (<15 years). Similarly, experience of the MCH-FP Extension Project of ICDDR,B suggests that married adolescents are less often contacted by the field workers compared to older women [38]. Proportion of married women having ever visited a satellite clinic or a Health and Family Welfare Centre (H&FWC) is also low for adolescents compared to that of women of other age groups (Fig. 6) [39]. One of the reasons for this low use could be that the current health and FP programme is primarily focused on married women and children and is not designed to address adolescent health issues. A qualitative study, conducted by Ahmed S. in Dhaka's urban slums, supported this assumption and identified reasons among adolescent females for not using the health facilities [14]. The study found that adolescent females felt uncomfortable discussing reproductive health problems until and unless they had been recognized as serious. They reportedly felt that most health centres were run for adults, but not for them, particularly the ones who were unmarried. As a result, they tend to hide and neglect their problems, refraining from going to available health facilities for relief until and unless they are forced to do so.

Fig. 6. Percentage of married women having ever visited satellite clinic and health & family welfare centre in rural Bangladesh, 1993-1995



Source: MCH-FP Extension Project (Rural) surveys, 1993-1995

Low use of health care facilities by adolescents is generally true nearly everywhere in the developing world. Young women fear the lack of privacy and confidentiality and judgmental or unsympathetic reception they are likely to receive at

a health facility, and feel that the facilities are not geared toward their needs or concerns [40]. In a varying degree, they are accurate in their perceptions. A "mystery client" study in Senegal confirmed the reality of provider attitudes and inappropriate treatment that adolescents fear. In the study, young people were made to feel embarrassed, were given lectures about the dangers of sex before marriage, and were not provided contraceptives upon request [40].

One study conducted by the National Institute of Population Research and Training (NIPORT) compared maternal healthcare use by adolescent girls with that of other female age groups. It revealed that pregnant adolescents received only 2.3 antenatal visits compared to 3.6 and 4.6 visits for women aged 20-34 years and over 35 years respectively [41]. Also, adolescents waited for an average of five months before they received their first antenatal contact, while the other two age groups waited 4.5 and 3.6 months respectively.

Review of ICDDR,B Work on Adolescents

In response to the growing urgency to address adolescent health needs, the ICDDR,B has undertaken several initiatives pertaining to adolescent health. The former Urban MCH-FP Extension Project, the successor of the Urban Volunteer Programme, completed a two-year Women Empowerment Pilot Project (WEPP) in 1992. Under this programme, training was provided to adult women and adolescent girls in the development of interpersonal skills, basic literacy, legal awareness, and basic reproductive health knowledge. A reproductive health curriculum was developed specifically for the Project. The project also included income-generating activities through training in traditional handicraft skills and promoting group saving from the income generated from handicraft production. The findings of the Project suggest that participation in WEPP training had a positive effect on women's (including adolescents) literacy, legal awareness, income and saving, and decision-making with regard to family planning (FP) [42].

The former Rural MCH-FP Extension Project conducted a study on the determinants of contraceptive use and found that the field worker contact rates were substantially lower for teenage married women and newlyweds as already mentioned. The study also found that the current use of contraception among this segment of the population is very low [38].

The Chakaria Community Health Project has been disseminating health messages to village youths through youth club members [43]. Although youth club membership is dominated by males, females are now being included in the club. The health education material is being augmented with information on STD/RTI/HIV/AIDS and sexuality.

The scientists of the Public Health Sciences Division (PHSD) of ICDDR,B are currently planning to conduct two studies on adolescent health [44, 45]. One study has

been planned to collect information on reproductive health needs and health service use (including STD/RTI/HIV transmission), nutritional deficiencies, and food intake [44]. The study will be carried out among unmarried adolescents (12-19) and will be conducted at Matlab and in Dhaka. Depending on the findings and subsequent situation analysis, an intervention for this adolescent group will be designed. The other study is aimed at providing peer education for HIV/STD prevention to the youths of Dhaka city [45].

Since very little is known about the knowledge, attitude and practice of adolescents regarding reproductive health issues, the Operation Research Project (ORP), the operations research partner of the National Integrated Population and Health Programme (NIPHP), is currently conducting a detailed assessment of reproductive health needs of adolescents in its project's sites. The survey will cover 4,000 adolescents aged 10-19 years, and followed by qualitative studies to explore the decision-making process and social networks influencing reproductive health behaviour. Findings of the assessment are expected to assist the ORP and other NIPHP partners to develop appropriate strategies to address the health needs of adolescents.

Review of GoB and NGO activities in Adolescent Health

GoB Programmes

Health and Population Sector Programme (HPSP)

In the past, the health and population programme of Bangladesh was primarily targeted to married women of reproductive age and children, thereby largely ignoring the health needs of adolescents. In the current Health and Population Sector Programme (HPSP), the new five-year health programme of the country, adolescent health has been recognized as a priority target area. Adolescent health has been included as part of the Essential Services Package (ESP) [46]. A separate programme titled "Maternal Nutrition and Adolescent Health" has been created to deal with the adolescent health issues.

