Sexual and Reproductive Health of Adolescents and Youths in CHINA


WORLD HEALTH ORGANIZATION
WESTERN PACIFIC REGION
Sexual and Reproductive Health of Adolescents and Youths in CHINA


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The World Health Organization – Regional Office for the Western Pacific gratefully acknowledges the invaluable contribution to this review of the following:

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Ms Liang Hong: Department of Maternal and Child Health, School of Public Health, Fudan University, Shanghai, China
This is one of the reviews on the literature and projects of sexual and reproductive health of adolescents and youths in eight Asian countries.*

Adolescents and youth make up one-fourth of the population in the Western Pacific Region. At least 17 out of 37 countries and areas in the Region have a median age below 25 years. The health of adolescents is, therefore, a key element and an investment for the social and economic progress in the Region. Many of the problems adolescents experience are inter-related and should be regarded in a comprehensive manner. However, adjusting to sexual development and protecting their reproductive health are the major challenges for adolescents.

Adolescents are vulnerable because they lack knowledge and skills to avoid risky behaviour and lack access to acceptable, affordable and appropriate reproductive health information and services. This is often compounded with environmental disadvantages such as poverty and unemployment. Social norms of sexuality have also changed in the past 2 decades and puberty comes 2-3 years earlier over one century, but the environment to support adolescents has not changed. There is still much to be desired in terms of governments’ institutionalization and allocation of funds. Also families and communities are still unprepared to provide accurate reproductive health information and

* Cambodia, China, Laos P D R, Malaysia, Mongolia, Philippines, Republic of Korea, Viet Nam
services necessary for adolescents. Risks of unwanted pregnancies, unsafe abortions, pregnancy-related complications, sexually transmitted infections and HIV/AIDS, all of which are important elements of Millennium Development Goals (MDG), continue to threaten adolescents.

Since the International Conference on Population and Development (ICPD) in Cairo in 1994, where the importance of adolescent reproductive health was acknowledged, many studies and programmes have been carried out by various national and international agencies and nongovernmental organizations. In order to assist governments to achieve the objectives of ICPD and MDG, the WHO Western Pacific Regional Office provided technical and financial support to several countries to conduct literature and programme reviews.

As a result of these reviews, countries now have evidence-based information for the development of national policies and strategies for adolescent sexual and reproductive health. I appreciate the practical and cost-effective use of existing information for increasing awareness of adolescent reproductive health and for improving our work. Here, I also would like to express my thanks to the governments, the reviewers and researchers for your contributions to improving the reproductive health of adolescents and youths.

Shigeru Omi, MD, Ph.D
Regional Director
WHO Regional Office for the Western Pacific
1. Literature review methodology

**Overview**

All of the literature on sexual and reproductive health of adolescents and young people in China published both in and out of China was extensively searched. The literature was divided into two parts, before and after 1995. Literature published before 1995 was simply listed and classified. The literature since 1995 was not only classified but also generalized and compared. In addition, key informants interviews were carried out to find the unpublished or ongoing research or projects.

**Methodology**

**Subject age:** 10-24 years old

**Review contents:** sexual development, sexual psychology, reproductive system disease, knowledge, attitude and practice (KAP) relating to sexual and reproductive health, KAP-related factors, unmarried pregnancy, induced abortion, sexual education, contraceptive counseling and service, policies, laws and regulations.

**Literature limitation:** population-based survey and interventional studies published or implemented since 1995.

Methods of literature search in detail are as follows:

- Literature database search, including Chinese Biological and Medical Literature database (CBMdisc), American Medical Index Online Database (PubMed) and Population Database (Popline);
- Internet search, including international agencies’ websites and Chinese government websites about sexual education and adolescent health;
- Journal search, including all Chinese journals, which had papers about population, family planning, reproductive health, adolescent health and social psychology, were searched by hand;
- Key informants interviews to identify unpublished meeting compilations, dissertations and project reports on adolescent health.
A total of 23 studies were published before 1995. The type of study design was commonly cross-sectional. The content, number of papers and site of these studies are listed in Table 1.

A total of 145 studies were published after 1995. The study designs included qualitative study, cross-sectional survey, case-control study and interventional study. The study type, content, number of papers and study site are summarized in Table 2. Research funds, especially from international agencies or from famous domestic institutes, are outlined in Table 3. Table 4 presents the intervention projects and studies.

### Table 1. Papers published before 1995 on the sexual and reproductive health among adolescents and young people in China

<table>
<thead>
<tr>
<th>Contents</th>
<th>Number of papers</th>
<th>Study Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge, attitude and practice (KAP)</td>
<td>7</td>
<td>Shandong, Shanghai, Zhejiang, Hunan, Beijing</td>
</tr>
<tr>
<td>Unmarried pregnancy and induced abortion</td>
<td>6</td>
<td>Beijing, Shanghai, Hubei, Guizhou</td>
</tr>
<tr>
<td>Sexual education</td>
<td>3</td>
<td>Beijing, Tianjin, Wuhan</td>
</tr>
<tr>
<td>Sexual psychology</td>
<td>2</td>
<td>Wuhan, Guangdong</td>
</tr>
<tr>
<td>Sexual development</td>
<td>2</td>
<td>Qinghai, Beijing</td>
</tr>
<tr>
<td>Reproductive system disease</td>
<td>3</td>
<td>Guangdong, Sichuan, Hunan</td>
</tr>
</tbody>
</table>
### Table 2. Papers published since 1995 on sexual and reproductive health among adolescents and young people in China

<table>
<thead>
<tr>
<th>Study type</th>
<th>Content</th>
<th>Number of Papers</th>
<th>Study sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualitative study</td>
<td>Perspectives and attitudes on sexual education needs; current status of reproductive health; reproductive tract infection; reproductive health service. The subjects are college students, floating (migrant) populations, rural women, unmarried youth, students’ parents and health providers.</td>
<td>18</td>
<td>Beijing, Shanghai, Guangdong, Guizhou, Yunnan, Hebei, Chongqing, Henan, Shanxi, etc.</td>
</tr>
<tr>
<td>Cross-sectional study</td>
<td>1. Sexual development</td>
<td>10</td>
<td>National survey, Shanghai, Hebei, Shandong, Tianjin, Ningxia, etc.</td>
</tr>
<tr>
<td></td>
<td>2. KAP relating to sexual and reproductive health, KAP-related factors.</td>
<td>47</td>
<td>Beijing, Shanghai, Sichuan, Hebei, Guangdong, Jiangsu, Yunnan, Jilin, Gansu, Zhejiang, Shandong, Shanxi, etc.</td>
</tr>
<tr>
<td></td>
<td>3. Unmarried pregnancy, induced abortion</td>
<td>39</td>
<td>Shandong, Yunnan, Beijing, Shanghai, Jiangsu, etc.</td>
</tr>
<tr>
<td></td>
<td>4. Reproductive system diseases including STIs, male external genital abnormality and gynecological diseases</td>
<td>18</td>
<td>Jiangxi, Jiangsu, Shenyang, Anhui, Shenzhen, Guangxi, Henan, etc.</td>
</tr>
<tr>
<td>Case-control study</td>
<td>Determinants of unwanted sexual behavior</td>
<td>1</td>
<td>Beijing</td>
</tr>
<tr>
<td>Intervention study</td>
<td>1. Education intervention</td>
<td>10</td>
<td>Beijing, Shanghai, Shanxi, Shenzhen, Yunnan, Liaoning, Chongqing</td>
</tr>
<tr>
<td></td>
<td>2. Service intervention</td>
<td>2</td>
<td>Beijing, Shanghai, Shanxi, Shenzhen, Yunnan, Liaoning, Chongqing</td>
</tr>
<tr>
<td>Funding Source</td>
<td>Title</td>
<td>Related Information</td>
<td>Principal Investigator</td>
</tr>
<tr>
<td>----------------</td>
<td>----------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------</td>
</tr>
<tr>
<td>MOH</td>
<td>KAP on sexual health among junior high school students in Chengdu suburb</td>
<td>The subjects are grade 7-9 students in five general middle schools</td>
<td>Western China Medical University</td>
</tr>
<tr>
<td>SFPC</td>
<td>Intention of male condom use among the newly-married couples who undertake pre-marital physical examination</td>
<td>Condom acceptable rate was 84.68% in Guangzhou, Kunming and Shanghai zhou, Kunming and</td>
<td>Shanghai Institute of Planned Parenthood Research (SIPPR)</td>
</tr>
<tr>
<td>SFPC, UNFPA</td>
<td>Evaluation of short-term sexual education for rural female students in middle school</td>
<td>The intervention included reading materials, videos, group discussions and counseling services</td>
<td>The First Women &amp; Children Health Center affiliated with Xi’an Jiaotong University</td>
</tr>
<tr>
<td></td>
<td>Participatory learning and action of reproductive health among the unmarried youth in rural mountain community</td>
<td>Rapid assessment with rural unmarried youth aged at 15 years old and above in Yunnan</td>
<td>Kunming Medical College</td>
</tr>
<tr>
<td>WHO/HRP</td>
<td>Knowledge of reproductive health among unmarried women in Shanghai</td>
<td>2580 unmarried women in five districts participated in a questionnaire survey</td>
<td>SIPPR</td>
</tr>
<tr>
<td>WHO</td>
<td>Contraceptives use and related factors of unmarried migrant women in Guangzhou</td>
<td>Focus groups discussion, in-depth interviews</td>
<td>Guandong Institute of Planned Parenthood Research</td>
</tr>
<tr>
<td></td>
<td>Sexual behavior and related factors of unmarried migrant women in Guangzhou</td>
<td>Focus groups discussion, in-depth interviews</td>
<td>Guandong Institute of Planned Parenthood Research</td>
</tr>
<tr>
<td></td>
<td>Study on reproductive health status among unmarried women in floating population</td>
<td>Qualitative study on knowledge of reproductive health, pre-marital sexual behavior, induced abortion etc.</td>
<td>Guizhou Institute of Planned Parenthood Research</td>
</tr>
</tbody>
</table>
### Table 3 (Cont’d). Published papers with fund from domestic or international agencies since 1995

