

The Quality of Family Planning Services in China Since 1990s

Kuanrong Li (China)

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The Royal Tropical Institute (KIT) & Vrije Universiteit Amsterdam,

University of Copenhagen

Queen Margaret University

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By

Kuanrong Li
China

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List of Acronyms

AIDS	Acquired Immuno-Deficiency Syndrome
CP4	Country Project 4
CP5	Country Project 5
FP	Family Planning
GDP	Gross Domestic Product
IEC	Information, Education and Communication
ICPD	International Conference on Population and Development
IUD	Intra-Uterine Device
JOICFP	Japanese Organization for International Cooperation in Family Planning
NFPRHS	National Family Planning & Reproductive Health Survey
QIQ	Quick Investigation of Quality
RTI	Reproductive Tract Infection
SFPC	State Family Planning Commission
STD	Sexually Transmitted Disease
TFR	Total Fertility Rate
UNFPA	United Nations Fund for Population Activities
UNICPD	United Nations International Conference on Population & Development
WHO	World Health Organization

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Abstract

Title: The Quality of Family Planning Services in China Since 1990s

Objectives: Over the past decades, family planning programmes have been gradually transformed from bureaucratic and target-driven fertility interventions to client-centered services. The quality of services had been somewhat overlooked in the first two decades of China's family planning programme due to the overemphasized demographic goal. Since the endorsement of the ICPD's Programme of Action in 1994, Chinese government tended to set priority to enhance the quality of family planning services, even though fertility control is still a political concern. This paper aims to evaluate the quality of Chinese family planning services since 1990s. **Methodology:** A framework for assessing quality is developed referring to Bruce's quality framework, and 21 indicators are used. Data used in this paper mainly come from UNFPA/China's projects (CP4 and CP5) and the National Family Planning and Reproductive Health Survey (NFPRHS). **Findings:** 1) Most women choose their preferred contraceptive methods through self-decision or discussion with their husbands; 2) Information has been provided to most clients through counselling before and after adoption of contraception, and counselling and IEC materials are available in most family planning service sites; 3) the level of knowledge on contraception and reproductive health among women has been dramatically enhanced. FP workers have become the key providers of knowledge; 4) Relevant primary health care services, for instance, antenatal and postnatal health care, delivery care and STI prevention, have become available in FP service sites; 5) Most women give their births in medical facilities. Postnatal home visits reach most women. The incidence of induced abortion has been reduced; and 6) The overall contraceptive prevalence in women while female sterilization and IUD are the two methods most frequently used. **Conclusion:** Quality of family planning services has been improved, while to engage men into the family planning campaign and to extend the coverage to unmarried young people should be addressed in future endeavour.

Key words: China, Family Planning, Quality

Introduction

As an Erasmus Mundus Scholarship receiver, I attend this master course in International Health with a focus on health policy and management. My last job was conducting knowledge, attitude and practice programmes on HIV/AIDS, in World Vision International China. Before that, I was employed by the National Centre for STD/AIDS Prevention and Control. There I was a project assistant engaging in a cooperative programme of Chinese Ministry of Health and UNFPA.

The controversy around China's family planning policy arouses my interest and inspires me to explore this issue in my thesis. Apparently, due to the broad nature of this topic, I have to confine my discussion within particular aspects. In this paper, I explore the quality of the family planning services since 1990s. To choose this question to answer is based on the following three considerations: 1) The quality of family planning services has become a global concern; 2) The quality of family planning services in China by now has not been clearly perceived; 3) To be aware of the quality of family planning services is helpful to identify unmet needs of clients so that higher quality of services could be achieved if those unmet needs were met.

China's family planning has been implemented for three decades. A fact is that Chinese researchers have put much of their energy in studying the policy's impact on fertility rate and demographic evolution, while few studies were conducted to examine the quality of the family planning services until recently. The possible reason is that the government used to employ the family planning policy as a political approach to control the population growth, rather than a channel to promote health. Today, due to the fast declining fertility rate and faded passion of young generation for childbearing, the tension between individual demands for children and the government's family planning policy is not as strong as before. The core mission of the family planning programmes has shifted away from controlling the population growth to providing family planning and reproductive health services. The aim of this paper is to examine the empirical assumption that the quality of the family planning services has been improved since 1990s. By reviewing available data, the quality of the services is examined following a conceptual framework. The government has undertaken several vast-scale national surveys since 1990s. Data collected in some of these surveys are used in this paper.

To understand the quality of the family planning services in China is of special importance because: 1) it will provide unique chance to attain an overall picture of the family planning services in terms of quality; 2) It will identify unmet needs of clients which should be addressed in future so that higher quality of family planning and reproductive services can be achieved.

Background

1. Profile of China

As the most populated country in the world, China homes about 1.3 billion people that account for one fifth of the global overall population. Among its people, Han people are ethnically dominating that claim 91.6% of the country's population, and the other 55 ethnic groups make up 8.4% of the population (National Bureau of Statistics, 2001).

China is one of the territorially vastest countries in the world. However, compared with its counterparts, the country's natural resources are not in proportion to its large population, with 25% of the world's population falling back on only 7% of the world's arable land, for example. In China, the cropland is distributed unevenly. Most fertile land concentrates in the Southeast, while the arid and underproductive land in the Northwest. The limited water resource has also become an increasingly crucial issue due to the growing demand for agricultural and industrial production. Furthermore, the environmental degradation and pollution caused by the quick industrialization is undermining the sustainability of development.

China is the largest economically less developed country. In 1979, the government launched a comprehensive economic reform that began with demolishing of the commune system and allocating land to peasants, and then moved further to privatize state-owned industry. Apart from the economic reform, the country also changed its foreign policy by adopting an open-door strategy that aimed to attract foreign investment and to acquire advanced technology. The reform released the potential productive capacity greatly, and thus created a globally unprecedented economic miracle: an average yearly GDP growth rate of 9.7% from 1979 to 2004 (National Bureau for Statistics, 2006). China has now become the fourth largest economic body in the world.

The success in market-based economic reform has brought about the most impressive achievement in poverty reduction. In China, the number of people living in extreme poverty has been immensely reduced by over 400 millions from 1981 to 2001, with the poverty rate down from 53% to 8% (Ravallion & Chen, 2004). While the issue of poverty is being efficiently addressed, inequity arises, for instance, the average income in urban areas is almost 70% higher than that in rural areas. The Gini index, a measure of income inequality with value zero representing the same income per capita and value 100% representing the richest having all the incomes, rose from 28% in 1981 to 39% in 2001 (Ravallion & Chen, 2004). The disparity in income can also be seen between the East and the West. Generally, the East is far richer than the West. The central government has realized the adverse impact of this imbalance in economic development on the fulfillment of a "harmonious society", and prioritized tackling this problem by means of providing western provinces with supportive policies and favourable redistribution of public funding.

As a young economic giant, China is demographically aging because of the prolonged life expectancy and reduced birth rate. The segment of people aged 65 years or more grew from 4.91% in 1981 to 6.81% in 2000 (Li, 2005). This figure is projected to

reach 13.3% by 2025 (Woo, 2002). Since the present proportion of the elderly in China is close to that of some developed countries, some demographers are therefore convinced that China will be the first country that will become old before it becomes rich. Apart from the aging population, a shortage of girls is new headache. Chinese birth sex ratio in 1982 was 108.5, which increased to 116.9 in 2000. The skewed birth sex ratio is a consequence of son preference, a deeply rooted Chinese tradition which has been intensified by the country's strict family planning policy and abuse of modern techniques: illegal utilization of pre-birth ultrasonography for sex-selective abortion is common and hard to eradicate.

China's health care system is undergoing a reform. The old health care system was characterized by a tertiary health care network which comprised commune hospitals, county hospitals and municipal hospitals or provincial hospitals, and the entire health care time was funded and run by the government. Such a highly centralized health care system improved Chinese health status until 1980s. From 1952 to 1982, the infant mortality fell from 200 to 34 per 1,000 live births, while life expectancy increased from 35 to 68 years (Blumenthal, 2005). Along with the economic reform, the health care system started to be decentralized in 1980s. The share of central government's spending on health care services fell from 32% to 15% from 1978 to 1999 (Liu, 2004). Raising fund for health care services began to be the responsibility of local authorities (Hesketh & Zhu, 2004). On the other hand, the annual spending on health care services per capita increased from about US\$1.4 in 1978 to 55.0 in 2002 (Blumenthal, 2005). Since only 29% of Chinese people had health insurances, over half (58%) of the medical spending were out-of-pocket in 2002 (Liu et al., 2003). Key socioeconomic indicators of China are given in Table 1.

As mentioned previously, rural people have lower income level, which correspondingly give them less capacity to afford healthcare services. Actually, the unpleasant results caused by inequity on utilization of healthcare services have been on the horizon. In 2002, for instance, the maternal mortality rate in rural areas was much higher than that in urban areas (72 vs. 54, per 100,000 live births) (Blumenthal, 2005). As an effort towards equal access to primary health care services, the central government launched a new rural cooperative health care insurance scheme for rural residents, which is expected to cover all rural dwellers by the end of 2010 (Xinhua News Agency, 2007).