Under the HPSP, different strategies to address the health needs of adolescents are underway. It has been planned that all health and FP service providers in the public sector will be engaged in the delivery of adolescent health services as a reproductive health component of the ESP package. The following issues relating to adolescent health will also be addressed in the HPSP [47]:

- Behaviour change communication (BCC) through effective information, education and communication. (The school health education programme will be strengthened. Health and FP workers, will conduct counselling and health education sessions, in the community and in schools, and refer suspected cases of anaemia, malnutrition, and RTI/STD to the nearby heatlhcare centre).
- Postponing the first birth or preventing unwanted pregnancy through proper IEC and by increasing the use of contraceptives by the newly-married couples.

- Prevention of unsafe abortion due to unwanted pregnancy by giving training to service providers.
- Special antenatal and safe-delivery care to pregnant women aged less than 24 years.
- Creation of awareness among adolescents about RTI/STD and availability of high-quality services for management of STD/RTI.
- Involvement of private and NGO sectors in promoting adolescent health.
- Inter-sectoral coordination among the various concerned sectors, i.e. education, law, labour, social welfare, and youth welfare.

The Government of Bangladesh is planning to allocate sufficient funds for improving adolescent health, and also to train service providers with regard to adolescent health [47]. In 1997, the GoB held four workshops on adolescent health in different parts of the country. The health and FP programme managers of both GoB and NGOs participated in these workshops.

ICDDR,B, UNICEF, UNFPA, and WHO have also been helping the government to formulate a well-planned policy regarding adolescent health. As part of the effort, the Directorate of Family Planning (DFP) of the Ministry of Health and Family Welfare and the ORP, ICDDR,B, in October 1998, jointly organized the First Stock-taking Workshop on Adolescent Health Activities in Bangladesh. The workshop analyzed and discussed key issues relating to the design of the government's future reproductive health interventions targeted towards adolescents in schools and in the community. It also reviewed some important experiences learned from adolescent initiatives run by non-government organizations.

School Health Pilot Project (SHPP)

In addition to train school-aged children and adolescents to properly care for themselves and to promote a healthy lifestyle within their families, communities, and peer groups, the Ministry of Health and Family Welfare began the 'School Health Pilot Project' (SHPP) in 1996, following the design of the 1993 National School Health Plan [48]. The Project was implemented districtwide in Comilla, Bogra, Faridpur, and Jessore with the main objective of providing health education along with basic health promotion, prevention and screening services to primary and secondary school and *madrasa* children through trained school and madrasa teachers. The Assistant Health Inspectors (AHIs), Health Inspectors (HIs), and Health Assistants (HAs) were also involved in providing health education at the schools. [There was a provision of organizing health education sessions by Medical Assistants (MAs) in secondary schools which was an effort from the Directorate of Family Planning (DFP), but was not well executed]. The Project was included in the Fourth Population and Health Project (FPHP) of the World Bank.

Under the Project programme, training of trainers (TOT) was completed. In the next phase, one teacher (preferably a physical instructor or a science teacher) from each school was supposed to be trained on topics to be delivered at the school level (training of two batches has been completed). Topics for training included: personal hygiene, health education, population education, sanitation, safe water, immunization, first aid, nutrition and food science, some diseases, such as diarrhoea, helminthiasis, STDs, ARI, eye problems, malaria, Kala-azar, tuberculosis, and leprosy, and referral system. Under the theme population education, information on FP, sexual hygiene, RTI/STD, and HIV/AIDS will be provided to students of class VIII, IX and X [49]. In addition to health education sessions, there was a plan to provide first aid and referrals services to all school children, including adolescents.

The Project also assisted the National Curriculum and Textbook Board (NCTB) to develop and revise the primary and secondary school health curriculum and to select and/or produce health education materials [49]. The topics which were proposed to include in the curriculum were consistent with the topics currently covered under teachers' training.

Although it was speculated that all phases of the Project would be completed by the project duration, due to some technical difficulties, it was not possible to complete the pilot phase in time [49]. Under the current HPSP, school health is placed under the Child Health Programme. Details of the school health programme and completion of the pending work of SHPP are yet to be decided.

NGO programmes

At present, a number of NGOs are involved with adolescent programmes. In general, these organizations can be categorized under two main headings: NGOs who are providing funding and technical support to implement adolescent programmes, and NGOs who are directly implementing these programmes in the field.

Organizations, such as Voluntary Health Services Society (VHSS), Bangladesh Population and Health Consortium (BPHC), ACTION AID Bangladesh, Population Council, Save the Children-USA, and PLAN International have been providing funding and technical support to other organizations to conduct adolescent programmes.

Although the exact number of NGOs implementing adolescent programmes is not available, it is clear from the VHSS AFLE Forum Members list that, at present, more than 100 organizations are conducting adolescent programmes throughout the country [50]. A recently-published inventory of the Population Council on the organizations working with adolescents/youths in Bangladesh reported that 188 organizations have been working with adolescents [17]. Some major organizations which have been implementing adolescent programmes are listed in Table 3.