<table>
<thead>
<tr>
<th>Funding Source</th>
<th>Title</th>
<th>Related Information</th>
<th>Principal Investigator</th>
<th>Published Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHO</td>
<td>Needs for reproductive health services among unmarried women in Hebei</td>
<td>Focus group discussions / in-depth interviews on four types of unmarried women</td>
<td>Hebei Institute of Planned Parenthood Research</td>
<td>2000</td>
</tr>
<tr>
<td></td>
<td>Attitudes of family planning providers providing contraceptive services for unmarried youth</td>
<td>The subjects are 1927 family planning providers in eight (8) provinces</td>
<td>SIPPR</td>
<td>2001</td>
</tr>
<tr>
<td></td>
<td>Sexual behavior, contraceptive knowledge and practices among unmarried migrant young female workers</td>
<td>Reports from 5 cities</td>
<td>Institute of Population Research, Peking University</td>
<td>2001</td>
</tr>
<tr>
<td></td>
<td>The impact of setting condom vending machine on a university campus</td>
<td>Two universities in Shanghai, 631 students in control and 606 in intervention group</td>
<td>SIPPR</td>
<td>2002</td>
</tr>
<tr>
<td></td>
<td>Community-based intervention of sexual education and reproductive health service in unmarried youth</td>
<td>Sexual educations, counseling, free access to contraceptive in community</td>
<td>SIPPR</td>
<td>2002, MPH thesis</td>
</tr>
</tbody>
</table>

Table 4. Some projects on reproductive health among adolescents and young people since 1995

<table>
<thead>
<tr>
<th>Content</th>
<th>Project Title</th>
<th>Funding Source</th>
<th>Principal Investigator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Needs for sexual and reproductive health</td>
<td>1. Sexual behaviour and needs for reproductive health services among unmarried women in Shanghai</td>
<td>WHO</td>
<td>Gao Ersheng</td>
</tr>
<tr>
<td></td>
<td>2. Unmet needs and provision barriers for sexual and reproductive services among sexually young adults in China</td>
<td>WHO/HRP</td>
<td>Gao Ersheng</td>
</tr>
<tr>
<td></td>
<td>3. Accessibility and accept service for adolescents and youth</td>
<td>WHO</td>
<td>Zhang Liying</td>
</tr>
<tr>
<td></td>
<td>4. Status and needs for reproductive health among young migrant women</td>
<td>WHO</td>
<td>Zheng Zhenzhen</td>
</tr>
<tr>
<td></td>
<td>5. Needs for reproductive health among unmarried youth in Chengdu</td>
<td>WHO</td>
<td>Cui Nian</td>
</tr>
<tr>
<td></td>
<td>6. Sexual behavior survey among unmarried youth in Shanghai rural areas</td>
<td>Ford Foundation</td>
<td>Gao Ersheng</td>
</tr>
<tr>
<td></td>
<td>7. Sexual behavior and contraceptive needs among unmarried youth in Sichuan rural areas</td>
<td>WHO</td>
<td>Wu Shizhong</td>
</tr>
</tbody>
</table>
Table 4 (Cont’d). Some projects on reproductive health among adolescents and young people since 1995

<table>
<thead>
<tr>
<th>Content</th>
<th>Project Title</th>
<th>Funding Source</th>
<th>Principal Investigator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational intervention</td>
<td>1. Impact of sexual and reproductive health education on senior high school students</td>
<td>SFPC/UNFPA</td>
<td>Loa Chaohua</td>
</tr>
<tr>
<td></td>
<td>2. Peer education about STI/HIV/AIDS/safe sex among university students</td>
<td>Pharmaceutical Corp.</td>
<td>Gao Yuan</td>
</tr>
<tr>
<td></td>
<td>3. Peer education of sexual and reproductive health on adolescents and youth</td>
<td>UNFPA</td>
<td>Pang Jiazeng</td>
</tr>
<tr>
<td></td>
<td>4. School-based HIV peer education in Yunnan</td>
<td>Save the Children (UK)</td>
<td>Yunnan Education Committee</td>
</tr>
<tr>
<td></td>
<td>5. Skills-based health education to prevent HIV/AIDS</td>
<td>UNICEF</td>
<td>Chinese Institute of Health Education</td>
</tr>
<tr>
<td></td>
<td>7. Innovative Youth Outreach</td>
<td>UNICEF</td>
<td>Marie Stopes International</td>
</tr>
<tr>
<td></td>
<td>8. You and Me Newspaper for Middle School Students and Teachers Booklets</td>
<td>Futures Group, DFID</td>
<td>Marie Stopes International</td>
</tr>
<tr>
<td>Service intervention</td>
<td>1. Community-based intervention of sex and reproductive health education and service among unmarried young people aged 15-24 years in Shanghai suburb</td>
<td>WHO</td>
<td>Gao Ersheng</td>
</tr>
<tr>
<td></td>
<td>2. Impact of sex education and reproductive health services among adolescents and unmarried young people aged 15-24 years in Shanghai</td>
<td>Ford Foundation</td>
<td>Gao Ersheng</td>
</tr>
<tr>
<td></td>
<td>3. The Evaluation study of condom vending machine programme</td>
<td>WHO</td>
<td>Gao Ersheng</td>
</tr>
</tbody>
</table>
3. Current status of adolescent sexual and reproductive health

3.1 Demographic characteristic

By the end of 2001, the total population of China was over 1.2 billion. In 2001 the birth rate and the death rate were 13.38 and 6.43 per 1000 population respectively (National Bureau of Statistics of China, 2001). According to the data from the sampling survey in 1998, the 10-24 year age group accounts for 24.07% of the total population of this age group, male and female population were 24.23% and 23.90% respectively (China Population Information Center). By the end of 1999 there were approximately 229.5 million students in schools, more detailed figures of different type schools are shown in Table 5 (Ministry of Education, 1999). Nine year compulsory education covers 85% of China. The illiteracy rate among young adults had decreased to 5% by the end of 2000 (National Plan of Action for Children 2001-2010).

Legally, a man cannot marry until the age of 22, and a woman cannot marry until age 20 (China Marriage Law). The average age of marriage for women has increased gradually. The growth speed was about nine months to one year per five years. Simultaneously, the rate of “early marriage” decreased. Table 6 demonstrates the details (Planning & Finance Department of SFPC). In 2000 women’s average age of first marriage was 22.6 years, and women’s average age of first childbearing was 25.5 years (SFPC).