China is experiencing a tremendous economic transformation, during which women's traditional image stereotyped by Confucian philosophy is being reshaped. The rapid industrial growth has created a growing demand for female labour (Hare, 1999). By the end of 2004, the number of both urban and rural women workers reached 337 million nationwide, accounting for 44.8 % of the total employed (Chinese State Council, 2005). For rural women, Off-farm employment in cities enables them to gain higher independent income. Since their remittance contributes much to their family's wellbeing (Luo, 2005), the value of their work has not been considered as a supplementation to males' any more. As a result of the increasingly important role Chinese women are playing in income-generating activities, they have had more power than before to have their voice heard during any decision making processes in family or community.

Socioeconomic development also provides women more opportunities to access education. Data from Chinese State Council (2005) showed that in 2004, the proportion of girl students in junior and senior middle schools reached 47.4 % and 45.8 %, respectively, and girls studying in colleges make up 45.7 % of all college students, increasing as much as 10.3% since 1995.

Improved accessibility to employment and education is one of contributing factors to China's continuous decline of TFR. Studies have suggested that apart from the family planning policy, socioeconomic development has played an important role in attaining the present low fertility (Shi, 1990). Well educated women tend to marry later (Zhang, 1999), and tend to have fewer children. In rural areas, young unmarried women migrate to cities where they obtain not only relatively higher salary, but also modern notions from their urban counterparts, such as late marriage, small family and few children.

Undoubtedly, women's status has been substantially improved in present-day China whereas the issue of gender inequity still stands. In employment/payment, Women receive an average of 77% of male earnings (ACWF, 2001). In rural areas, females still have fewer opportunities to receive education. Female illiterates constitute 65% of China's 85 million illiterates or semi-illiterates (DFID China, 2003). Rural families tend to spend scarce household resources on men and boy's health care rather than on women and girls (Pearson, 1995), making women more vulnerable to the threat of health problems.

Table 1 Selected socioeconomic indicators of China in specific years

Indicator	1990	2000	2006
GDP Growth Rate (%)	3.8	8.4	10.7
Gross National Income per Capita(US\$)	-	2340	4660
Population(million)	1143	1267	1314
Population Growth Rate (per 1,000)	14.39	7.58	5.28
Total Fertility Rate (TFR)	2.2	1.7	-
Infant Mortality Rate(per 1,000 live birth)	38	33	20
Overall Illiteracy Rate (%)	-	7.0	-
Primary Attendance Rate (%) Girl	-	-	99.29
Boy	-	-	99.25
Life Expectancy Male(years)	66.84	69.63	-
Female(years)	70.47	73.33	-
Overall HIV/AIDS Prevalence (%)	-	-	0.05

*Source: the World Bank

§Source: the National Bureau for Statistics/WHO

- Data missing

2. Brief Historical Review on China's Family Planning Policy

While the starting point of the modern family planning activities can date back to 1916 when Ms. Margaret Sanger opened the first birth control clinic in London, the first family planning movement organized as a national movement was seen in India in 1952 (Warren et al., 2007). As early as in Industrial Revolution, however, Thomas Malthus argued that the imbalance between the rapidly growing numbers of people in "increasingly prosperous western Europe" and the stagnating agricultural production would be problematic (Warren et al., 2007).

After World War II, global population grew at an alarming rate. As a whole region, Asia had a population growth rate of 1.91 and Total Fertility Rate (TFR) of 5.91 during the first half of 1950s. The growth rate kept growing to 2.21 while the TFR dropped slightly to 5.62 during the early half of 1960s (Japan was an exception from this trend even though the country was included for calculation) (Gavin Jones & Richard Leete, 2002). Meanwhile, the TFR in more developed regions was only 2.8 (1950-55) and 2.7(1960-65) (United Nations, 2000).

Awareness of the quickly growing population in Asia helps understand why many Asian countries launched family planning programmes or established national family planning institutes during 1950s. Nevertheless, the heyday of the family planning programmers in Asia did not come until 1960s and 1970s (Jones & Leete, 2002). There were two external drivers that fueled the population control movement in that region: 1) International concern and financial support. By 1966, an international consensus was formed on the imperative to reduce the high population growth rate in developing countries. By the early 1970s, a large amount of international funds for family planning programmes flowed into developing countries. At that time, the United Nations established United Nations Fund for Population Activities (UNFPA) was established. 2) Technical breakthroughs: Around 1960s, technical innovations, for instance, the invention of modern intrauterine devices and oral contraceptive pills, led to availability of easier-to-use contraceptive methods to nearly all married couples (Warren et al., 2007).

Similar to most of its Asian counterparts, China also experienced a high fertility level during 1950s and 1960s. Despite that the TFR reduced from 6.22(1950-55) to 5.72(1960-65), the country's population growth rate increased from 1.87 (1950-55) to 2.07 (1960-65) (Jones & Leete, 2002). The possible reasons for the increased population growth rate could include: 1) The prolonged life span and reduced mortality as results of improved health care services; 2) A large amount of women in reproductive ages. One notable point is that there was a massive famine which began in 1961 and ended in 1964. The picture of the population growth during that period was distorted by this famine, since starvation "may cause menstruation to cease and lower fertility and poor nutrition may delay menarche" (Campbell et al., 2002) .

Unlike other Asian countries, China did not implement any national family planning programmers during 1950s and 1960s. That was why the country's population burgeoned quickly from 540 million in 1950 to 850 million in 1970 (Zhu, 2003). The absence of family planning policy in that period was a consequence of top political leaders' objection to population control. In 1960s, some demographers and economists who advocated for population control were labelled as "rightists" for their appealing for birth control. Also, all Chinese universities were forced to close their demographic faculties and all relevant studies were suspended (Yan, 2007).

Wind changed in late 1960s when a consensus in favour of attempts to limit population growth gradually evolved in the new political caucus (Thomas & Price, 1996). Finally, in 1971, the first national family planning policy was incorporated into China's Five-Year Plan (Tuan, 1989). Characterized by three components of "later marriage, wider spacing and fewer children" (Peng, 1991), the policy resulted in a fall of TFR from 5.9 in 1970 to 2.7 in 1979 (Yao & Yin, 1994).

This achievement, however, was far from sufficient in the view of policy makers. In 1970s, two thirds of the Chinese people were aged less than 30 years, meaning that even the TFR was dramatically reduced; the population growth rate would still remain at a high level. That would be a potential threat to the achievement of the economic development target: a four-time folded GDP per capita from US\$200 in 1980 to US\$ 800 by 2000 (Yan, 2007). Against this backdrop, a stricter family planning policy came into effect in 1979. The toughened family planning policy was generally interpreted as “one-child policy”, because only one child was allowed for each couple. Rewarding compliant couples and penalizing those who broke the rule with fining and other economic sanctions were used to secure the implementation of this strict policy (Liu Z., 1982).

Carrying out such a strict policy was a tough task in a society where firmly held a traditional value of “more progeny, more fortune”. For urban residents, particularly those who worked for governments or state-owned factories, over birth would bring about loss of opportunity for promotion and housing allocation, and even incur dismissal from work. Therefore, the implementation of the policy was relatively easy in cities. However, in rural areas where 70% of the country’s population lived, peasants’ resistance to the one-child policy was tremendous. Unlike their urban counterparts who were given pension after they retired, peasants generally relied on their children when they lost productivity in their old ages. Having more children means stronger security for future late life. Additionally, the mode of collective production culminated with privatization of farming land in 1980s, which stressed the value of children as potential labour for the family.

In 1984, the policy began to allow couples in rural areas to have their second child under certain circumstances. The universal practice was that couples with the first child being a girl were allowed to have their second child four years later. Despite “one child each couple” insisted to be the cornerstone, the family planning policy had been greatly localized and diversified to fit different socioeconomic contexts in local level.

After the 1994 International Conference on Population and Development (ICPD) in Cairo and the 1995 Fourth World Conference on Women in Beijing, China began to integrate its population policy with reproductive health services (Gu et al., 2002). In 2002, Chinese government put its Population and Family Planning Law into effect. The law states that the government encourages late marriage, late birth giving and one child each couple. However, it also indicates that promotion for one child each couple does not necessarily mean only one child is allowed to have. Exceptions can be made following some rules formulated by local governments,

Since the implementation of the national family planning policy from 1979, the fertility dynamics and population landscape in China have been greatly changed. In 2001, China’s TFR was 1.98 in rural areas and 1.22 in urban areas, which was as high as 2.7 in 1979 (Riley, 2004). Due to the fast drop of the fertility, China spent four more years to attain its 1.3 billion citizens than it was projected. In this sense, some demographers refer to China’s family planning programme as a successful “social experiment” (Wang F., 2005). Nevertheless, the brilliance of this success has been

shadowed by two unpleasant outcomes: The first one is the quickly aging population, and the other is the skewed birth sex ratio and a plenty of missing girls (Attane, 2002).