Table 3. Adolescent programmes run by different NGOs

Name of the organizations	Target groups	Activities	Coverage
ASD	Boys and girls (9-19 years)	AFLE, skill development credit programme, and health services	250 boys and girls
BRAC	Boys and girls (12-16 years)	AFLE	21 secondary schools, 210 adolescent clubs and 202 NFPE schools
BWHC	Girls (11-18 years)	AFLE, health services, leadership and skill development training, and cultural activities	40 schools, 99 class groups (6,600 adolescents)
CDS	Girls (9-19 years)	AFLE	6,100 girls
CMES	Girls (11-19 years)	AFLE	3,200 girls
CWFP	Girls (9-19 years)	AFLE, health services (TT), skills training, savings, and credit activities	1,492 girls
Dipshikha	Girls (12-18 years)	AFLE	3,000 girls
FDSR	Boys (15-25 years) Girls (12-18 years)	Better life education, indoor games, growth monitoring, skill development and leadership training, income-generation activities	54 unions of 7 selected thanas (3,348 girls and 532 boys)
FPAB	Boys (15-30 years) Girls (9-20 years)	AFLE	21,000 youths in 70 unions of 30 districts
NM	Girls (9-19 years)	AFLE, adolescent health clinics, income-generating activities, skills training, and credit programme	316 girls

Table 1 *(continued)*

Name of the organizations	Target groups	Activities	Coverage
OMI	Girls (11-18 years)	AFLE, adolescent health clinics, and income-generating activities	350 girls
PDAP	Girls (10-19 years)	Skill training, credit support, basic education, and health services	350 girls
PI	Newlywed couples	Reproductive health education	29 NGO project sites
PSTC	Girls (9-19 years)	AFLE	Five selected areas (130 girls)
World Vision, Bangladesh	Girls (10-19 years)	AFLE	16,000 girls

NGO adolescent activities

Adolescent Family Life Education (AFLE), the main adolescent activity of most NGO programmes, was initiated in Bangladesh in 1989 as part of the MCH-FP programme of some NGOs [51]. Several other organizations, which have other programmes, like Non-formal Primary Education (e.g, BRAC) and the Family Development Programme (e.g FDSR), initiated AFLE as part of their larger agenda. Thus, the content of the AFLE programme varies depending upon the individual agenda of each organization [52].

Most organizations run AFLE activities at the community level. But the CWFP and the BWHC, also hold sessions at the school level. BRAC also runs AFLE activities in its 210 non-formal schools and 21 government schools [13,33,53]. Nari Maitree (NM) is planning to extend its programme to the school level [54]. At the school level, special sessions are held in the classroom. and the specially-appointed programme organizers conduct health education sessions. At the community level, sessions are held in groups who meet several times each month.

AFLE is also provided through '*Kishoree Pathagar*' (adolescent library) programme by BRAC. This programme is specially for the adolescent girls who have completed BRAC's non-formal primary education programme. This gives them a chance to keep them updated with recent information.

Other than AFLE, some NGOs, such as Nari Maitree, CWFP, and OMI, have established separate health clinics for adolescents [54,55,56]. These clinics are opened

to non-members and to NGO member adolescents. Although qualified medical practitioners are available to provide primary healthcare services from these clinics, managers of these programmes have expressed concern about their low use [54,56]. To improve the coverage of adolescent health clinics, satellite clinics for adolescents have been arranged by the OMI. The Nari Maitree targets adolescents by holding periodic health clinics at garment factories. It also plans to organize special health clinics at the school level. The CWFP has been holding special clinic hours at its Chittagong project site [55].

Other than AFLE and separate health clinics for adolescents, some NGOs offer supplementary programmes for adolescents, such as income-generating activities (ash making, tailoring, and kitchen gardening), credit programmes, and skill development training. Some NGOs also provide legal support to adolescents [56,57]. Moreover, since most of these programmes targets low-income families, they will have the added benefit of empowering adolescent girls.

In addition to the above-mentioned programmes, the Pathfinder International targets adolescents by running a programme for newly-wed couples (since the majority of Bangladeshi girls do marry in their teens). Under this programme, a special effort is being made to develop an approach to improve the coverage of newly-wed couples [58]. Through this approach, FP and MCH services are provided to newly-wed couples through FP and MCH orientation meetings held in their communities.

NGO advocacy programme

Other than the programmes run specifically for adolescents, NGOs also organize special programmes for school teachers, parents and community leaders to make them aware about the adolescent programmes and also to ensure community involvement in holding adolescent programmes. For instance, in BRAC programme, several orientation and discussion meetings with parents, teachers, and community leaders are held to elicit ideas and opinions on how to improve the programme activities. BRAC has also developed a network of government and community members to share their advice and suggestions to improve the programme activity.

The CWFP, in collaboration with the Population Council, has been working on "Advocacy for Promotion of Reproductive Health and Rights of Adolescents in Bangladesh" [59]. The aim of the project is to stimulate the promotion of appropriate government policies and programmes for adolescents by improving awareness of key people, especially the people representatives, of issues relating to adolescent reproductive health and rights, and creating a mechanism for addressing adolescent issues at appropriate forums by the people representatives .