<table>
<thead>
<tr>
<th>School type</th>
<th>Number of students (1 000 000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary school</td>
<td>135.4</td>
</tr>
<tr>
<td>Junior high school</td>
<td>58.1</td>
</tr>
<tr>
<td>Senior high school</td>
<td>28.4</td>
</tr>
<tr>
<td>College &amp; university</td>
<td>7.2</td>
</tr>
<tr>
<td>Special education</td>
<td>0.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>229.5</strong></td>
</tr>
</tbody>
</table>
Table 6. Women’s average age of first marriage and rate of early marriage

<table>
<thead>
<tr>
<th>Years</th>
<th>Average age of first marriage (years)</th>
<th>Rate of early marriage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991</td>
<td>22.23</td>
<td>1.4</td>
</tr>
<tr>
<td>1992</td>
<td>22.53</td>
<td>1.5</td>
</tr>
<tr>
<td>1993</td>
<td>22.67</td>
<td>1.2</td>
</tr>
<tr>
<td>1994</td>
<td>22.73</td>
<td>0.9</td>
</tr>
<tr>
<td>1995</td>
<td>23.93</td>
<td>0.8</td>
</tr>
<tr>
<td>1996</td>
<td>23.20</td>
<td>0.7</td>
</tr>
<tr>
<td>1997</td>
<td>23.39</td>
<td>0.7</td>
</tr>
<tr>
<td>1998</td>
<td>23.57</td>
<td>0.7</td>
</tr>
<tr>
<td>1999</td>
<td>23.67</td>
<td>0.7</td>
</tr>
</tbody>
</table>

3.2 Growth and development

In order to know about the growth, development and health status of adolescents and young people, and to implement the basic national policy of “Better Birth, Better Upbringing and Better Education”, a national survey on Physical Fitness, Function and Quality of Chinese Adolescents and Young People was initiated in 1997 in 16 provinces. It was cooperatively initiated by five departments of the Chinese government (Ministry of Health, Ministry of Education, Ministry of Science and Technology, State General Administration of Sport, and State Ethnic Affairs Commission). Since then, this national survey has become a routine, like the population census in China, and is implemented every five years. Four surveys have been completed (1985, 1991, 1995, 2000).

The longitudinal data from the national survey shows that the physical fitness and health status of Chinese adolescents and young people have improved greatly (China Student Physical Fitness & Health Team, 2002). The average speed of increase in height, weight and circumference were 2.95 centimeter, 3.90 kilogram and 2.27 centimeter per 10 years respectively. The ages of the onset, the peak and the end of Adolescent Growth Spurt (AGS) were also 1-2 years earlier. AGS is the transition from childhood to adolescence. The reproductive system and secondary sex characteristic (SSC) will tend to mature rapidly during AGS’s peak age, therefore, it can be said that earlier AGS implies earlier sexual development.

By the end of the 1990s, reports about earlier sexual development among adolescents had attracted the attention of the team of the Chinese Student Physical Fitness survey. New items
about boys’ first night emission and girls’ first menstrual period were added into the 2000 national survey. Results from 31 provinces/municipalities, for Han nationality, showed that urban girls had their first period at an average age of 12.73 years. Rural girls had their period at an average age of 12.66 years (for the urban girls, the average age was 15.05 but the confidence interval was large). Among all of the provinces in China, Shanghai’s girls had their first period earliest, at age 12.08 for urban and 12.32 for rural girls. Qinghai, Heilongjiang, Gansu and Guizhou lagged behind the most. Qinghai was the latest, with the average age of 13.77 for urban and 14.63 for rural girls. Boys had their first night emission at an average age of 14.23 for urban areas and 14.43 for rural areas. Jilin and Shanxi were the earliest, ranging from 12.91 to 13.31 year-old. Qinghai and Heilongjiang were the latest, ranging from 15.22 to 16.26 years.

Although there was a lack of national information about sexual development in the past two decades, some literature with limited sample sizes still reported the trend about predating of sexual development in China. A study in Shanghai reported the average age of first period and first night emission in 1998 occurred 1.89 and 2.08 years earlier than in 1978, and SSC appeared about one to three years earlier (Tan Hui et al., 2002). Another report in Hebei showed the average ages of first period for urban and rural girls in 1995 was 1.22 and 1.56 years respectively earlier than in 1981 (Chen Meijuan et al., 1998). Yang Yulin and associates reported that in Shandong provinces the average ages of first period in 1995 was 0.25 years earlier for urban girls and 0.34 years earlier for rural girls than in 1985. The first night emission age was 1.79 years earlier also. Studies in Tianjin and in Ningxia also supported the above results (Liu Geli et al., 1998; Liu Shulan et al., 1999). The first age of sexual interest, sexual impulsion, masturbation, sexual illusion and desire for touching the opposite sex occurred between 13-15 years old, but there was no significant difference in age between the genders (Xu Tianming, 2000).

Many studies showed that adolescent growth and development (including sexual development and sexual psychological development) are moving up and accelerating. Such trends will last for a long time. As a result, all social components, including schools, families and health care services, should pay more attention to this trend and respond appropriately.
3.3 KAP of sexual and reproductive health & related determinants

3.3.1 Knowledge

Adolescents and young people had some information about adolescent development, contraception and STI/HIV/AIDS, but there was a significant difference in knowledge depending on one’s background. In some cases, young people had the wrong information.

A study on students aged 12-18 years showed that they had limited knowledge about adolescent health: 51.77% knew the age of the first period; 54.02% knew the SSC; self-healthcare was poorly understood; only 39.23% identified gonorrhea, syphilis and AIDS from six listed STIs; 57.74% knew two paths of transmission for HIV/AIDS; and about 50% could identify one method of contraception (Qi Yuling et al., 1999). Another study showed some students believed, mistakenly, that induced abortion was one method of contraception (Zhang Zhihong et al., 2002). Li Ailang and colleagues found that over 90% of college students had heard about gonorrhea, syphilis and AIDS, but they had a poor level of knowledge about the path of transmission of STIs. In a test of knowledge with total score of 42, the average score obtained by the students was just 15.

A study on youth aged 15-22 years showed that the correct answer rates about health were 71.48% and 73.42% respectively for boys and girls and there was no significant difference between genders (Cui Nian et al., 2000). On average, they correctly identified four out of 12 contraceptives and 4.62 kinds of STIs. A survey in Shanghai on newly married couples undertaking premarital physical examinations showed that 46.9% did not know at what time during menstrual cycle the woman would be fertile; 28% of women did not know that casual intercourse could lead to pregnancy (Tu Xiaowen et al., 1999). They also had a low level of knowledge about STI/HIV/AIDS. Table 7 shows the details of this survey.

The migrating population, or the “floating population”, had lower knowledge levels because of less education and their rural upbringing. Qualitative studies show that the floating population had very poor knowledge about sexual and reproductive health, the paths of transmission for STIs, the symptom and prevention of STI/HIV/AIDS (Zhao Dongxia et al., 2002; He Rongyao et al., 2000). Some did not know about the relationship
among sexual intercourse, amenorrhea and pregnancy. There were different levels of knowledge for different professions. Those working in service business had better knowledge, which may be associated with their occupational skills. (Zheng Lixin et al., 2000).

Knowledge about sexual and reproductive health came mainly from books and magazines (30%-70%), followed by classmates, friends, school education programmes, parents and videos in descending order (Qi Yuling et al., 1999; Zhang Zhihong et al., 2002; Cui Nian et al., 2000; Tu Xiaowen et al., 1999; Ding Juhong et al., 2002; Zhang Yixing et al., 2000).

### 3.3.2 Attitudes

Adolescents and young people, especially males, had an open mind towards premarital sexual behavior. A study on high school students in Tianjin showed 35.7% of students agreed that “premarital sexual behavior is reasonable”; 44% agreed that “if both love each other or have the desire for sex, they can do it” (Zhang Zhihong et al., 2002). Studies in Zhejiang and Beijing demonstrated that over half of the college students surveyed thought that premarital sexual behavior was acceptable on the conditions that the couple were in love with each other, having stable relationship or preparing for wedding (Zhou Liping et al., 2002; Li Ailang et al., 2002). About 39.7% of unmarried youth agreed or did not care about premarital sexual behavior (Cheng Yiming et al., 1999). A study on adolescents aged 12-18 found that 1.98% of them agreed that it was acceptable “to have multiple lovers at the same time”; 13.81% agreed with “extra-marital love” (Qi Yuling et al., 1999).

The floating population surveyed was also open to premarital sexual behavior. A survey on female migrant workers in five cities indicated that most of them held an indifferent attitude towards it; just few were strongly against it.
### Sexual and Reproductive Health of Adolescents and Youths in China

#### 3.3.3 Practices

A survey on high school students found that 3.5% of boys and 0.58% of girls had sexual experience (Zhang Jianxin et al., 1996). The prevalence of sexual experience was high among the college students, about 15% for boys and 13% for girls (Li Ailan, et al., 1999). In another study, it was reported that about 11.61% of youth in Chengdu had premarital sexual experience; 37.43% of those falling in love had sexual experience (Cui Nian et al., 2000). Boys had a higher prevalence of sexual experience than girls. The prevalence of sexual experience in rural youth was higher than in urban youth.

The prevalence among school students was less than among working youth. About 50% to 85% of women undertaking premarital physical examination had had sexual experience (Shi Huiqing et al., 2000; Dai Meijing et al., 1996). The prevalence of premarital sexual experience was also high among the floating population working in service business in Guangzhou, Shanghai, Taiyuan. Prevalence ranged from 50% to 80% (Zheng Zhenzhen et al., 2002).