Problem Statement and Objectives

Family planning programmes in 1950s and 1960s were motivated by demographic concerns. Over the past decades, family planning programmes have been gradually transformed from bureaucratic and target-driven fertility interventions to client-centered services (Bertrand et al., 1994). The quality of family planning services has become a crucial issue for family planning programmers and service providers since the ICPD in 1994. The final Programme of Action of ICPD signed by 179 countries appealed governments at all levels “to provide a climate that is favourable to good-quality public and private family planning and reproductive health information and services through all possible channels”, and “in the coming years, all family-planning programmers must make significant efforts to improve quality of care” (Programme of action of the UNICPD, 1994). These statements are of particular importance for developing countries where resources are extremely limited and negative traditional notions towards women and their reproductive rights are stubborn. Improved quality of family planning services in those countries will make family planning services be provided in an acceptable and accessible way.

Quality of the services is a central issue that needs to be well addressed in any family planning programmers for two reasons: 1) At the individual level, improved quality of family planning services will ensure clients to make their choices consistent with their own reproductive intentions. 2) At the aggregate level, improved quality of services will be translated into greater contraceptive adoption and continuation rates, and thus increase contraceptive prevalence (MEASURE & USAID, 2001). Awareness of the quality of family planning services is necessary so as to identify the unmet needs of clients, and accordingly to improve the quality in next programmatic activities.

The quality of services had been somewhat overlooked in the first two decades of China’s family planning programme due to the overemphasized demographic goal: focus was only put on how much the birth rate had been reduced and, indicator that could reflect the quality of services, for instance, contraceptive continuation rate, had never been measured (Sun, 2000). Poor quality of family services led to high level of contraceptive failure rate and unwanted pregnancy and, accordingly high level of induced abortion. Two studies carried out in 1990s showed that most abortion case were due to unwanted pregnancy as a result of contraceptive failure (Kaufman et al., 1992; Cheng et al., 1997). Another study indicated that nearly 90% of the interviewees claimed that they were using one contraceptive method when they became pregnant (Li et al., 1990).

In China, the priority of the family planning policy has been shifted to how to enhance the quality of family planning services since its endorsement of the ICPD’s Programme of Action, despite the fact that fertility control is still a concern. In 1995, two changes took place: the first one was to refocus on addressing population issues in a comprehensive way other than on family planning alone. In rural areas, family planning began to integrate with economic development and poverty alleviation. The second was a shift from political approach to service-oriented approach, with any coercive approaches being opposed (Zhang, 1999). At the same time, new programmatic mechanism for the delivery of family planning services was explored. In 1995, a pilot project was started by the State Family Planning Commission in two counties. The project aimed to expand the content of family planning services. Information, Education

and Communication (IEC) on reproductive health and contraception, informed choice of contraceptive methods, follow-up visits, post-natal care and treatment of infertility were integrated into the new package of family planning services. The pilot project had been introduced in around 100 counties by the end of 1998. Signing the ICPD's Programme of Action can be marked as a turning point in China's family planning policy, and the decades afterwards have seen that merely limiting population growth is giving its way to improving the quality of family planning services, including better counselling and informed choice of contraceptives (Winckler, 2002).

Considering the government's motivation to enhance the quality of family planning services and some concrete actions it has taken to fulfil the vision of the ICPD, an assumption can be made that the quality of family planning services in China has been improved. Certainly, this is an empirical assumption that needs to be supported by robust evidence. However, to check the validity of this assumption is absolutely not an easy job because of few relevant studies. Through reviewing data available currently, this paper aims to evaluate the quality of Chinese family planning services since 1990s. This paper is expected to present a clear perception of the quality of family planning services and identify unfilled gaps for future programmes to deal with.

Methodology

Data used in this paper mainly come from four surveys conducted during the Country Project 4 (CP4) and Country Project 5 (CP5). Both of the projects were cooperative initiatives between UNFPA and Chinese government, with an aim to assist the government in approaching ICPD goal by improving the quality of family planning services.

The baseline survey of CP4 was conducted in 1998, in which women aged 15 to 49 years were interviewed with specifically designed questionnaire. 32 counties in 22 provinces (Figure 1) were selected with criteria including local authorities' willingness to implement the project, good representation of various socioeconomic and geographical characteristics of China, and unmet needs for FP/RH services. Eventually, a sample of 30,556 women responded to the interview. The endline survey of CP4 was conducted in 2002 in the same 32 counties using the same questionnaire, with 16,000 respondents involved.

The baseline survey of CP5 was launched in 2003, which covered 30 new counties (Figure 1). These counties were situated in 30 provinces and different from those in CP4. The endline survey of CP5 took place in the same 30 counties using the same questionnaire. 84,000 and 7,356 respondents were investigated in the baseline survey and endline survey, respectively. It is notable that the questionnaires used in CP4 and CP5 were not identical. In CP4, women's knowledge of family planning and reproductive health, contraceptive use, birth permit system, fertility and induced abortions and maternal and child health were inquired, while in CP5's questionnaire, information on women's knowledge on family planning and reproductive health and information on contraceptive use, pregnancy outcomes and birth history were collected.

The National Family Planning and Reproductive Health Survey (NFPRHS) was conducted in 2001. The survey involved 31 provinces, autonomous regions and municipalities were covered, with 39,586 women interviewed. Through structured questionnaires, the content of this survey focused on fertility, contraceptive knowledge and practice, and FP/RH services provided. In this paper, data obtained in CP4, CP5 and NRPRHS will be reviewed.

Measuring quality of health services is a demanding work because of its complexity and multiple facets (MEASURE & USAID, 2001). Early discussions on the quality of family planning mainly focused on the clinical operations with sophisticated technology and expensive equipments, and interpersonal dimensions of care was neglected (Bruce, 1990). According to Ramarao and Mohanam's perception, good quality "refers both to the readiness or level of preparedness of facilities to offer services and the manner in which clients are cared for" (Ramarao & Mohanam, 2003). As Foreit mentioned, family planning services with good quality means clients (women and men) can make their own decision voluntarily on what contraceptive methods they will use, on the basis of being fully and accurately informed by service providers, and, any family planning services should be delivered to clients competently, correctly and friendly (Foreit & Frejka, 1998). These perceptions of quality are one-sided as they fail to include other fundamental elements.

In 1990, Bruce developed a framework that outlined six elements to define the quality of family planning service: choice of methods, information given to clients, technical competence, interpersonal relations, follow-up and continuity mechanisms, and the appropriate constellation of services (Bruce, 1990). In addition, the framework indicates the relationship between programme effort, quality of the services and its impact on women's health.

In this paper, a framework (Figure 2) on assessment of quality is developed referring to Bruce's work. In this framework, the quality of family planning services will be looked into at five aspects: choice of methods, information for clients, technical competence, follow-up and expanded services provided in family planning service sites. Interpersonal relation between service providers and clients was excluded in the framework, since it was not investigated in CP4, CP5 and NFPRHS.

Apart from the five elements, the impact of the quality will also be assessed for the reason that it can reflect the level of quality in an indirect manner. For this purpose, women's knowledge, satisfaction and health, as well as their contraceptive use and the total fertility rate, will be considered in the framework. No direct measurement of women's health was done in CP4, CP5 and NFPRHS, and hence delivery sites, postnatal home visits and induced abortion are used as they are key factors affecting maternal mortality and the incidence of abortion-related complication or even death. Totally, 21 indicators are used in the framework, and grouped into the five elements mentioned above.

There are a plenty of indicators which have been used to measure quality. For example, Sullivan & Bertrand (2000) referred to 25 indicators for quick investigation of quality (QIQ). However, an overall understanding of quality could not shape if all these indicators were not organically structured. Bruce's framework offered a theoretical structure with which quality could be viewed (Ramaro & Raji, 2003). That is why a similar conceptual framework is developed and used as an assessing tool of quality in this paper.

Several limitations of this study have to be acknowledged. First of all, some important aspects of the quality of family planning services still remain unanswered due to lack of data. For example, data about contraceptive failure rate and availability of contraceptive methods in family planning services sites were not collected in CP4, CP5 and NFPRHS. Secondly, to address the inequity in health care services is crucial to fulfill the goal of quality health care for all. The disparity in quality of family planning services is assumed to exist between rural areas and urban areas. However, this paper is unable to answer how significant the disparity is because of the inaccessibility of the raw data of those surveys. Finally, the comparability of CP4, CP5 and NFPRHS is not strong because of the different project sites and different questionnaires employed in these surveys. Therefore, the change of quality over time is unable to be explored in this paper.