Strengths and weaknesses of NGO programmes

Although a considerable number of activities aimed at addressing reproductive health and other needs of adolescents in the Bangladeshi context has been done, during the last decades or so, these activities are relatively of small-scale and pilot efforts. Besides, these efforts have primarily focused on adolescent girls. The programmes are also poorly documented and evaluated. In fact, comprehensive documentation could be found only in few organizations [51].

In spite of the above-mentioned limitations of adolescent initiatives, the success made of these smaller scale projects can not be overlooked. Although the success of these projects can not be measured in terms of impact due to inherent difficulties in programme planning and documentation, effectiveness of these programmes could be partly judged by the level of community mobilization these programmes have initiated. The managers of some of these programmes believe that community mobilization is a key element for the success of their programme [60,61]. For example, BRAC, CWFP, and the Pathfinder International operate on the principle that their involvement and mobilization of the community change social and cultural norms that impact the reproductive health of adolescents. Although it is difficult to measure community mobilization, documentation on how these programmes work to affect social norms through community mobilization would help the programme people develop indicators that can be used for measuring the effectiveness of these programmes.

In addition to the impact and effectiveness of NGO adolescent programmes, there are other accomplishments which could be regarded as milestones in addressing adolescent health issues in Bangladesh. These include: holding of different meetings; formation of adolescent forums; development of AFLE curriculum and IEC materials; and development of training curriculum for adolescents.

In August 1991, the VHSS organized a seminar to bring together different organizations interested in adolescent issues. Experiences of other countries in Family Life Education was shared in this seminar. The need for more development work in this area within Bangladesh was also discussed [62]. During discussion, it appeared that there was commitment to the idea of developing family life education in Bangladesh, and it was suggested that a forum be formed which formally took shape in November 1991 and the AFLE Forum was formed. It was evident during this review that, at present, there are a number of adolescent forums in Bangladesh. In addition to AFLE Forum coordinated by the VHSS, there are five other forums such as DAWN Forum, BPHC Forum, ACTIONAID Forum, USC-Canada Forum and CMES Forum [50], but their activities under these forums are implemented without any coordination.

The curriculum and IEC materials developed by the VHSS are being used by most organizations. Some organizations, have however, developed their own AFLE curricula based on the VHSS curriculum. It is important to note here that the adolescent curriculum developed by the VHSS under the guidelines suggested by AFLE Forum members did not have representation from all stakeholders [47]. Adolescents

were neither involved in developing nor in testing the curricula. As a result, some of the lessons did not have the desired outcome. BRAC has also recently developed a reproductive health curriculum for using in their field sites [53].

A report by Faiz *et. al.* on the evaluation of the content of the AFLE curricula of different organizations suggests that although the main subjects covered in the curricula were similar, the topics discussed within each subject area varied according to the programmatic needs of the individual NGO programmes [52]. The report also mentions that the current AFLE programme is based on 17 topics, including social laws, rights and values, general health, food and nutrition, reproductive health education, population education and FP. Of these 17 topics, some common ones have been addressed by all organizations. Based on the suggestions made by Faiz et al. ACTIONAID Bangladesh has developed a revised AFLE curriculum for the use of its funded NGOs.

It has also been found that none of the organizations working with adolescents have the capacity to give adequate training on adolescent health [47]. Although NGOs, such as BRAC, VHSS, and CWFP, have given ToT to several NGO workers, these trainers are in need of developing their skills. A recent evaluation, done by the BPHC, in its three funded projects, documented that the training method used for the AFLE programme is lecture-oriented. And since the ideas are sometimes complex and often uncomfortable, adolescents tend to become bored and restless during the session. The training method also allows very little scope for adolescents to discuss their feelings or ask questions during the sessions [51]. Several NGO trainers have expressed the need for more audio visual IEC materials.

The report records that girls trained in AFLE were more knowledgeable and more vocal about MCH-FP and gender issues compared to girls who had not received AFLE training. Moreover, they expressed strong views against dowry and polygamy.

Although drug addiction and violence are seen as two growing problems among urban adolescent boys, to date, only a few NGOs are targeting males in their adolescent programmes. The FPAB covers adolescent males and females under its youth programme [63]. Through this programme, AFLE training is provided to youth organizers who, in turn, organize groups in their communities to provide family life education. The programmes are run by volunteers from the community who receive, for their time and effort, only an honorarium or a small incentive, such as a little snack or a bar of soap. The implementing agency reported that a healthy life-style is being practised by the adolescents in these project areas.

Besides the FPAB, BRAC and FDSR also have programmes for adolescent boys. BRAC has been giving equal importance to boys and girls through its adolescent programmes. FDSR, in its adolescent boys programme, provide family life education and other recreational facilities, such as indoor games and reading books.