Most adolescents had premarital sexual intercourse with their partner, but a part of students admitted having sexual

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### Table 7. Correct answer rates about STIs knowledge among 2580 unmarried women in Shanghai

<table>
<thead>
<tr>
<th>Questions</th>
<th>Correct Answer Rate (%)</th>
<th>Questions</th>
<th>Correct Answer Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission of STIs</td>
<td>75.0</td>
<td>What are the paths for STI transmission?</td>
<td>95.9</td>
</tr>
<tr>
<td>Are STIs preventable?</td>
<td>85.5</td>
<td>Intercourse</td>
<td>95.9</td>
</tr>
<tr>
<td>What is AIDS?</td>
<td>44.7</td>
<td>Kiss</td>
<td>44.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Embrace</td>
<td>85.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shake hands</td>
<td>85.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Public wares</td>
<td>66.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Blood</td>
<td>82.2</td>
</tr>
<tr>
<td>Which following diseases could be transmitted by sexual behavior?</td>
<td></td>
<td>What are the paths for HIV/AIDS transmission?</td>
<td></td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>57.7</td>
<td>Kiss with patients</td>
<td>30.0</td>
</tr>
<tr>
<td>Gonorrhoea</td>
<td>92.0</td>
<td>Genital condylomata lata</td>
<td>35.0</td>
</tr>
<tr>
<td>Leukaemia</td>
<td>65.3</td>
<td>Close contact with patients</td>
<td>42.6</td>
</tr>
<tr>
<td>AIDS</td>
<td>96.9</td>
<td>Share the eating utensils with patients</td>
<td>30.3</td>
</tr>
<tr>
<td>Syphilis</td>
<td>94.0</td>
<td>Intercourse with patients</td>
<td>94.5</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>37.2</td>
<td>Use infected needles</td>
<td>90.0</td>
</tr>
<tr>
<td>Genital herpes</td>
<td>37.0</td>
<td>Blood transfusion</td>
<td>82.2</td>
</tr>
<tr>
<td>Infertility</td>
<td>73.4</td>
<td>Vertical transmission</td>
<td>75.3</td>
</tr>
<tr>
<td>PID induced by STIs</td>
<td>58.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condylomata acuminata</td>
<td>33.6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

The prevalence among school students was less than among working youth. About 50% to 85% of women undertaking premarital physical examination had had sexual experience (Shi Huiqing et al., 2000; Dai Meijing et al., 1996). The prevalence of premarital sexual experience was also high among the floating population working in service business in Guangzhou, Shanghai, Taiyuan. Prevalence ranged from 50% to 80% (Zheng Zhenzhen et al., 2002).

Most adolescents had premarital sexual intercourse with their partner, but a part of students admitted having sexual
intercourse with somebody outside steady relationship (Li Ailang, 2002; Dai Meijing et al., 1996). It is also true that not all premarital sexual intercourses are voluntary. A survey on unmarried women under the age of 22 who were seeking abortions in eleven hospitals in Beijing showed the following: 52.5% had unwanted sex at least one time; about 32.5% had unwanted sexual debut; and 15.9% claimed that the current induced abortion was associated with unwanted sexual intercourse (Cheng Yiming et al., 2000). Unwanted sexual intercourse often occurs in unprepared and unprotected conditions. It easily leads to unwanted pregnancy, reproductive tract infection and many other reproductive health problems.

With the increase in sexual activity, the age of sexual debut has fallen gradually, and there is no significant difference in the age of sexual debut between genders. A study of college students in Beijing showed the average age of boy's sexual debut was 18.7±2.5 years and girl's was 19.0 ± 2.8 years (Li Ailang, 2002). Another study on youth in Chengdu showed that the average age of boy's sexual debut was 19.78 years and girl's was 18.73 years (Cui Nian et al., 2000). The earliest age was 12 years. A previous survey published in 1989 on Shanghai women undergoing premarital physical examinations indicated that their sexual debut age was 22.4 years at that time (Wu Zuochun, 1989).

Casual curiosity and casual impulse were the main reasons leading to premarital sexual behavior among adolescents (Zhang Zihong et al., 2002; Zhang Xueqing et al., 1998; Qian Hanzhu et al., 2000). When adolescents are falling in love, they will engage in sexual activity because of curiosity and because they do not understand the potential consequences. Men often said that they would engage in sexual behavior “to meet physiological needs” or “for pleasure” or “to avoid loneliness” (Qian Hanzhun et al., 2000). “To show one’s faithfulness to partner” was a reason frequently given by women. Some female adolescent prostitutes practice sex to make money (Qian Hanzhun et al., 2000).

The socio-psychological risk factors for premarital sexual behavior include the following: increasing openness and changing social norms and perspective towards love and sexual activity; poor education (Dai Meijing et al., 1996; Yang Weilang et al., 2000; Wang Hui et al., 1999); falling in love at
early age; parents’ having little comprehension about daughters’ private lives (Wang Weilang et al., 2000; Tu Xiaowen et al., 1998); boyfriend having lower education; falling in love freely; parents are divorced; having more friends of the opposite sex; and premarital loneliness (Dai Meijing et al., 1996). Protective factors include the mother’s still being alive and in good health and strict family education (Yang Weilang et al., 2000).

Floating populations come mostly from low economic families and rural counties. Traits associated with them include: low social status; loneliness; helplessness; and poor knowledge about reproductive health. As a result, they are vulnerable to sexual behavior occurring easily in such open social conditions (Zhao Dongxia et al., 2002). The situation of women seeking psychological and financial support from men often results in premarital sexual behavior. Traditional moral concept, self esteem and educational level are internal determinants, but play a very little role in restricting their behavior in such an open society.

3.4 Unmarried pregnancy and induced abortion

3.4.1 Premarital sexual behavior and induced abortion among women undergoing premarital physical examination

Some surveys on women undergoing premarital physical examination showed that the prevalence of premarital sexual behavior ranged from 20% to 87%, and the prevalence of induced abortion ranged from less than 1% in rural districts to over 50% in urban areas. Table 8 shows the details about premarital sexual behavior and induced abortion in these surveys.
Table 8. Premarital sexual behavior and induced abortion among women undergoing premarital physical examination

<table>
<thead>
<tr>
<th>Sites</th>
<th>Number of Subjects</th>
<th>Prevalence of premarital sexual behavior (%)</th>
<th>Prevalence of induced abortion (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nanjing in Jiangsu (Zhou Dasheng, 1996)</td>
<td>620</td>
<td>73.71</td>
<td>NA</td>
</tr>
<tr>
<td>Xuhui district in Shanghai (Cao Changsheng, 2000)</td>
<td>788</td>
<td>76.00</td>
<td>27.30</td>
</tr>
<tr>
<td>Nanping in Fujian (Wu Xiuhua, 2000)</td>
<td>2790</td>
<td>NA</td>
<td>54.70</td>
</tr>
<tr>
<td>Baoshang district in Shanghai (Shi Huiqing, 2000)</td>
<td>550</td>
<td>54.18</td>
<td>11.45</td>
</tr>
<tr>
<td>Xinghua county in Jiangsu (Li Dingsheng, 2001)</td>
<td>1068</td>
<td>78.28</td>
<td>39.20</td>
</tr>
<tr>
<td>Gaotan county in Shandong (Wang Liying, 2001)</td>
<td>5960</td>
<td>20.00</td>
<td>0.76</td>
</tr>
<tr>
<td>Xuhui district in Shanghai (Wang Yangguang, 2001)</td>
<td>145*</td>
<td>86.90</td>
<td>34.48</td>
</tr>
</tbody>
</table>

Note: * stand for migrant women

3.4.2 Characteristics of unmarried women with induced abortion and related determinants

Given the influence of economic conditions, the socio-cultural context and the law in China, most unmarried women would select induced abortion to end their pregnancies. Over 70% of them were below 24 years old (the age distribution of women with induced abortion is listed in Table 9). The main cause leading to unmarried pregnancy was unprotected sex. The determinants of pregnancy included: attitude “regarding sexual behavior as being faithful to partner”; casual impulse; curiosity about sex; poor knowledge of reproduction; little knowledge and awareness of contraception; and poor knowledge about short-term and long-term complications caused by induced abortion. In addition, another study also showed that induced abortion was mainly the result of unwanted pregnancy due to condoms breaking, for both married and unmarried couples (Tong Chuanliang et al., 1999). Awareness about emergency contraception was just 16.1% among the women who had induced abortions. In floating populations, many female migrant workers lacked knowledge about contraception; some were not
aware of contraception and mistakenly believed that induced abortion is a method of contraception. As a result, this led to many induced abortion and severe following complications (Zhao Dongxia et al., 2002). Furthermore, women did not understand how to properly care for their health after having an abortion and this did great harm to their health (He Rongyao et al., 2000).