Figure 1. Programme counties in CHINA/UNFPA CP4 and CP5

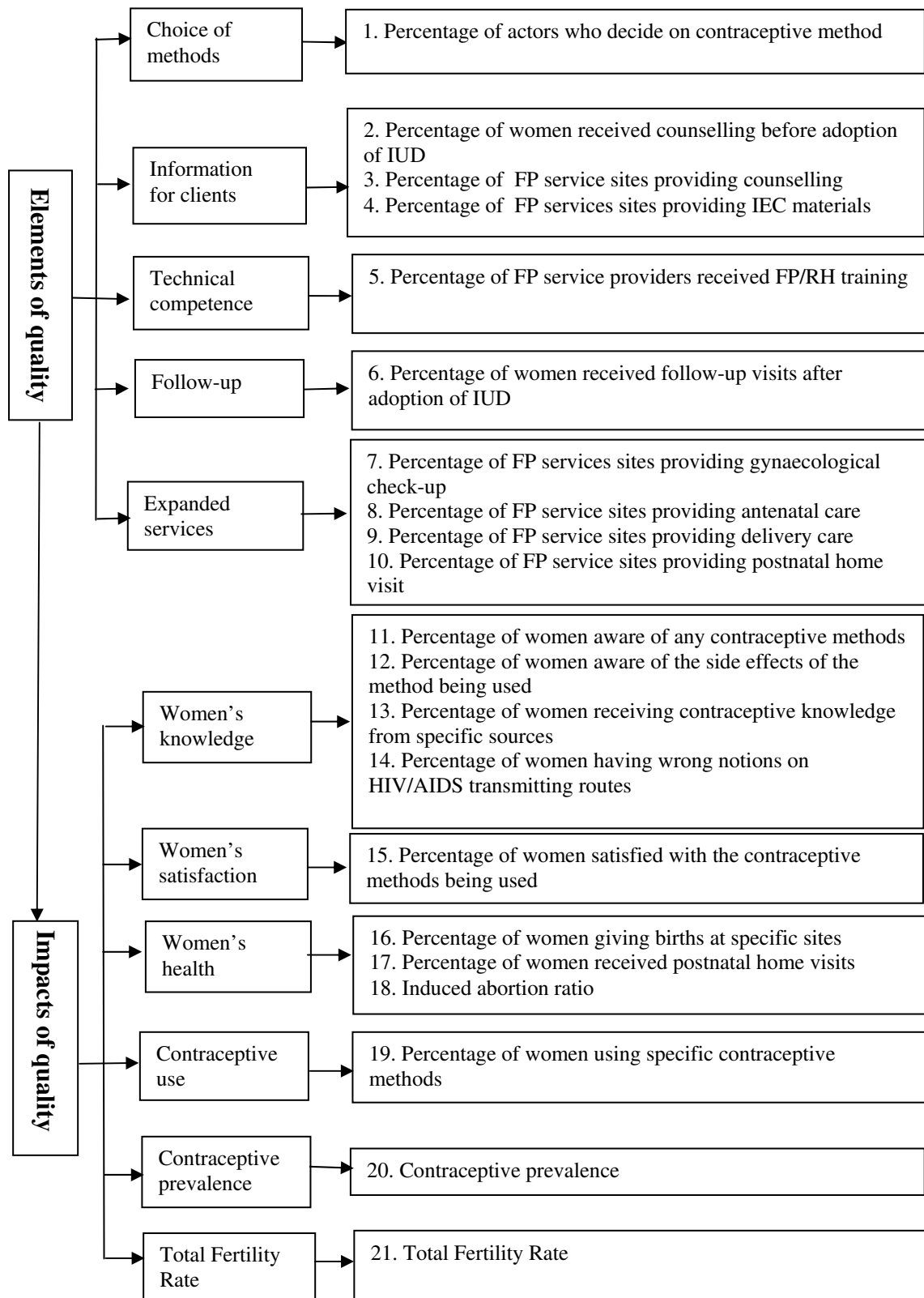


Figure 2. Conceptual Framework on quality of family planning
 Developed on the basis of Bruce's conceptual framework (Bruce, 1990)

Findings

1. Elements of Quality

Element 1: Choice of methods

Indicator 1: Percentage of actors who decide on contraceptive method

In 1998, almost 40% of women adopted contraceptive methods which were chosen by family planning workers. This situation changed dramatically in 2002, when most women (70.2%) chose preferred contraceptive methods by discussing with their husbands or even by themselves (23.3%), and few FP workers (4.3%) chose contraceptive methods for clients. In the 2003 baseline CP5 baseline Survey, the percentage of contraceptive choice made by FP workers was low (6.9%). In 2005, 55.0% of contraceptive methods were chosen by couples, and 36.3% chosen by women themselves (Table 2).

Table 2. Actors who decide on contraceptive method

Decision maker	CP4			CP5	
	Baseline (1998)%	Endline (2002)%	NFPRHS* (2001)%	Baseline (2003)%	Endline (2005)%
Woman herself	27.3	23.3	43.7	29.0	36.3
Husband/Partner	1.5	1.4	1.2	3.9	1.2
Couple	27.0	70.2	14.7	59.5	55.0
Other family members	1.6	0.2	0.5	0.4	0.0
Health Providers	3.2	0.8	8.4	0.4	1.6
FP workers	38.8	4.3	31.1	6.9	5.3
Others	0.5	0.0	0.4	-	0.6

Data source: CP4, CP5 final reports and NFPRHS

- Data missing

Element 2: Information for clients

Indicator 2: Percentage of women received Counselling before adoption of IUD

As showed in figure 3, the percentage of women who were given counselling before IUD insertion has increased from 46.1% in 1998 to 93.6% in 2003. Relevant data are not available in CP5 and NFPRHS.

Indicator 3: Percentage of FP services sites providing counselling

Overall, most FP service sites provides clients with counselling on family planning and reproductive health. The endline survey indicates that more FP services sites offer counselling on contraceptive methods and STI, while fewer offer counselling to adolescents (Table 3).

Indicator 4: Percentage of FP service sites providing IEC materials

After the implementation of CP5, IEC materials on contraceptive knowledge, which

had already been easy to acquire in most FP services sites (94.9%) before CP5, are available in all FP service sites. Other IEC materials on adolescent health, STI and prenatal care are also provided by more FP services sites at the end of the project (Table 4).

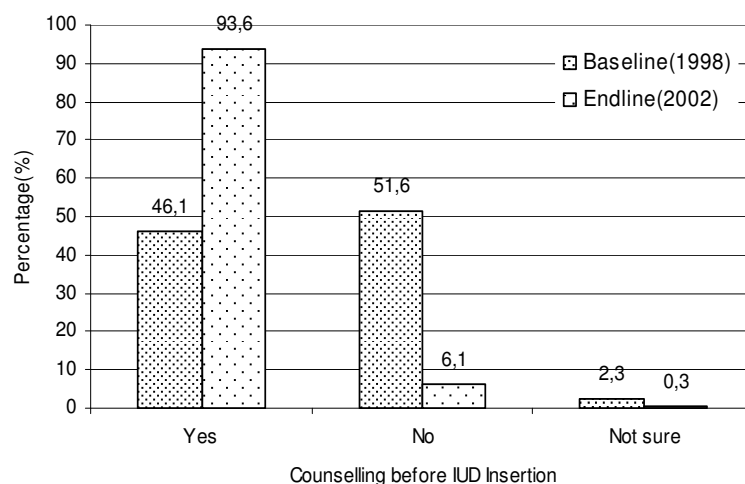


Figure 3. Women who received counselling before IUD insertion
Data source: CHINA/UNFPA CP4 final report

Table 3. FP service sites providing counselling for clients

Counselling	Baseline (2003)%	Endline (2005)%
Counselling on contraceptive methods	97.7	98.2
Counselling on adolescent health	81.9	72.0
Counselling on STI	84.8	93.0
Counselling on prenatal care	90.1	84.9

Data source: CHINA/UNFPA CP5 final report

Table 4. FP service sites providing IEC materials

IEC materials	Baseline (2003)%	Endline (2005)%
IEC materials on contraceptive methods	94.9	100.0
IEC materials on adolescent health	74.1	88.9
IEC materials on STI	69.1	91.9
IEC materials on prenatal care	74.1	93.3

Data source: CHINA/UNFPA CP5 final report

Element 3: Technical competence

Indicator 5: Percentage of FP service providers received FP/RH training

By the end of CP5, as indicated in table 5, more FP providers have been given FP/RH training. Percentage of staff never received training has dropped from 42.4% to 16.6%.

On the other hand, training modules on delivery care and adolescent reproductive health, compared with other modules, are less provided for FP workers.

Table 5. FP services providers received FP/RH training

Training contents	Baseline (2003)%	Endline (2005)%
Informed choice of contraceptive methods	68.2	80.6
Reproductive health counselling	68.8	78.1
Prevention & treatment of STI	70.2	88.3
Screening of gynaecological diseases	78.4	87.0
Delivery care	67.7	71.5
Prenatal care	73.2	86.3
Adolescent reproductive health	48.5	75.3
No training at all	42.4	16.6

Data source: CHINA/UNFPA CP5 final report

Element 4: Follow-up

Indicator 6: Follow-up visits after Adoption of IUD

In comparison with the baseline surveys, both CP4 and CP5 endline surveys have seen an increase in the percentage of women given follow-up visits after IUD insertion, even though the increase in CP5 is relatively slight (Table 6).