In urban areas, many adolescents work at garment factories. Apparently, very few NGOs have yet developed health programmes specifically targeting these young

people. Adolescents aged 10-15 years, who were previously working in the garment industry but were released from their jobs due to the government's child labour legislation, are, however, being targeted by a few NGOs, such as BWHC and OMI, in their AFLE programmes [57,64].

Since a number of adolescents-related problems are rooted in sociocultural norms of the society, it seems imperative to involve parents and other members of the society in these programmes. During discussion meetings with the managers of the adolescent programmes, it was learned that the adolescent programmes encountered some opposition at the initial phase. With the help of orientation and discussion meetings with parents and community leaders, community supports for adolescent programmes have been ensured. Evidence shows that parents and other community members are generally supportive of adolescent programmes [55,56,57,59].

Review of Adolescent Projects of Other Developing Countries

Although this review report focuses primarily on adolescents in Bangladesh, approaches which have been suggested and implemented in other developing countries were also reviewed to identify alternative ways to address adolescent health needs.

It appears from the literature that four different approaches have been tried to address the reproductive health needs of adolescents, globally [65]. These are: school-based programmes, outreach programmes, clinic-based programmes, and social marketing and mass media programmes.

School-based programmes

With more children than ever receiving education, schools might be an efficient way to reach school-age adolescents and their families in an organized way. This approach has been applied to provide reproductive health education to adolescents in developing countries [65]. Introducing reproductive health programmes at schools can have added benefits. By providing reproductive health education early, it is possible to encourage the formation of healthy sexual attitudes and practices. This is easier than changing well-established unhealthy habit later. At a relatively low cost, these programmes can help prevent early pregnancy, HIV/AIDS and STDs [66]. School staff can also refer students to local health or counselling services when appropriate. Finally, many elements needed to build school-based programmes already exist. Some countries have ongoing school health programmes that can be expanded to include reproductive health.

School programmes addressing reproductive health vary tremendously, however, between and within countries [65]. The major types of educational efforts that address the health effects of sexuality and reproduction, while differing with respect to their goals and content emphases, are family life education, sexuality education,

population education and HIV/AIDS education programmes. Many of these programmes–particularly those addressing HIV/AIDS–involve adolescents as trained sexuality/reproductive health educators (peer educators), mental health/reproductive health counsellors (peer counsellors), or providers of reproductive health services (peer promoters) [65].

It has been observed that when reproductive health education are provided to adolescents under the family life education programmes, reproductive health is placed in a broader and proper context of developmental issues [67]. However, this broader focus sometime results in diminished emphasis or a total omission of discussion on sexuality, fertility awareness, and contraception.

In almost every country, the delivery of sex education through school faces legal, financial, cultural and religious resistance as well as opposition from community leaders, school teachers, parents, and even the students themselves. Other obstacles to implement common across most countries include:

- lack of active support, commitment, and coordination from ministries of health and education and school officials;
- lack of national resources in terms of skilled personnel, training, and materials;
- lack of mechanisms, strategies, organization and plan to supervise, monitor, and evaluate programmes;
- lack of research capability and infrastructure in school health programme; and
- lack of innovative approaches to the development of instructional materials [65].

For the most part, school programmes provide information and education, but not services [65]. However, in a limited number of cases, school education programme is linked to on-site or linked clinics that provide reproductive health services, such as counselling and contraceptives [67]. Other school-based services include health screening, public education campaigns, and referrals to community-based adolescent programmes and emergency services.

Outreach programmes

Although a variety of school-based educational efforts to address the health effects of sexuality and reproduction have been tried, schools have generally been found unable to offer wide-reaching sexuality education, because many children drop out of school before they reach the age at which such a course would be offered. Thus, other ways to reach and attract adolescents with reproductive health information and services are being devised. These include programmes outside schools and clinics, which work to invite adolescents to places where they can be offered services and information, and others which bring services and information to young people where they are. Adolescent/youth centres, peer-promotion programmes, and other outreach efforts to

place services in the community and workplace are also included, along with special initiatives by youth-oriented organizations to develop projects by and for youths [68].

There is evidence that community-based programmes have focused specifically on serving pregnant and parenting adolescents [67]. While these programmes generally serve a small number of adolescents, some have helped change national policies, allowing adolescent girls to school. These projects helped pregnant and parenting adolescents to finish school. They have also offered tutoring, skill training and vocational training. Results of research have shown that there are fewer second pregnancies among programme graduates compared to other adolescent mothers [67].

Evidence suggests that community-based adolescent programmes have faced opposition due to fear that contraceptive services will lead to an increased sexual activity [67]. Consequently, programmes have often incorporated reproductive health services for adolescents into broader service offerings, including recreation, sports teams, drama groups, vocational training and tutoring. There is also evidence that community programmes also have targeted adolescents through street programmes and workplace [67].

Establishing reproductive health outreach programmes for young people can be tremendously challenging. According to professionals who have managed, funded or observed outreach programmes, several elements are instrumental in reaching youths. These include: strategic planning, target audience identification, needs assessment, youth involvement, community involvement, parental involvement, and evaluation design and monitoring [69].