Induced abortion is legal in China, and female adolescents can access the service of safe induced abortion from hospitals or medical centers, but the potential complications still threaten their health. A study in Shanghai on unmarried women undergoing induced abortion indicated that the incidence of complications caused by induced abortion was 2.3% (Gao Ersheng et al., 1999). These complications included: uterine perforation; incomplete abortion; excessive hemorrhage; infection; and psychological problems. Most female adolescents, especially those experiencing first pregnancy, felt nervous, scared and worried during induced abortion because of the pressure from society and their fear of pain. They were also sensitive to the warnings from doctors about potential side-effects, and afraid of having reproduction problems following marriage. These adverse feelings may result in permanent disorders such as amenorrhea, infertility and sexual psychological disorder after induced abortion (Shen Xiaping, 2000).

### 3.4.3 Attitudes of service providers

To learn about the attitudes of family planning providers towards sexual behavior and induced abortion among unmarried adolescents, a study was performed by SIPPR on 1927 family planning providers in eight provinces. The survey showed that 60.7% and 88% of them disagreed with premarital sexual behavior and induced abortion respectively;

<table>
<thead>
<tr>
<th>Sites</th>
<th>Number of unmarried women with induced abortion</th>
<th>Proportion of under 25 age group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shandong (Qu Qingxiu, 1995)</td>
<td>1388</td>
<td>79.8</td>
</tr>
<tr>
<td>Shanghai (Li Dongmei, 1998)</td>
<td>1010</td>
<td>70.4</td>
</tr>
<tr>
<td>Shanghai (Tong Chuanliang, 1999)</td>
<td>1946</td>
<td>87.5</td>
</tr>
<tr>
<td>Shandong (Qu Qingxiu, 2000)</td>
<td>2605</td>
<td>70.7</td>
</tr>
<tr>
<td>Beijing (Wu Jiuling, 2001)</td>
<td>306</td>
<td>100.0</td>
</tr>
</tbody>
</table>
24.2% and 9.1% of them thought they were reasonable; 26.2% and 14.2% of them considered them unimportant; and 20.2% of them said that induced abortion did not harm a woman’s health. In regard to these results, the knowledge, attitudes and practices of providers should be improved to better meet the unmet needs of adolescent for sexual education and information about reproductive health.

3.5 Reproductive system anomaly and disease

3.5.1 STI/ HIV/ AIDS

In 2000, the incidence of STIs in China was 6.89 per million. There were about 859,040 reported cases in total, of which 91.4% were found among the age group 20 to 49. The incidence of STIs in Shanghai, Zhejiang, Beijing, Jiangsu and Guangzhou stood on the top. There were 1.4 times as many male cases as female cases. Incidence in newborn was 0.469 per million. The incidence of STIs in the 15 to 19 year age group increased by 79.45% compared with figures from 1991. It is clear that vertical transmission and the rates of STIs among adolescents have grown quickly in recent years (Liang Guojun et al., 2001).

China witnessed its first AIDS patient in 1985. By the end of 2000, in terms of national reports, there were 22,517 HIV carriers in China (males were 18,465, females were 3,681, unknown were 371). This figure includes 880 AIDS patients. Yunnan has the most HIV carriers, followed by Xinjiang, Guangxi, Guangdong, Sichuan and Henan. Young and middle-age groups accounted for the most. Table 10 shows the details of HIV carriers. The main paths of transmission were injecting drug use (71%); sexual contact (7%); blood products (0.8%); maternal-infant transmission (0.1%); and unknown (21%).

A survey (Cai Jiguo et al., 1998) of unmarried STI patients found that 6.24% were under 20 years old and 59.84% were between 21 to 25 years old. STIs types included gonorrhoea, non-gonococcal urethritis, condyloma acuminata and syphilis. Among the cases, laborers accounted for 26.51%, vendors and jobless persons were about 24.76% and 20.7% respectively, and they were mostly infected by having sexual intercourse with commercial sex workers.

Prostitution occurred also in 10 to 24 years age group. Zhao Tianeng and colleagues (1998) found that women younger than 19 years old accounted for 18.3% of the prostitutes and women between ages 19 to 29 years accounted
for 67.5% of the prostitutes. The reasons spurring them into prostitution included: poor education; little knowledge about sexual and reproductive health; marriage or love failure; distorted sexual morals; economic needs; and psychological emptiness. STI prevalence among these women was 26.7%. Factors relating to STI were multiple: number of sexual partners; poor STIs knowledge; and lack of awareness about self-protection.

Another study on female commercial sex workers showed that: women ages 15 to 23 years accounted for 85.3%; the STI prevalence was 28.9%; and 62.4% of them had a history of STI (Liu Shuseng, 2002).

3.5.2 Menstrual problems

A survey of 1116 girls aged 15-19 years in six Shanghai senior high schools showed that 78.4% had a regular menstrual cycle (21-40 days) and 85.2% had a menstrual period lasting three to seven days (Tan Hui et al., 2002). However, menstrual problems are also common amongst female adolescents. 61.2% of girls were found to have complaints about menstruation. Of these, 58.3% reported severe and to middle abdominal pain; 47.4% reported excessive bleeding; 19.7% reported irregular periods; 6.4% reported bleeding between periods; and 2.1% reported amenorrhea. Almost 65% complained that their period had adversely influenced their lives and studies in school, but only 12.1% had sought a doctor’s help for menstrual problems. Most girls acquired the knowledge about menstruation from their mother and classmates.

A study in Jinan, Shandong on 1485 middle school girls aged 12 to 17 years showed that 75.76% experienced menstrual pain, 23.37% experience pain before and 51.85% during (Xi Qinglan et al., 2000). In another study, Cai Le and associates
reported that the prevalence of pain was about 25.7% and of irregular period was 11.8% among 374 rural middle school girls aged 13 to 21 years in Yunnan.

Although there was limited literature on the subject, menstrual problems are common and need more attention.

3.5.3 Male reproductive system problems

There were a few reports about male adolescents’ reproductive health problem. Table 11 summarizes the results from the literature. Redundant prepuce, phimosis, cirsocele and genital infection are common diseases among male adolescents. Redundant prepuce and phimosis occur in the younger age group. With the development of external genitals they will develop normally and circumcision is not strongly recommended. If external genitals are not kept clean, they can easily become infected. Cirsocele often leads to male infertility in addition to the malaise of scrotum. It is recommended that education about external genitals health care for these problems take place in primary and middle schools to find and treat external genitals diseases before deterioration and complications occur.

<table>
<thead>
<tr>
<th>Study Sites</th>
<th>Number of Subjects</th>
<th>Age Group</th>
<th>Redundant Prepuce (%)</th>
<th>Phimosis (%)</th>
<th>Cirsocele (%)</th>
<th>Genital Infection (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Henan (Duan Zhenhai, 1995)</td>
<td>1241</td>
<td>10-18</td>
<td>82.6* 61.6**</td>
<td>12.1* 1.80**</td>
<td>4.8*</td>
<td>NA</td>
</tr>
<tr>
<td>Hefei in Anhui (Liang Chaochao, 1997)</td>
<td>5172</td>
<td>7-22</td>
<td>67.79</td>
<td>10.09</td>
<td>19.82</td>
<td>NA</td>
</tr>
<tr>
<td>Shenyang in Liaoning (Liu Feng, 1999)</td>
<td>36220</td>
<td>1-14</td>
<td>56.66</td>
<td>12.64</td>
<td>0.27</td>
<td>42.27</td>
</tr>
<tr>
<td>Shenzhen in Guangdong (Huang Dongping, 2000)</td>
<td>3200</td>
<td>19-21</td>
<td>18.15</td>
<td>0.53</td>
<td>11.41</td>
<td>6.31</td>
</tr>
</tbody>
</table>

Note: * stands for 10-12-year age group, ** stands for 13-18-year age group.
3.6 Need for education and service

3.6.1 Need for education

Health education plays a great role in promoting sexual and reproductive health among adolescents. Reproductive health education is a large enterprise that needs participants at all levels in society. Different content and forms should be adapted to the traits of different adolescents. Since the document “adolescent sexual health education in high school,” was jointly issued by Ministry of Education and SFPC in 1988, adolescent sexual health education has been a compulsory part of school education. It mainly covers knowledge about physiology, hygiene and HIV/AIDS prevention. However, studies showed that the teaching method and content did not meet adolescent needs.