Table 6. Percentage of women who received follow-up visit after IUD

	CP4		CP5	
	Baseline (1998)%	Endline (2002)%	Baseline (2003)%	Endline (2005)%
Follow-up Visits				
Yes	20.4	83.8	54.8	64.1
No	77.8	14.5	45.2	35.9
Not sure	1.8	1.7	-	-

Data source: CHINA/UNFPA CP4 and CP5 final reports

- Data missing

Element 5: Expanded services

Indicator 7: Percentage of FP service sites providing gynaecological check-up

The 1998's CP4 baseline survey showed that 43.6% of township FP service stations provided FP gynaecological check-up to clients. This percentage increased to 61.5% as showed by the endline survey in 2002. However, there were fewer county FP service stations providing gynaecological check-up both in baseline survey and endline survey (only 3.8% and 3.2%, respectively) (Table 7).

Indicator 8: Percentage of FP service sites providing antenatal care

In 1998, 16.8% of township FP service stations offered antenatal care to women, while it increased to over one quarter in 2002. Still, the percentage of county FP service stations which provide antenatal care was very small, with only 1.8% in 1998 and 5.3% in 2002 (Table 7).

Indicator 9: Percentage of FP service sites providing delivery care

Delivery care is the services that is least provided by FP services stations. The baseline survey in 1998 showed that only 4.1 % of township FP service stations and 0.6% of county FP services stations provide delivery care to women. With slight increase, the percentages in 2002 are 6.4% for township FP service stations and 1.9% for county FP service stations (Table 7).

Indicator 10: Percentage of FP service sites providing postnatal home visits

Postnatal home visit is the additional service that is most likely to be provided to clients. As the baseline survey shows, 40.2% of township FP service stations and 68.8% of county FP service stations provide postnatal home visits to women, while in the endline survey in 2002 shows a substantial increase to 90.6% of township FP service stations and 97.1% of county FP service stations providing postnatal home visits (Table 7)

Table 7. FP service sites providing other health care services to clients

Services	Baseline(1998)%	Endline (2002)%
Gynaecological check-up		
Township FP service stations	43.6	61.5
County FP services stations	3.8	3.2
Antenatal care		
Township FP service stations	16.8	25.8
County FP services stations	1.8	5.3
Delivery care		
Township FP service stations	4.1	6.4
County FP services stations	0.6	1.9
Postnatal home visit*		
Township FP service stations	40.2	90.6
County FP services stations	68.8	97.1

Data source: CHINA/UNFPA CP4 final report

** Subjects were women who had had their birth-giving in FP stations.*

2. Impacts of Quality

Impact 1: Women's Knowledge

Indicator 11: Percentage of women aware of any contraceptive methods

Clients' knowledge is essential for making correct decision on when and how to practice contraception. Results from the CP4 and CP5 suggested a remarkable increase in percentage of women who reported awareness of various contraceptive methods (Table 8). Among these contraceptive methods, IUD, female sterilization, condom and oral pills were the four methods which were best known by women after the implementation of the projects. Before the implementation of the projects, IUD had already been widely known by over 80.0% of women. As indicated by the

baseline surveys of CP4 and CP5, only 43.6% and 60.1% of women knew condom, respectively. However, over 90.0% of women became aware of condom in the endline surveys.

Table 8. Women reporting awareness of specific contraceptive methods

Methods	CP4		CP5	
	Baseline (1998)%	Endline (2002) %	Baseline (2003) %	Endline (2005) %
IUD	80.9	98.3	80.8	96.0
Female Sterilization	69.1	98.4	58.5	94.1
Condom	43.6	94.8	60.1	92.1
Oral Pills	60.5	90.7	66.8	86.6
Male Sterilization	44.9	94.0	26.9	84.8
Norplant	8.3	66.8	18.9	50.3
Injection	13.2	76.3	15.1	47.2
Rhythm	5.6	60.4	5.6	50.4
Withdrawal	3.3	55.6	4.0	44.0
Spermicide	7.5	70.4	9.1	42.8

Data source: CHINA/UNFPA CP4 and CP5 final reports

Indicator 12: Percentage of women aware of the side effects of the method being used

The NFPRHS showed as many as 57.3% of women reported unawareness of any possible side-effects of the methods they were using (Table 9). Percentage of women reporting awareness of possible side-effects of the currently used contraceptive methods was low (20.7%)

Table 9. Knowledge about the contraceptive method being used

Knowledge	Percentage %
Know the possible side-effects of the method being used	20.7
Know a little about the possible side-effects of the method being used	22.0
Know nothing about the possible side-effects of the method being used	57.3
Know inappropriateness of using IUD for patients with menorrhoea	21.8
Know inappropriateness of using IUD for patients with reproductive tract infection	32.3

Data source: NFPRHS, 2001

Indicator 13: Percentage of women receiving contraceptive knowledge from specific sources

The baseline and the endline survey in CP5 both showed that FP workers were the main sources of contraceptive knowledge, with over 70.0% of women reporting their knowledge came from FP workers. Health providers and posters/pamphlets played an increasingly important role in distributing knowledge, considering percentage of women receiving knowledge from these two sources were about two and three folded, respectively. Least contraceptive knowledge was taught in school, and this situation persisted after the project (Figure 4).

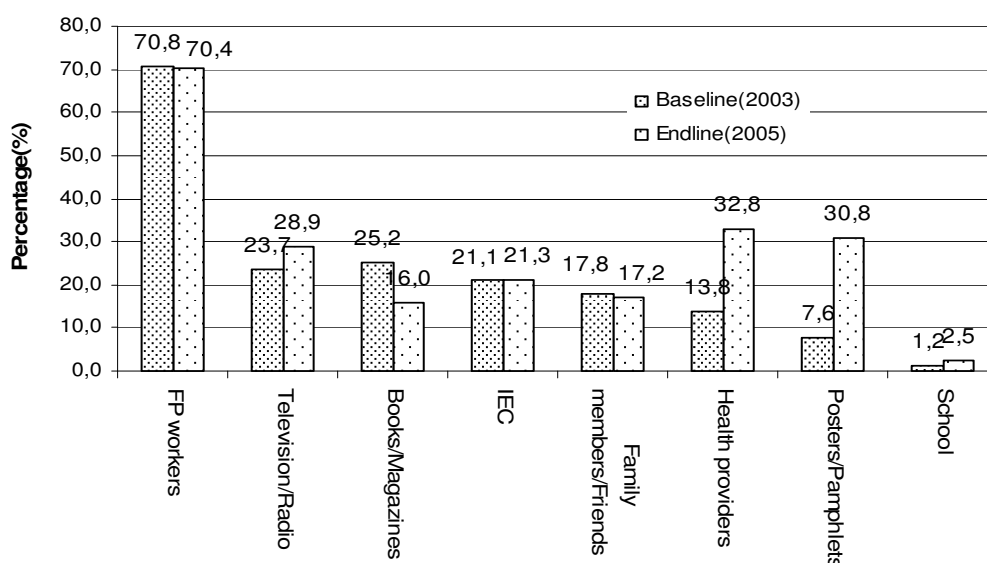


Figure 4. Sources of contraceptive knowledge
 Data source: CHINA/UNFPA CP5 final report

Indicator 14: Percentage of women having wrong notions on HIV/AIDS transmitting routes

Before CP4, over 80.8% of women believed HIV/AIDS could be transmitted by kissing, sharing utensils, sharing bathroom and mosquito bite. These misconceptions had been greatly rectified by the end of the project. In CP5, the baseline survey indicated that, comparing with the baseline data of CP4; those misconceptions about HIV/AIDS transmission were less seen. Rumors on HIV/AIDS transmitting routes had been further abandoned through the implementation of the CP5. However, the misconception that mosquito bite could transmit HIV/AIDS remained strong (47.5% in baseline and 41.5% in endline) (Table 10).

Table 10. Women who held misconceptions on HIV/AIDS transmitting routes

	CP4		CP5*	
	Baseline (1998)%	Endline (2002) %	Baseline (2003) %	Endline (2005) %
Handshaking	56.2	12.0	14.0	7.5
Kissing	85.3	26.0	34.9	29.9
Sharing utensils	84.4	24.4	30.5	18.0
Sharing bathroom	84.2	26.6	43.7	26.3
Haircutting	50.9	12.0	16.7	12.8
Mosquito bite	80.5	33.7	47.5	41.5

Data source: CHINA/UNFPA CP4 and CP5 final reports

* Married women

Impact 2: Women’s satisfaction

Indicator 15: Percentage of women satisfied with the contraceptive methods being used

It was suggested that more women were satisfied with the contraceptive methods they were currently using after the CP4. IUD and condom were two methods with highest

satisfaction rates. In CP5, the percentage of women reporting satisfaction with female sterilization decreased after the implementation of the project, while the percentage of women reporting satisfaction with condom slightly rose (Table 11).

Table 11. Women reporting satisfaction with currently using method

Method	Baseline (1998) %	Endline (2002) %	Baseline (2003) %	Endline (2005) %
Female sterilization	86.2	92.8	77.9	76.2
IUD	85.2	94.4	-	-
Norplant	73.7	75.3	-	-
Oral pills	79.8	88.0	-	-
Condom	72.4	93.5	73.5	80.3

Data source: CHINA/UNFPA CP4 and CP5 final reports

- Data missing

Impact 3: Women's health

Indicator 16: Percentage of women giving birth at specific sites

Data from CP4 showed that in comparison with baseline, there were less women giving birth in home, while more women gave birth in hospitals. Most deliveries took place at township hospitals (42.3%), followed by county or higher level hospitals (19.6%) and county or higher level Maternal and Child hospitals (9.3%). There were still, however, 18.9% of deliveries happened at homes (Figure 5).