Health facility programmes for adolescents

Adolescence is still a newly-acknowledged life phase in many countries. Even in western countries, the practice of offering specialized health services to this age group has only recently begun. The public sectors of most developing countries do not offer clinical services tailored for young adults. The few programmes that do exist are generally implemented by NGOs [40]. These programmes offer specialized services to pregnant, post-partum and post-abortion adolescents; tailored services to adolescents, including specialized training to service providers; convenient hours; drop-in appointments; age-appropriate IEC materials; additional time for counselling; special educational sessions; and reduced fees [40].

Unfortunately, evaluative findings are generally not available with regard to the specific characteristics essential or potentially facilitative to clinical reproductive health projects. Nevertheless, young people and professionals working with adolescents have identified several key elements that are essential to project acceptability and effective implementation [40]. These are as follows:

- Adolescents should be involved in many, if not all, stages of the projects developed to target adolescents, including design, implementation, and evaluation.

- Health facilities need to be conveniently located.
- Separate space or special times (which have been identified as convenient for adolescents), such as late afternoons, evenings and weekends, should be set aside for service delivery to adolescents.
- Providers should be specifically trained to work with adolescents.
- Service charges should be as low as possible, so that young people can afford them.

It was initially assumed that tailored services for adolescents would require a significant increase in resources. Project personnel and analysts have repeatedly stated, however, that most adjustments necessary to attract and meet the needs of this sub-population can be achieved at a little or no additional cost. Instead, what will be required is a positive attitude among staff members and a staggering schedules to accommodate for adolescent-appropriate hours [40].

Social marketing and mass-media programmes

Social marketing refers to a process for designing health-promotion interventions that uses techniques drawn from commercial advertising, market research, and the social sciences. Social marketing defines its objectives in terms of beliefs, practices, and values of its target audiences. Extensive audience research guides the ways in which social marketers position projects objectives in terms of benefits they offer to a target audience [70].

Social marketing and mass-media strategies have been widely used for more than two decades to help strengthen public health-promotion efforts, such as promotion of breast-feeding, diarrhoeal disease prevention and treatment, promotion of safe motherhood practices, marketing of contraceptives to support family planning programmes, and so on. Evidence also suggests that well-designed social marketing and mass-media projects can make a difference in the reproductive health practices of adolescents [71].

Throughout the world, adolescents love radio, television, videos, films and comic books, and these can be effective ways to reach them. Successful prevention programmes have used these media to disseminate messages directed at adolescents [67]. Telephone hot lines have been successful in various countries as a means for adolescents to get information from adults and peers that is anonymous and nonjudgmental [67]. Drama groups, puppet shows, rock concerts, and other entertainment forms are effective at reaching adolescents. Youth drama group, for example, provides youths an outlet for creating and conveying messages that have more legitimacy with adolescents than does advice from adults.

Social marketing is another successful way to reach adolescents with information and contraceptives, especially condoms [67]. To date, social marketing strategies have been implemented through communication campaigns, including radio

programmes and print media; information campaigns for parents, teachers, and community leaders. Other social marketing activities include distribution of promotional materials from pharmacies, stores, youth outlets, and clinics; enticements for teens to seek advice from health centres; distribution of special advocacy information kits for policy-makers through community-based meetings; and lobbying efforts.

However, the most successful programmes recognize that addressing the reproductive health needs of adolescents, particularly in the developing countries, poses special challenges to the discipline of social marketing and its use in media communication. These challenges include:

- Given their developmental stage, behavioural practices of many adolescents are still in the process of being formed, and, consequently, are often difficult to define or predict. This 'developmental transition' stage of young adulthood calls for the extensive use of social marketing methods, such as audience segmentation and behaviour analysis, so that communications and marketing interventions can be designed and implemented.
- Adolescents at risk are often difficult to reach as many are illiterate, not in school and unemployed. Mass media can be a useful way for transmitting basic messages to this audience, but social marketers also need to find channels of communication and develop marketing systems that can connect hard-to-reach adolescents with supportive reproductive health services and counselling.
- Young people are particularly vulnerable to a wide range of variables, such as opinions of peers, media images of sexuality, access to contraceptives, which inform and shape their behaviour. In the development of intervention strategies, social marketers need to take into account these variables.

Lessons Learned

After reviewing the information relating to adolescent health and the initiatives undertaken to address adolescent health issues in Bangladesh, following lessons have been learned:

- Major information gaps exist with regard to reproductive health knowledge, attitudes and practice among adolescents in Bangladesh. This is especially true for unmarried adolescents.
- Studies on how adolescents in developing countries make decisions about reproductive health behaviours have rarely been undertaken. Studies on what influences adolescent risk-taking can help programmes target their activities toward the sphere of influence that are most important to adolescents. These studies have not been undertaken in Bangladesh.