A study on the needs assessment of reproductive health among unmarried young people in Changdo showed that about 55% of people surveyed thought that imparting knowledge on physiology and hygiene to middle school students was not enough (Cui Nian, 2000). About 70% of people thought youth aged 15-22 years had no or little knowledge about sex, contraception and STIs. Seventy percent of subjects complained that society provided unmarried youth with little knowledge about sexual health, sexual information and sexual service, someone even complained nothing have been supplied. Knowledge about reproductive health mainly came from books, magazines, television and radio; very little came from parents and teachers, especially about contraception (Cui Nian et al., 2000). Most middle schools take a “physiology and hygiene” course, but over 90% of them did not understand body structure or physiological change e.g. the timing and implication of ovulation (You Chuan et al., 2001). Over 50% of students expressed the need for instruction of sex education, including sexual physiology, sexual psychology, STIs and their prevention. Some students wanted to know more about contraception. Suggestions for adolescent sexual education services included hotline counseling and fixed-time outpatient counseling. About 2% of students asked for the provision of contraceptives (Wang Hui et al., 1999).

About 73.4% of college students never had access to education about sexual health, and lacked knowledge of contraception and STIs, except HIV/AIDS. Among students having sexual experience, 36% of them had not taken any measures against pregnancy.
The main reasons (41.7%) for not taking birth control measures were: “never think of that”; “don’t know intercourse will lead to pregnancy”; “don’t know how to take contraceptive”; and “don’t know where to get contraceptives”. Over 90% of students thought sexual health education was necessary. According to the suggestion from students, the contents of education could be sexual psychological development, sexual health care, sexual psychology, communication and love with the opposite sex, sexual morals, contraceptive knowledge and laws on sex. Courses, special workshops, counseling and peer education would be acceptable formats (Zhou Liping et al., 2002). Some college students also wanted to know about complications of premarital sexual behavior, contraceptive skills and sexual violence prevention (Li Ailan et al., 2000).

Among rural, unmarried youth, there is also a need for information about reproductive health. The psychological and physiological development of rural male adolescents is great and they have many questions, such as: “why do genders develop differently?”; “why do adolescents like being with the opposite sex?”; “which age is the best to get married?”; and “why do AIDS and gonorrhea occur?”. With the coming of their period, many rural female adolescents focus on menstrual health care, such as hygiene during the period, pain and irregular periods (Liu Wei et al., 2001). It is necessary to strengthen education on sexual decision-making. A study on rural students showed that 15.3% thought of “planning to get married soon”; 7% had “no plan for marriage, and sexual activities are acceptable when falling in love with each other ardently” (Chen Jingqi et al., 1998).

Female migrant worker in cities is a special population. Most of them had had sexual experience, but they lacked awareness of reproductive health care, contraception, and how to access contraceptives. They face many barriers from society, psychology and economics when they seek reproductive health services. The knowledge and attitudes of their sexual partners are also factors in their engaging in unprotected intercourse (Zheng Zhenzhen et al., 2002). More attention should be paid on this population.
3.6.2 Need for reproductive health service

Current forms of reproductive health service include: provision of contraceptives; treatment of reproductive system diseases; induced abortion; hotline counseling; and outpatient counseling. But these services are not fully used by adolescents. Unmarried youth generally buy contraceptives from drugstores, shops and supermarkets where they do not get information about how to compare the advantages and disadvantages of contraceptives or how to use contraceptives correctly (Tu Xiaowen et al., 1998). There are only two hospitals in China providing reproductive and sexual health services to adolescents - one is Beijing Second Hospital and the other is Shanghai Paediatrics hospital. They opened to adolescents on 2 March and 25 May 2002. It will take time to prove whether they can play a role in promoting adolescent reproductive health. A qualitative study on the needs for reproductive health among unmarried adults showed most unmarried adults thought it was necessary to provide information on contraceptives and where they can get them, but they also thought contraceptives should not be provided actively to unmarried people. They thought contraceptives should only be provided if requested (Zhang Yixing et al., 2000).

Drugstores should be managed with standardization and should provide contraceptive related counseling services. A hotline would offer more confidentiality. Other ideas that were also welcome included: a “quiet and hidden” counseling environment; older consultants with good communication skills, psychological knowledge and professional skills; and health education about abortion.

A survey on family planning providers in eight provinces demonstrated that 63.2% of them thought the most severe problems relating to sexual and reproductive health were premarital sexual behavior, unwanted pregnancy and induced abortion. They also considered it important and necessary to provide sexual and reproductive health services for unmarried youth. Over 70% thought counseling service stations should be created especially for unmarried youth (Tu Xiaowen, Liu Yinghui et al., 2002); and 60% thought the Government should provide contraceptive services for unmarried youth (Tu Xiaowen, Peng Menye et al., 2002).
There are many barriers to providing reproductive health service for unmarried youth. Some reproductive health providers disagree about creating counseling stations and providing contraceptive services for unmarried youth. Some unmarried youth do not want access to such services because they think sex and reproduction are sensitive, confidential and should not be open to public. In addition, parents think it is necessary to set up reproductive health counseling stations, but are strongly against supplying contraceptives and induced abortion for fear that these activities would promote premarital sexual behavior among unmarried youth (Zhang Yixing et al., 2000).
4. Policy environment for adolescent growth and development

4.1 Policies on school health education

Open and reform policy in China has created a good environment for adolescent growth and development. At the end of 1979, the Ministry of Education and the Ministry of Health jointly issued a document on “provisional regulation on the health care of primary and middle school students.” One goal is “to strengthen adolescent health education”. Since 1980, “population education” has been added to the courses in senior high school. In 1988, the Ministry of Education and SFPC jointly issued a document “adolescent education in high school” after a pilot test in Shanghai and Beijing. The document declared that adolescent education must include three dimensions: sexual physiology; sexual psychology; and sexual moral. This last is the core. The objective of the notice is to help adolescents to understand and adapt to the physical and psychological changes in adolescence, correctly face sexual problems, promote healthy sexual development, build up a strong concept of one’s self, understand the opposite sex and friendship and generally benefit from all aspects of development during adolescence.

In 1991 the Ministry of Education decided to implement adolescent education in all junior high schools and to add “population education” to the compulsory courses in senior high school. Adolescent education (12 hours) is arranged in grades seven and eight in junior high school. The contents of adolescent education are: sexual physiology; introducing sexual development and related healthcare; and sexual morals. “Population education” in senior high school mainly introduces population theory. Adolescent education combines sexual education and moral education with classroom instruction and various activities.

Approved by the State Council in 1990, the document “The regulation of school health work” was jointly issued by the Ministry of Education and the Ministry of Health. The document says “The curriculum should include health education; college/ university, middle professional school and vocational school should have seminars on healthcare”. In the same year, the document on “basic requirements of health education among primary and middle school students (in trial)” was released. In 1993, the document on “basic requirement of health education among
College students (in trial)” was enacted. Also, the prevention of STI/ HIV/ AIDS was added. College students were asked to take part in an optional course or special workshop on HIV/AIDS prevention at least once. “Health news” reported on 25 October 1995 that all freshmen in Shanghai colleges and universities received health education about HIV/AIDS prevention when they took their physical examination at the beginning of new term. The document “Action plan for HIV/AIDS control and prevention in China (2001-2005)” clearly indicated that “special emphasis should be put on the widespread education about adolescent sexual health, STI/ HIV/ AIDS, blood donation and drug use, which is forbidden among adolescents. Colleges, middle professional school, vestibule school and vocational schools should supply newly enrolled students with health education prescription, materials and special workshop about HIV/AIDS prevention. Junior high schools should involve related knowledge into health education curriculum.”

The Ministry of Education put forward a document giving “some suggestions on strengthening psychological health education in primary and middle school students” in August 1999. It pointed out that “besides implementation of a course on morals, a politics course and adolescence education course are also needed. Schools should offer special workshops on psychological health, provide psychological counseling and assistance, set up the communication channel between schools and family, and promote a family education environment.” In March 2001, the Ministry of Health issued another document giving “suggestions about strengthening psychological health education in college and university students.” The main tasks included: offer lectures on psychological health knowledge; implement tutorials and a counseling campaign based on undergraduate students’ psychological characteristics; help undergraduates become more aware of psychological health; improve psychological adjustment capability and social adaptation to prevent and decrease psychological problems; provide assistance for environmental adaptation, self-management, studying and achievement, personal communication, friendship and love, occupation selection, personality development and mood adjustment to promote full-scale development.
4.2 Laws and regulations related to adolescence

The “China young person (under 18 years) protection law” was enacted in September 1991. Some items relating to young persons’ health are listed as follows: “parents or other guardians must respect the young person’s right to education and are subject to enrolling the young person at the appropriate age for compulsory education. They must not make the young person in compulsory education discontinue their studying.” “Parents or other guardians should educate the young person with healthy thoughts, proper conduct and appropriate methods. They should guide them to take part in healthy activities, prevent and prohibit them from smoking, drinking, roaming the streets, gambling, using drugs and engaging in prostitution.” “Parents and other guardians must not approve of young person getting married or force them to get married or become engaged.” “Schools should implement national education policies completely, provide the young person with moral education, knowledge education, physical education, aesthetics education, labor education, social adaptation education and adolescent education.” “Health administration departments and schools should supply the young person with the necessary health care conditions to prevent diseases”.