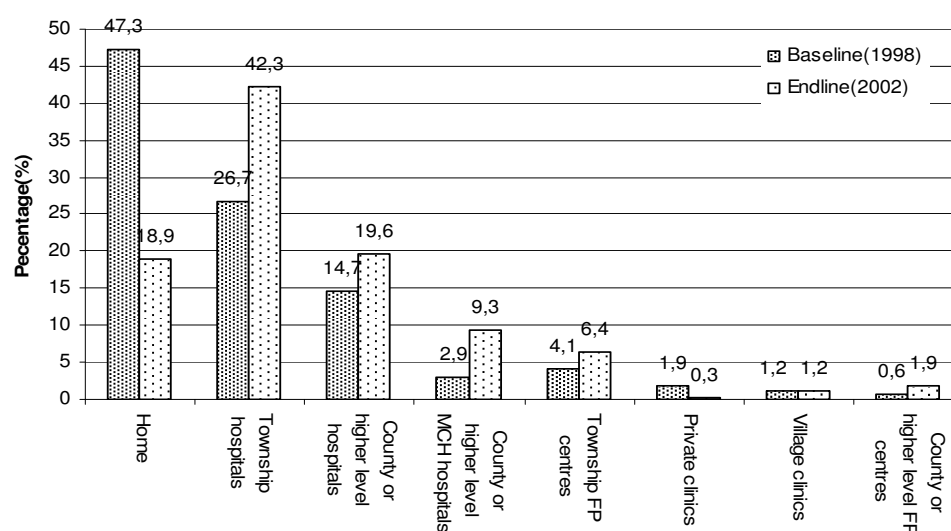


Figure 5. Deliveries taking place in different sites

Data source: CHINA/UNFPA CP4 final report

Indicator 17: Percentage of women received postnatal home visits

Data of the endline survey of CP4 showed that in comparison with data of baseline, wherever the deliveries took place, the percentage of women receiving postnatal home visits increased. Nevertheless, the magnitude of this increase related closely to the delivery sites. Generally, women whose delivery happened at township or upper

hospitals were more likely to be given postnatal home visits than those whose delivery happened at village clinics, private clinics and homes. Private clinics, in particular, gave less postnatal home visits to women (of which only 40.0% received home visits from private clinics) before CP4 began, and there was no substantial increase after the programme (Figure 6).

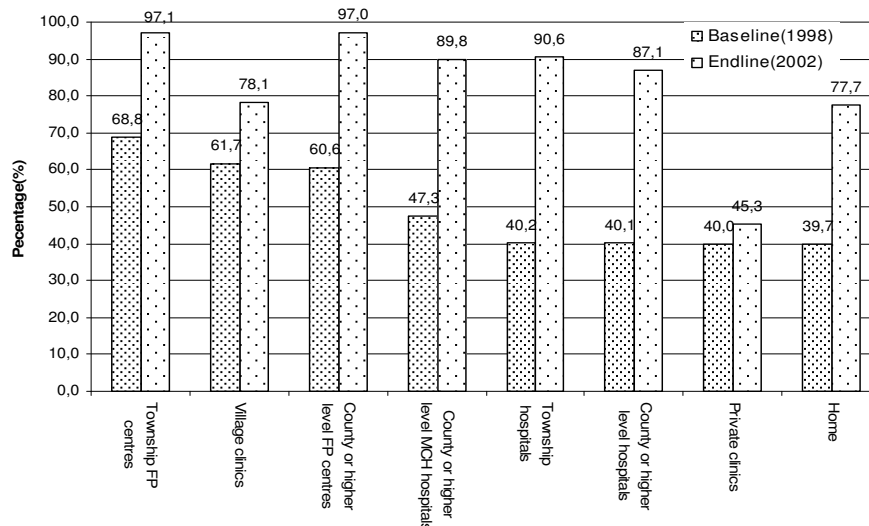


Figure 6. Women received postnatal home visits by specific delivery sites
Data source: CHINA/UNFPA CP4 final report

Indicator 18: Induced abortion ratio

In China, a dramatic fluctuation of induced abortion ratio has been seen during the past three decades. There was a sharp increase of induced abortion ratio from 0.31 in 1978 to 0.56 in 1982 and then a continuous drop from 0.56 in 1990 to 0.37 in 1998 (Figure 7). It is reasonable to assume that the descending trend will continue even though relevant data of years after 1998 is unavailable. Furthermore, the percentage of women in reproductive ages who reported no abortion, according to data from CP4, increased from 74.3% in 1998 to 86.6% in 2002. The percentage of those reporting one abortion declined from 17.9% to 10.7%, and two abortions from 5.7% to 2.2% (Figure 8).

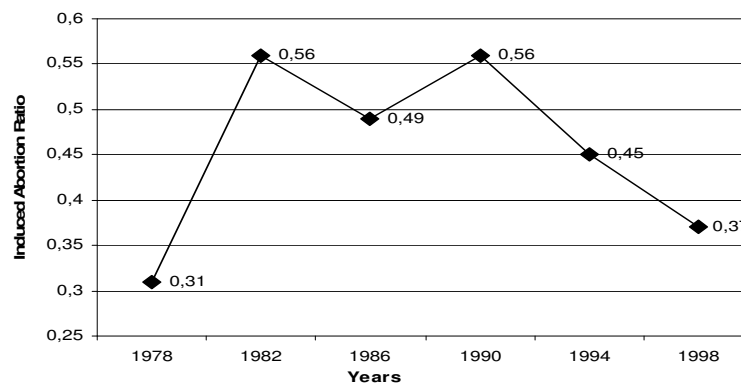


Figure 7. Induced abortion ratios from 1978 to 1998
Data source: Hemminki, et al.2005

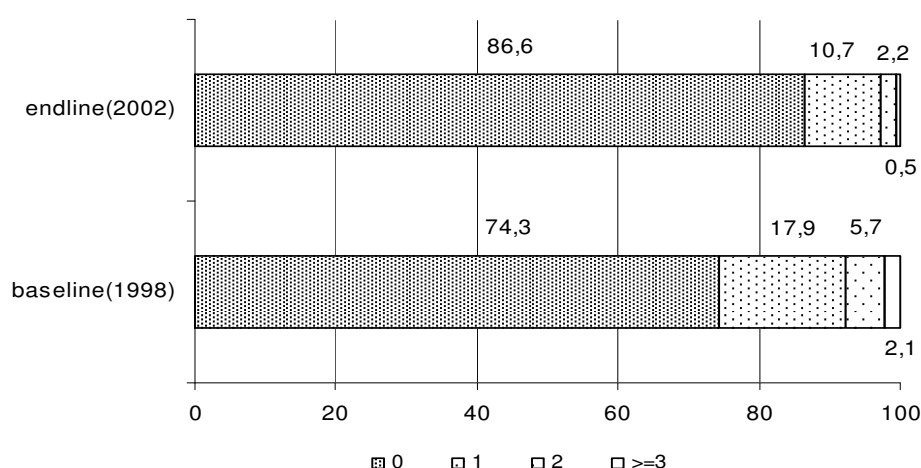


Figure 8. Induced abortion in women of reproductive ages

Data source: CHINA/UNFPA CP4 final report

Indicator 19: Percentage of women using specific contraceptive methods

The application of female sterilization had reduced both in CP4 and in CP5. Notably, the percentage of women adopting female sterilization was much lower in CP5 than in CP4 (42.2% vs. 13.9% in baseline and 35.5% vs. 10.4% in endline). IUD was the most commonly used contraceptive methods, as showed in CP4, CP5 and NFPRHS. Another remarkable change in CP5 was that percentage of women using condom had increased from 25.4% to 33.1%, indicating the utilization of condom was becoming popular. The adoption of the two methods, oral pills and norplant, is considerable low (Table 12).

Table 12. Contraceptive mix among women

Contraceptive Methods	CP4		NFPRHS (2001) %	CP5	
	Baseline (1998)%	Endline (2002) %		Baseline (2003) %	Endline (2005) %
Female Sterilization	42.2	35.5	38.1	13.9	10.4
Male sterilization	12.0	9.1	7.9	0.9	0.4
IUD	41.2	49.3	45.6	52.3	49.0
Condom	1.7	3.8	5.1	25.4	33.1
Oral pill	1.8	1.6	2.1	4.2	4.0
Norplant	0.5	0.5	0.4	1.4	0.6

Data source: CHINA/UNFPA CP4, CP5 final report and NFPRHS

Indicator 20: Contraceptive Prevalence

Data from CP4 and NFPRHS indicated that the contraceptive prevalence in women was high. Totally, the contraceptive prevalence in women of reproductive ages was 87.7% in 1998(CP4 baseline survey), 86.9% in 2001 (NFPRHS) and 89.1% in 2002 (CP4 endline survey). These three surveys also suggested the highest contraceptive prevalence in women aged from 30 to 44 years, with a contraceptive prevalence of over 90%. Overall, the contraceptive prevalence is low in young women and continues to increase until the age of 40 years. In addition, the data of contraceptive

prevalence from these three surveys, as well as their entire time trends, fitted well (Figure 9).