- Although a number of organizations have initiated adolescent programmes in Bangladesh, most of these efforts are of relatively small-scale (with regard to the number of adolescents covered, pilot efforts with limited impact). There is a little understanding of how programmes can expand their coverage, or how to implement strategies that reach a large number of adolescents, such as mass-media campaigns and social marketing.
- More importantly, these efforts are mostly limited to AFLE outreach programmes targeted to adolescent girls. Other approaches to address the health needs of adolescent have not been tried.
- Support from the community (including parents) is essential for the successful implementation of any adolescent programmes. Findings of NGO programmes in Bangladesh suggest that parents and communities are generally supportive of adolescent programmes when they are involved as stakeholders in the process of designing programmes and have a full understanding of the content and benefits of these programmes.
- In Bangladesh, different sets of AFLE and reproductive health curricula are available. These curricula have been devised according to the programmatic needs of specific NGOs. Therefore, the topics discussed in adolescent outreach programmes and within each AFLE subject area vary according to the programmatic needs of a particular NGO.
- Programmes that take stock of adolescents' opinions and needs are able to develop curriculum that is targeted to and meaningful for the adolescents involved. The BRAC programme, for instance, conducted some qualitative studies with adolescents who had received their AFLE programme and found that adolescents wanted to know more about sexual development and reproduction than they wanted information on family life and general health. Moreover, they found that boys wanted information on issues, such as menstruation and contraception.
- Most adolescent programmes that exist in Bangladesh do not systematically document their activities. Thus, their programmes cannot be evaluated objectively.
- Depending on the nature of a programme, it may be time-consuming to assess a programme by looking at impacts only; in that case, process indicators, such as community mobilization (in the case of community-based programmes), outputs and effectiveness of the programme, could be measured.
- As in other developing countries, access to, demand for, and use of existing health services among adolescents–married and unmarried–seem to be very limited in Bangladesh. Moreover, the existing healthcare system is not designed to fulfill the needs of unmarried adolescents. The healthcare providers are neither aware of the special health needs of adolescents nor are they prepared to provide reproductive health services to adolescents.

- Six different adolescent forums exist in Bangladesh. There is a lack of coordination among these forums.

The Future Needs

The present paper reviewed information and gathered data from a variety of sources which include international and national data, information from local NGOs, and experiences shared by key personnel working in the area. Data in some areas were simply unavailable. Moreover, the quality of some information presented here may not be optimal. For the betterment of adolescent health activities in Bangladesh, certain areas that still need to be addressed are highlighted below:

- Since information on adolescent reproductive health needs is very limited in Bangladesh, there is a need to collect in-depth information on this topic. In this regard, qualitative and quantitative studies should be planned for both adolescent boys and girls on:
  - adolescent decision-making, including role of peers, spouse, adults, family members, and community norms on adolescent decision-making;
  - antecedents of risk-taking behaviour; what kinds of factors are associated with risky behaviour, such as premarital sex, early childbearing, changing sexual partners, not seeking health services, etc.;
  - the reproductive health problems adolescents experience, and how they prefer to receive information and services for these issues;
  - adolescent sexual behaviour.

  These studies are expected to influence the reluctance to acknowledge sex before marriage, and to facilitate more open discussion about adolescent reproductive health and action that could help desensitize these issues.
- There is a need to document and evaluate the existing adolescent programmes, so that lessons learned from these projects could be used for scaling-up successful interventions.
- Programme should ensure that pilot projects are developed with an adequate view toward expansion or replication. Mechanisms for scaling-up and replication should be built in at the planning stage, so that the strategies that show success is built on and expanded.
- Since most of the existing adolescent programmes in Bangladesh are AFLE outreach programmes, additional approaches to address the health needs of adolescents need to be designed and tested.
- More programmes should target adolescent boys with information and services relevant to their needs. Studies to help understand and address concerns of boys

are crucial, specially since an increasing condom-use should be a major target of adolescent programme.

- Adolescent themselves should be involved in designing, planning and implementing programmes for them. Exploration of different strategies to involve adolescents in programming should be explored, such as having young people from the community participated in implementing qualitative methods which shape programme strategy development, training adolescents to serve as peer educators and community mobilizers, and involving adolescents as advisors to the programmes which reach adolescents.
- The healthcare system needs to be upgraded, so that it can address adolescent health needs. Protocols, guidelines, and standards of how providers should serve adolescents should be clearly spelled out. In this respect, healthcare providers should be updated with regard to the needs of adolescents, the medical issues around providing adolescents with contraceptives, how to communicate with adolescents, and how to preserve confidentiality.
- Further studies need to be conducted to help identify reasons why adolescents do not seek services from the existing health clinics. This information could be used for shaping strategies which stimulate demand among adolescents for health services.
- As adolescents are part of the community and some adolescent issues are rooted at sociocultural norms of the society, efforts should be made to involve community groups, such as parents, teachers, and guardians, in adolescent programmes. Mobilizing adults can encourage recognition of adolescent needs, support for adolescent programming, changes in sociocultural norms which negatively impact adolescent reproductive health, and stimulate sustainable community responses to the problems adolescents face.
- Better understanding of concerns of adolescent about sexuality and reproduction should be gained to shape the development of a core reproductive health curriculum for adolescents. This curriculum should be developed with units which reflect the concerns of adolescents at different ages and life stages, such as concerns of younger adolescents about puberty and sexual development, and older adolescents about relationship with the opposite sex. A training course on how to use, adapt and expand this curriculum for meeting the needs of different types of adolescents should also be developed.
- User-friendly training materials, containing practical information on programme strategies, should be developed to help programme managers. Especially important to programme managers will be information and strategies on how to overcome political, cultural, structural and other barriers to adolescent programmes, as well as evidence on what programme strategies and messages seem to be effective.