Shanghai and Guangdong issued documents of “adolescent protection regulation.” The Shanghai regulation pointed out in item 47 that “government, family, school and society should pay attention to the protection of female adolescents, and provide physiological, psychological, moral and law education.” Item 48 states that “schools and enterprises should not discriminate against young female persons in their recruitment.” Item 49 prohibits “insulting and harassing young female persons; having sexual intercourse with females younger than 18 years; and allowing, inducing, forcing and abetting young females from participating in guilty activities.”

In the “National Plan of Action for Children (2001-2010)”, the section about children and health sets out the following recommendations: “strengthen children’s health care education; decrease smoking and prevent drug use among young persons; prevent and control STI/HIV/AIDS and tuberculosis; and provide all kinds of children’s psychological health services, including counseling.” In addition, it calls for: “improving family education; setting up multiple mechanisms for running ‘parent schools’; increasing the number and kinds of ‘parent schools’; and increasing the knowledge level of family education.”
The part about children and laws says: “based on the guideline of educating, helping and saving the young person when found guilty, insist on the principle of ‘education first, punishment afterwards’.”; Finally, the part about children and the environment recommends that “media should disseminate social and cultural information that is good for children’s development and protect children from the adverse impacts of ill information.”

The document “National Plan of Action for Women (2001-2010)”, indicates that: “healthcare should be fully accessed by women during their whole life span; it should improve women’s expected life and reproductive health level; and it should guarantee the right of birth control. It also says that women in floating populations should have the same access to health care services as other women.”
5. Intervention studies on sexual and reproductive health among adolescents in China

5.1 Educational interventions

Adolescent health education is not standardized and there are differences across the country but in general, current school education cannot meet students’ needs in terms of sexual and reproductive health (Cui Nian et al., 2000; Zhou Liping et al., 2002).

Many intervention studies on sexual and reproductive health showed that education had a short-term effect on level of knowledge, but no obvious impact on adolescents’ perception toward sexual activity and related behavior (Li Yanqing et al., 2001; Lou Chaohua et al., 2002). Attitude is influenced by individual philosophy as well as many other social factors. An evaluation of HIV/AIDS-related knowledge education showed that HIV/AIDS-related knowledge level improved generally and the attitude towards AIDS patient became more positive (Chen Hong et al., 2001; Shi Rong et al., 2002). An intervention study of peer education on STI/HIV/AIDS safe sex behavior among college students indicated that related knowledge score improved greatly and attitudes towards both safe sex behavior and premarital sexual behavior significantly changed (Shi Rong et al., 2002).

Education for high school students included physiology and health care in adolescence, STI/HIV/AIDS, communication skills with opposite sex, reproduction and contraception; however, for college students the contents focused on safe sex behavior. Methods taken to educate students included: disseminating reading materials, watching videos, discussion and counseling, workshops, in-class activities, individual counseling, peer education, and participatory teaching. Although many of these methods were under trial, the initial results had shown that these forms were effective. Diversity of content and teaching methods, especially peer education and theme class meeting, played important roles in change (Shi Rong et al., 2002; Pang Jiazeng et al., 2002).

School-based education is one of the most important ways to implement adolescent education under compulsory basic education in China. Middle school is an important time for changing attitudes and imparting information.
A peer education project was jointly initiated by Yunnan Bureau of Education and Save the Children (UK) in 1996. Teacher cadres, teachers in charge of class and students from three middleschools took part in the program workshop, in which knowledge about HIV/AIDS, adolescent sexual education, drug abuse, negotiation skills and caring for HIV carriers and AIDS patients were covered. Results showed that the project group had higher scores on knowledge about and attitudes toward HIV/AIDS than the control group (He Jinglin & Xu Wenqing, 2001).

In 1998, a UNFPA funded project about adolescent sexual and reproductive health education in some schools of Shanghai Minghang district showed that students, teachers, parents and communities reacted positively to the project. The scores relating to knowledge, attitude and skills improved greatly, ranging from 10% to 40% and a series of adolescent theme class meetings were welcomed by students, schools and parent. More than 80% of the students wished that peer education would become the prevailing education form in the future. (School of Public Health, Fudan University, 2001). Community-based education about adolescent sex and reproductive health has also been extended to more people.

A study (Zhao Shuangling, 2002) about the impact of community-based education on reproductive health knowledge and attitudes among urban and rural unmarried youth showed that urban youth generally had better knowledge than the rural youth and the rural youth had a more liberal attitude towards sexual activity than the urban youth. Students in high-quality schools or receiving sexual education from their family had higher scores for knowledge. Higher knowledge scores were also found among college students and out-of-school youth who were older, had better education, communicated with others about sexual knowledge, and those who had had sexual education before.

Not all youth with higher levels of knowledge held more open attitudes, but those with higher knowledge levels were more likely to know about safe sex and contraception. The more materials and the more reading they were exposed to, the more significant was the improvement in knowledge. The impact of interventions on rural youth was more obvious than on urban youth. Community-based education should be: targeted at out-of-school youth; use different educational forms to adapt to the diversity of different populations; disseminate materials through family planning networks to improve the urban
population’s knowledge and promote safe sexual behavior.

In health education for HIV/AIDS prevention, a program titled “Skill-Based Health Education” has been initiated worldwide by UNICEF in developing countries. The target population is mainly students in primary and high schools. Preschool children, students in vocational school and out-of-school children may also be included. The objectives and related action involved are: (1) reducing risk to strengthen capacities of education systems, especially the capacities of schools, to implement well-resourced, full-scale HIV/AIDS prevention programmes which specifically address key risk behavior and situations; (2) reducing vulnerability to improve the capacities of education systems to reduce vulnerability to HIV/AIDS and promote factors and environments that are inclusive, healthy and protective for individuals, communities and societies; and (3) managing impact to assess, manage and mitigate the impact of HIV/AIDS on education systems and individuals.

In China, after successful experiences in trial provinces from 1997, this program began to reach out to other places (He Jingling & Xie Lei, 2000). It had the following components: (1) emphasize training of trainers; (2) developing trainer guidelines for HIV/AIDS prevention based on good international education theory and practice; (3) and use a range of activity forms including theme class meetings, singing, painting and soap operas. Teachers who had taken the training workshop did their best to blend HIV/AIDS prevention knowledge into other courses such as Chinese, English, geography and biology. Teachers were also encouraged to broaden the program into daily life and routine work.

On World AIDS Day (2001), Marie Stopes International, China Office, working with China Middle School Students Newspaper developed a special four-page feature issue which provided information to over one million rural and urban middle school students throughout China on issues relating to adolescent sexual health, including puberty development, decision-making in love and relationships, life skills information and STI/HIV/AIDS prevention. About 600 middle schools in areas of Guizhou, Sichuan, Henan and Beijing participated in the activities. China Middle School Students Newspaper established a bi-monthly column addressing sexual health, development issues and life skills throughout 2002 (Kate Mill, 2002).
5.2 Service intervention

The service interventions for sexual and reproductive health in China are at the beginning phase, but services should also reach out and include aspects such as counseling, outpatient clinic and medical services for youth.

A community-based intervention study of sexual and reproductive health on unmarried youth funded by WHO was implemented in two towns of Shanghai Songjiang district (Wang Bo, 2002). It involved 1220 unmarried youth aged 15-24 years in an intervention group and 1007 comparable youth in a control group. The intervention group was provided with six kinds of services including: receiving educational materials every one to two months; watching videos every six months; listening to lectures about sexual physiology and psychology in adolescence; attending colloquiums about pregnancy and contraception; STI/HIV/AIDS prevention; and adolescent health counseling stations that offered counseling services about reproductive health and supplied contraceptives free of charge. After 20 months, the results showed that the reproductive knowledge scores in the intervention group improved by 35.6 points, while control group improved by only 7.6 points. The number of students holding opinions against premarital sexual behavior and unmarried pregnancy in the intervention group was higher than in the control group. More students in the intervention group recognized the harm of induced abortion to women's health. There was no difference in sexual behavior occurring between two groups. The reported incidence of sexual behavior in two groups were about 30%. But the intervention group had a lower rate of coercive sex. The intervention had obviously boosted contraceptive use among the students who were already sexually active. The proportion using contraceptives in the intervention group increased from 34.1% to 89%, which is higher than that in control group. The intervention did not, however, decrease the occurrence of unwanted pregnancy or induced abortion.