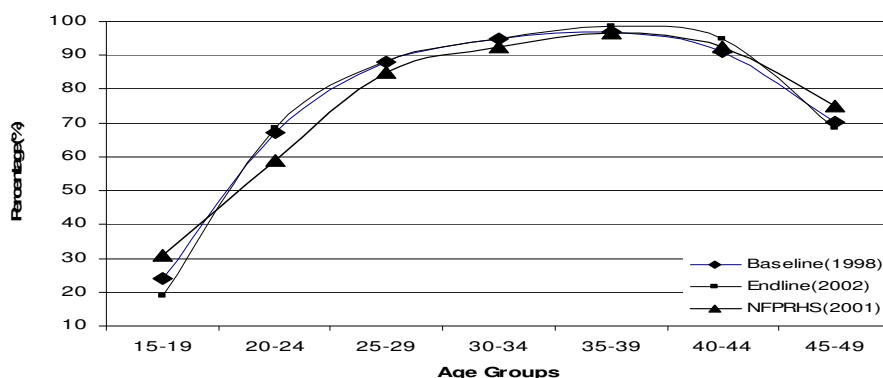


Figure 9. Prevalence of contraception by women of specific age groups
Data Source: CHINA/UNFPA CP4 final report and NFPRHS

Indicator 21: Total Fertility Rate

The Total Fertility Rate (TFR) of china kept declining from 1970 to 2005. An accelerated decline took place from 1970 to 1980, with a sharp drop from 5.8 to 2.2 during the decade. Since then, the decline of fertility rate slowed down and remained at a stable level. The TFR has dropped as much as below 2.1, the rate of replacement level, since 1995 (Figure 10).

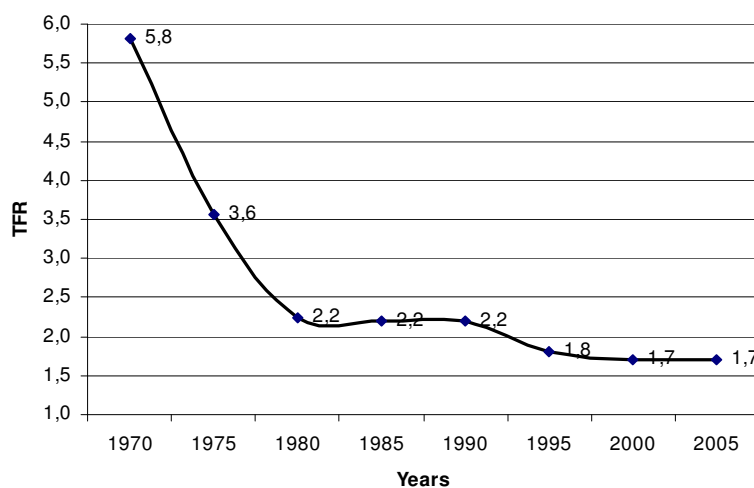


Figure 10. TFR of China from 1970 to 2005
Data Source: China Population Information and Research Centre and U.S. Census Bureau (<http://www.census.gov/ipc/prod/wp02/tabA-09.xls>)

Discussion

Nowadays, quality of services has become a more important issue than ever. Improved quality of services not only encourages people in need of family planning to seek services and increases contraceptive prevalence, but also create new demands for family planning services (UNFPA & PATH, 2006). In china, good quality of family planning services is the only way that can guarantee the satisfaction of individuals' reproductive needs and the fulfilment of the national demographic goal simultaneously. By reviewing the change of FTR, it can be concluded that China's family planning programme has achieved an impressive progress in birth control, considering the dramatic decline from 2.2 in 1980 to 1.7 in 2005 (Figure 10). However, this progress would make less sense if the quality of family planning services had not been improved.

One global consensus has been reached that women should be empowered to choose contraceptive methods they prefer. Women who make informed choices on the basis of accurate and relevant information are better able to use family planning safely, effectively and consistently. Enabling clients to make informed choices is a key to good-quality family planning services (Upadhyay, 2001). One panel study conducted in Indonesia found that women who had been given the method they desired were more likely than those who had not to be using a contraceptive one year later (Pariani et al., 1991). In China, data from CP4 and CP5 suggested an increasing number of women had been given informed choice on contraceptive methods. In 1998, almost 40.0% of decisions on contraceptive choice were made by FP workers, and only 27.3% of women chose the contraceptive methods they wanted. By the end of the CP4, however, only 4.3% of decisions were made by FP workers. However, the results of NFPRHS, which was conducted only one year before the end of CP4, showed that still 31.1% of decisions on contraceptive methods were made by FP workers (Table 2). The inconsistency between two surveys could result from the difference in samples and variety in the quality of data.

The endline survey of CP4 showed that about 70.0% of women chose contraceptive methods by discussing with their husband. Making decisions on contraceptive methods by couples may be an ideal pattern, through which men can be engaged into family planning programme. Also, a Turkish study indicates that from Men's perspective, most of them believe that decision on contraceptive methods should be made together and the responsibility should be shared by wives and husbands (Mistik et al., 2003). However, due to the concern that men may actually dominate the discussion because of their higher status in family and their higher education level than women, detailed studies need to be done to shed light on the real role women indeed play in the decision making process.

It has been demonstrated that information plays an important role in enabling clients to make correct decision on contraception. Keller's study in five Mexican family planning clients suggests a strong relationship between the receipt of accurate information about methods and the propensity of clients to continue with methods and to resist ill founded rumors (Keller, 1973). Research from many countries indicates extensive misunderstanding and misuse of contraceptive methods which can cause serious consequence to clients, discontinued use, and jeopardize the overall programme effort (Bruce, 1990).

Sufficient information for clients plays an important role in promoting high contraceptive prevalence and continuation. This has been demonstrated by studies undertaken in Africa, India and China (Ramarao et al., 2003). Data from the CP4 and CP5 indicated that more women have known basic contraceptive knowledge, particularly knowledge on widely used contraceptive methods, i.e. IUD, female sterilization and condom. FP workers were the major source of contraceptive knowledge, implying family planning staff had will and ability to provide clients information and knowledge.

Lack of knowledge on the methods and their side-effects is a major reason for discontinuation of contraception. Counselling before adoption of contraception is an important channel for clients to obtain contraceptive knowledge about the methods and their side-effects. The findings from a follow-up study in Niger and the Gambia show that the rate of continuation is low among women who reported they had not been adequately counselled about side effects. In Niger, 37% of the women who reported having received inadequate counselling discontinued contraceptive use, compared with 19% of those who reported having been given sufficient counselling (Cotton et al., 1992). In one Chinese study with four clinics involved, researchers find that women who are given sufficient amount of mode of action, hormonal effects and potential side effects, are four times as likely to continue the use of the method as were other women who are just given routine counselling without any other information about side effects (Lei et al., 1996).

According to the baseline survey of CP4, no more than half of the women were given counselling before the adoption of IUD (Figure 3). After the implementation of the project, over 90.0% of women have received counselling before IUD insertion, and most clients also received follow-up visit after IUD insertion. This offered women an extra chance to report their feelings of the method to FP workers. Side-effects of the method could be relieved or avoided by treatment or shift to other methods at the early stage. On the other hand, as indicated by the endline survey of CP5, counselling and IEC materials were available in most family planning services sites by 2005. Through these two approaches, women were able to attain more contraceptive knowledge from family planning service providers.

A number of supportive factors can contribute to easier informed choices of contraceptive methods for clients. First of all, freedom to choose from a range of contraceptive methods according to one's needs and preferences rests on the availability of various methods. Evidence has suggested an intimate association between availability of contraceptive methods and their prevalence of their use (Ross et al., 2002). Simply speaking, more methods permit more options. A study which combined national surveys from 64 developing countries concluded that availability of individual method had risen substantially from 1982 to 1999, with female sterilization increasing from 25.0% to 35.0%, the oral contraceptive pill from 34.0% to 61.0%, IUD from 26.0% to 50.0%, and condom from 34.0% to 63.0% (Ross et al., 2002). However, the accessibility to particular contraceptive methods was still poor in some countries. A study involving 88 developing countries in 1999 showed that couples in 50 countries had little or no access to vasectomy; in 29 to female sterilization; in 14 to IUDs and in 5 to oral contraceptives and in 2 to condoms (Upadhyay, 2001). In China, a wide range of contraceptive methods have been available, even though IUD and female sterilization have accounted for about 90.0%

of contraceptive methods being utilized since mid-1980s (Hesketh, et al., 2005). A study conducted in 1998 in four Chinese counties showed a good supply of various contraceptive utensils or drugs, including IUDs, oral pills, condoms and spermicidal barrier methods (Koffman et al., 1992). Researchers state that since population control is a high-priority national goal, the national family planning programmes provide all contraceptive methods free to Chinese women, and hence availability and cost of methods do not appear to be barriers to the use of particular methods (Koffman et al., 1992).