- Building networks, coalitions and strategic alliances are key to strengthening adolescent programmes and policies. As the number of organizations working with adolescents expand, all adolescents-related activities in the country should be coordinated through one national forum. A national forum would also encourage the sharing of lessons learned, accelerate the learning process in reaching adolescents, and ensure that activities of one organization enhances activities of others while not duplicating efforts.
- There is a need to conduct operations research in designing, implementing and evaluating adolescent programmes. Programme staff should help determine what aspects of their programmatic strategies should be tested through operations research.
- Research should be conducted to design and define appropriate indicators to evaluate the progress of interventions for adolescents. To develop indicators, the conceptual framework for adolescent strategies in Bangladesh should be documented. Indicators which assist in documenting how programmes work, such as the role of community mobilization or the influence on peer networks, should be developed and instituted, in addition to indicators which assist in documenting the programme impact.

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MCH-FP Extension Work at the Centre

An important lesson learned from the Matlab MCH-FP project is that a high CPR is attainable in a poor socioeconomic setting. In 1982, the MCH-FP Extension Project (Rural) with funding from USAID began to examine in rural areas how elements of the Matlab programme could be transferred to Bangladesh's national family planning programme. In its first year, the Extension Project set out to replicate workplans, and record-keeping and supervision systems, within the resource constraints of the government programme.

During 1986-89, the Centre helped the national programme to plan and implement recruitment and training, and ensure the integrity of the hiring process for an effective expansion of the work force of governmental Family Welfare Assistants. Other successful programme strategies scaled up or in the process of being scaled up to the national programme include doorstep delivery of injectable contraceptives, management action to improve quality of care, management information systems, and strategies to deal with problems encountered in collaborative work with local area family planning officials. In 1994, this project started family planning initiatives in Chittagong, the lowest performing division in the country.

The Centre and USAID, in consultation with the government through the Project's National Steering Committees, concluded an agreement for new rural and urban Extension Projects for the period 1993-97. Salient features include: improving management, quality of care and sustainability of the MCH-FP programmes, and providing technical assistance to GoB and NGO partners. In 1994, the Centre began an MCH-FP Extension Project (Urban) in Dhaka (based on its decade long experience in urban health) to provide a coordinated, cost-effective and replicable system of delivering MCH-FP services for Dhaka urban population. This important event marked an expansion of the Centre's capacity to test interventions in both urban and rural settings. The urban and rural extension projects have both generated a wealth of research data and published papers in international scientific journals.

In August 1997 the Centre established the Operations Research Project (ORP) by merging the two former MCH-FP Extension Projects. The ORP research agenda is focussed on increasing the availability and use of the high impact services included in the national Essential Services Package (ESP). In this context, ORP has begun to work with partners in government and NGOs on interventions seeking to increase coverage in low performing areas and among underserved groups, improve quality, strengthen support systems, enhance financial sustainability and involve t he commercial sector.

ORP has also established appropriate linkages with service delivery partners to ensure that research findings are promptly used to assist policy formulation and improve programme performance.

The Division

The Health and Population Extension Division (HPED) has the primary mandate to conduct operations research, to disseminate research findings to program managers and policy makers and to provide technical assistance to GoB and NGOs in the process of scaling-up research findings to strengthen the national health and family planning programmes.

The Division has a long history of solid accomplishments in applied research which focuses on the application of simple, effective, appropriate and accessible health and family planning technologies to improve the health and well-being of underserved and population-in-need. There are various projects in the Division which specialize in operations research in health, family planning, environmental health and epidemic control measures. These cut across several Divisions and disciplines in the Centre. The Operation Research Project (ORP) is the result of merging the former MCH-FP Extension Project (Rural) and MCH-FP Extension Project (Urban). These projects built up a considerable body of research and constituted the established operations research element for child and reproductive health in the Centre. Together with the Environmental Health and Epidemic Control Programmes, the ORP provides the Division with a strong group of diverse expertise and disciplines to significantly consolidate and expand its operations research activities. There are several distinctive characteristics of these endeavors in relation to health services and policy research. For one, the public health research activities of these Projects are focused on improving programme performance which has policy implications at the national level and lessons for the international audience also. Secondly, these Projects incorporate the full cycle of conducting applied programmatic and policy relevant research in actual GoB and NGO service delivery infrastructure, dissemination of research findings to the highest levels of policy makers as well as recipients of the services at the community level; application of research findings to improve program performance through systematic provision of technical assistance; and scaling-up of applicable findings from pilot phase to the national program at Thana, Ward, District and Zonal levels both in the urban and rural settings.

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