Another study, “Evaluating the Impact of Setting Condom Vending Machine on a University Campus,” funded by WHO showed that condom vending machine on campus did not increase the sexual activity of students. Sexual intercourse rates in last six months both in intervention and control group were 3.6% and 6.3% respectively. Among students having sex, 76.6% in intervention and 65.8% in control used condoms.
College students had an acceptable and agreeable attitude towards putting condom vending machines on campus (Liang Ji et al., 2002).

Another intervention is the 24-hour reproductive health counseling hotline in Shanghai (Phone number is 021-64749014), but less than 10% of questions were associated with adolescent sexual and reproductive health issues (Shanghai Center for Reproductive Health Care Instruction, 2001). It suggested that adolescents and the parents themselves were not aware of reproductive health issues. Half of the parents calling the hotline asked questions about children’s puberty development, such as penis size and phimosis. Questions on masturbation were frequently asked also. The questions raised by adolescents frequently were related to body development (about one third of them), which included phimosis, night emission and penis size. Adolescents often worried about masturbation. Questions raised by adolescents about forced sex should be paid attention to because it is likely to be related to sexual abuse that has not been recognized.

In collaboration with the Program for Appropriate Technology in Health (PATH), the China Family Planning Association (CFPA) took the initiative of promoting the “China Adolescent Reproductive Health Project (2001-2005)” in 12 provincial cities and municipalities including Beijing, Tianjin, Shanghai, Jinan, Harbin, Wuhan, Guangzhou, Hangzhou, Chongqing, Xi’an, Qingdao and Shenzhen. The general objective was to improve sexual and reproductive health among adolescents aged 10-24 and unmarried youth. The specific objectives are: (1) to strengthen adolescent self-esteem, self-confidence, gender equity and awareness of basic rights and to promote healthy, safe and responsible sexual and reproductive health; (2) to promote access to acceptable and quality reproductive health services and counseling; (3) to create an environment that supports implementing adolescent reproductive health programmes in societies, communities and schools; and (4) to encourage Government to pay more attention to and take action on adolescent sexual and reproductive health through strengthening cooperative capacity with CFPA and other institutions on advocating, planning, performing and assessing adolescent behavior education.

The tasks of the project included advocacy, training, education and service. “Education” was realized through the following ways: (1) well-trained teachers and cadres were
organized to train target population systematically with adolescent health-related life skills; and (2) the local public media was encouraged to promote sexual and reproductive health-related knowledge, attitudes and practices. “Service” mainly involved counseling (hotline or face-to-face), contraception and health care. Based on their capability, the most influential institutions or potential developing institutions were selected as adolescent health service stations. The project provided training and training materials. One of the expected objectives of this project is to let 15-24 year-old adolescents and unmarried youth receive 3 to 14 hours life-skills training on adolescent health. Another is to make it possible for 10-24 year-old adolescents and unmarried youth to receive different forms and types of sexual and reproductive health education and services.
6. Problems and challenges

There are many challenges related to researching adolescent sexual and reproductive health. The main problems experienced in the course of researching this paper include:

- **Demographic characteristics of 10-24 years age group population:** Published population yearbooks or statistical yearbooks divided all populations into two parts with the cut-off point of 14 or 15 years. The detailed information in each age group was hard to get. The 2000 census will have data by each age group and it will be published in August 2002.

- **Research methodology:** The study results are greatly influenced by research methods, which include quality control of data on adolescent development, diagnosis criteria, sample representative, nonproject factors in intervention studies, research design in cause inference study.

- **Research contents:** most of the existing literature were related to KAP on sexual and reproductive health, but theses studies were often small sample size, data quality and representation. Studies were limited. For example, studies on development surveillance, early treatment of reproductive tract infection, risk behavior monitoring, counseling and education after induced abortion were seldom performed. Problems among rural adolescents were paid less attention by researches.
Political commitment, inter-sectoral collaboration and community involvement are essential for the formulation of effective, long-term strategies and policies. In order to support that, research in the following areas are recommended:

K A P on adolescent sexual and reproductive health

Although there is a lot of literature about the KAP of adolescents regarding sexual and reproductive health, great differences exist among the subjects, contents and results of the studies. As a result, it is difficult to compare them or make generalizations about them. It is also difficult to summarize concrete and effective methods for interventions. Research should be carried out in multi-centers (cities) with a large enough sample size, different age groups and different population groups, including urban populations, rural populations, floating populations and others. The studies should look at: (1) knowledge about puberty development and health care, sexual physiology and pregnancy, contraception and induced abortion, reproductive system diseases and STI/ HIV/ AIDS; (2) attitudes about friendship with the opposite sex, love and marriage, gender, sexual partners, premarital sexual behavior, contraceptive use, premarital pregnancy, induced abortion and STI/ HIV/ AIDS prevention; and (3) sexual practice or behavior, including masturbation, premarital sexual behavior, seeking help and seeking doctors, and other risk behavior.

The Adolescent Health project (2001-2005) has made a good attempt in the above areas. Methods such as participatory learning activities (PLA) and in-depth interview have been used to encourage subjects to be active participants. Subjects could express their opinions and attitudes freely, investigators could know precisely about the extent of their knowledge, attitudes and behavior towards sex and reproductive health (adolescence health project newsletter, 2001).

Monitoring on adolescent development and risk behaviors

Currently, China school health only includes surveillance of and treatment for: myopia; amblyopia; trachoma; dental caries; intestinal parasitism; malnutrition; anemia; campylorrhachia; and neurasthenia. Further research
should emphasize establishing physical examination follow-up and surveillance systems for adolescent development (including secondary sexual characteristics, girls’ period and boys’ first night emission) and related diseases (including menstrual disorder, external genitals anomaly, STI/HIV/AIDS). There are many adolescent health-related risky behaviors such as accident, suicide, smoking, drinking, drug use, unsafe sex, unhealthy diet, and lack of physical exercise. They are associated with each other. For example, smoking could predict early sexual behavior and other health risky behaviors; smoking, drinking, sexual behavior and accidents are associated with depression. Common factors may exist between smoking and sexual behavior (personal communication with Shi Huijing).

**Intervention studies on improving adolescent sexual and reproductive health**

(1) Sponsor a school, community and family cooperative education project.

(2) Implement a self-education project in adolescent leagues.

(3) Provide “one continuous line” of puberty outpatient services (including health assessment, ordinary disease diagnosis and treatment, psychological counseling, health education).

(4) Provide contraception and counseling services to unmarried youth after induced abortion.

(5) Provide quality reproductive health care service for floating population through “special services” forms.

(6) Provide training programmes about counseling skills and service attitudes for educators and service providers, especially school health teachers and medical professionals such as paediatricians, obstetrics and gynecology doctors and family planning/contraception providers.

(7) Set up public counseling stations and free telephone hotlines.
References


Liu Wei, Shen Ling. Participatory learning and action on reproductive health among rural mountain unmarried youth. Reproductive Health and Social Science Correspondence 2001;36


School of Public Health, Fudan University. Reports on effect assessment of “Adolescent sexual and reproductive health education programme”, June 2001


Tang Hui, Chen Xuelian. Middle school girls’ menses status and related factors in Shanghai. Bachelor thesis of Fudan Universtiy, 2002

Tong Chuanliang, Chen Junling, Cheng Linang. Survey on causes of induced abortion in Shanghai. Shanghai Medical Journal 1999; 22(6): 345-8


Tu Xiaowen, Lou Chaohua, Gao Ersheng. Study on knowledge of reproductive health among Shanghai
Sexual and Reproductive Health of Adolescents and Youths in China

Wang Bo. Community-based intervention study on sexual education and reproductive health service among unmarried youth. Ph.D dissertation of Fudan University. 2002
Wu Zuochun. Study on social medicine of unmarried pregnancy in Shanghai. Master thesis of Shanghai Medical University, 1989
School of Public Health, Fudan University. Reports on effect assessment of “Adolescent sexual and reproductive health education programme”, June 2001
Sexual and Reproductive Health of Adolescents and Youths in China

Tang Hui, Chen Xuelian. Middle school girls' menses status and related factors in Shanghai. Bachelor thesis of Fudan University, 2002

Tong Chuanliang, Chen Junling, Cheng Linang. Survey on causes of induced abortion in Shanghai. Shanghai Medical Journal 1999; 22(6): 345-8


Wang Bo. Community-based intervention study on sexual education and reproductive health service among unmarried youth. Ph.D dissertation of Fudan University. 2002


Wu Zuochun. Study on social medicine of unmarried pregnancy in Shanghai. Master thesis of Shanghai Medical University, 1989