Clinical incompetence is often part of poor programme performance. Insufficient training for family planning service providers is a major cause of clinical incompetence because providers who have no confidence about their skills are reluctant to use them or apply them badly (Bruce, 1990). Therefore, training service providers is worthwhile to enhance the clinical competence of family planning staff and eventually improve the quality of family planning programme. Through well organized training, service providers' knowledge will be enriched and their technical competence will be improved (Ramarao & Mohanam, 2003). Training on technical competence will reduce the incidence of negative consequences due to poor technique such as pain, infection, contraceptive failure, unwanted pregnancy and even death (Bruce, 1990). Training on counselling and communication will teach service providers how to exchange information efficiently with clients. Studies done in Nigeria and Ghana conclude that family planning service providers trained on counselling are more able to provide fuller information about the advantages and disadvantages of methods, and are more likely to leave the choice of method to clients (Kim et al., 1992 & Huntington et al., 1990).

In China, the importance of family planning staff training has been stressed in the country's ninth five-year (1995-2000) plan. Since 1994, the State Family Planning Commission have provided in-service training to family planning workers and as many as 70,000 of them have obtained their certificates (State Family Planning Commission, 1998). As one of fundamental components of CP5, training on family planning and reproductive health has been provided to most service providers (Table 5). However, the training campaign should persist since there are still a considerable number of service providers having not received any training.

Most family planning programmes are clinic-based. However, in order to protect clients from any risk or possible side-effects of contraceptive methods, and ultimately, to keep a high continuity of contraception, a follow-up mechanism is necessary (Bruce, 1990). Follow-up visits in appropriate times will create opportunity to diagnose and treat problems and thereby increase safety for IUD users (Hubacher et al., 1999). A Chinese research conducted in rural areas in 1997 showed that the percentages of women who received home visits after their last female sterilization, IUD insertion and induced abortion were only 25.0%, 23.0% and 9.6% respectively, suggesting a weak post-operation follow-up mechanism (Liu & Chang, 2001). As shown in this paper (Table 6), since over 80.0% of women received home visit after IUD insertion in 2002 and about 60.0% in 2005, we can assume the follow-up visit mechanism is becoming a routine activity in family planning programmes. But question marks still exist as the information on post-sterilization and post-induced abortion home visit is not available. Furthermore, in rural areas, the percentage of

women who received post-operation follow-up may not be so high due to less human resource and remoteness of clients' house to family planning service site.

Expanding the contents of services provided in family planning programme is another important issue that has been intensively discussed. It was advocated in the 1994's ICPD that narrow focus on population control should give way to an integral part of wide-ranging reproductive health care services, based on realizing women's reproductive rights and gender equity (UNFPA/PATH, 2006). Since then, family planning programmes has been reoriented towards good quality and safety of care, poverty alleviation and economic development(Li, 2004). Integrated family planning services can contribute to clients' well being by providing a wider range of health care services during a single visit, and thus attract more clients and eventually increase contraceptive prevalence (Berer, 2003). Integrated services also have the potential to raise contraceptive prevalence by attracting and offering family planning services to clients—such as men and adolescents—who are reluctant to visit family planning clinics (Dehne & Snow, 1999). From perspective of programme management, Integration can increase efficiency and effectiveness by minimizing duplication in administration and service delivery, by making greater use of existing infrastructure and personnel, and by delivering more services in fewer visits (UNFPA & PATH, 2006).

Providing comprehensive FP/RH services in family planning programmes can improve maternal and child wellbeing. Antenatal visits offer a good opportunity to counsel pregnant women about complications and danger signs, help plan hospital transportation in advance, encourage breastfeeding and discuss postpartum contraceptive method (UNFPA & PATH, 2006). Likewise, Postabortion care should be an integral part of family planning service so that repeated abortion could be averted by providing postabortion treatment and contraceptive counselling during the same visit. This opportunity would otherwise slip away if family planning and postabortion care were provided by different providers, facilities and institutions (UNFPA & PATH, 2006). Women have unwanted pregnancy because of not using contraception or failure of contraception. Through postabortion care, providers can explore the reason why they do not use contraception and why the contraception fails, and thus help women choose an appropriate contraceptive method depending on their clinical condition (Herrick et al., 2004). Since a large section of HIV/STI clients are sexually active and in need of family planning services to prevent unwanted pregnancy and infection of STDs, it is necessary and also possible to add family planning services to HIV/AIDS activities (UNFPA & PATH, 2006). FP providers should routinely assess clients' risk of HIV/STDs as part of the contraceptive decision-making process, and promote use of condom for dual protection (Reynolds et al., 2003).

Integrated services in family planning programme have been observed in China. Data from CP4 suggested FP service sites, in particular township FP services stations, provided a wide range of maternal and child health care to clients. In addition to routine family planning services, gynaecological check-ups, antenatal care, delivery care, and postabortion home visits also became available in FP service sites. Data from CP4 and CP5 showed that integral HIV/AIDS and STI prevention was underpinned in family planning programmes (Table 7), with more FP workers receiving training on STI prevention and treatment (Table 5), and IEC materials and

counselling on STIs being offered to clients (Table 4). In reality, how do FP workers provide STI services to clients in FP service sites? An investigation implemented in seven provinces found that among the 59 county level FP service sites, 58 provided prevention and treatment of reproductive tract infections (RTIs) using special funds from governments. The RTI screening was done during IUD operation and pregnancy examination and most FP service sites had capacity to provide RTI treatment with a small amount of fee charged from patients, otherwise patients would be referred to other health facilities (Dou et al, 2007).

The framework used in this paper contains not only primary elements of quality, but also their impacts on clients' knowledge, satisfaction, contraception use, contraceptive prevalence and TFR. Obviously, improved quality of family planning services will increase clients' level of knowledge, degree of satisfaction, and prevalence of contraception. On the contrary, increased level of knowledge, degree of satisfaction and prevalence of contraception can suggest an enhanced quality of care.

The level of clients' contraceptive knowledge is one of important elements which interlink with the quality of family planning services. Despite that adequate knowledge alone is not enough to promote contraception; it is obvious that limited knowledge and wrong information on contraceptive methods are major barriers to accepting family planning services (Santhya, 2004). On the other hand, how well the contraceptive knowledge is delivered to clients depends on the quality of the family planning programme. By providing counselling, IEC materials, follow-up visits, CP4 and CP5 improved clients' knowledge on contraceptive methods and their possible side-effects, and knowledge on transmitting routes of HIV/AIDS (Table 8, 9, 10). The improve level of relevant knowledge will enhance clients' acceptance of family planning services and help them make correct decision on contraception.

Besides objective standards, reflection of quality encompasses subjective components. Client's degree of satisfaction has been seen as essential to understand the subjective side of quality (Timothy, 2000), because quality of family planning services, for instance, the availability of optional contraceptive methods and relevant knowledge, well trained staff, as well as essential post-operation home visits, strongly influence clients' satisfaction. This linkage between quality and clients' satisfaction has also been suggested in a study done in Malawi (Tavrow, 1997). Data from CP4 and CP5 surveys clearly showed that most women were satisfied with the contraceptive methods they were using (Table 11), suggesting the quality of family planning services delivered was good at least in women's perception.

Restricted choice of contraceptive methods constrains the opportunity of individual couples to obtain a method that suits their needs, resulting in lower levels of contraceptive prevalence (Ross et al., 2002). Therefore, providing a wide range of contraceptive methods for clients to choose is vital for success of family planning programmes. The contraceptive mix (Table 12) summarized in this paper suggests a good availability of various contraceptive methods and, most of all, a general trend is that the use permanent contraception, like female and male sterilization has significantly decreased, while the use of reversible contraception, particularly IUD, condom and oral pills, has increased. Condom has been used by more and more clients, indicating an encouraging tendency due to its dual protection.

Involving men into family planning activities can expand the range of contraceptive options, increase contraception adoption, help prevent HIV/STDs, and attain the goal of gender equity (Wells, 1997). The contraceptive mix, however, mirrors a less male involvement in family planning programmes, considering the low rate of male sterilization and condom use suggested by this paper. Since the low condom use in CP4 and the NFPRHS, the high rate of condom use in CP5 is questionable but no detailed information is available to detect the validity of data and the underlying reasons. In developing countries, family planning is an issue that links closely with gender inequity. In China, family planning has relied mainly on women to use contraception (Liu, 1997). A study conducted in two Chinese provinces suggested that family planning was usually thought by men to be the responsibility of women, and a big barrier to male use of contraception appears to be the overemphasis in the programme advocating for use of female methods and neglect of men's involvement (Gu et al., 2003). Fear of being undermined authority as a family head, worry about harmful side effects and desire for more children may also be possible barriers to engaging men into contraception (Mistik et al., 2003).

Good quality of care can encourage potential family planning clients to choose, adopt and/or continue using contraception (Bertrand et al., 1995). Quality of family planning services affects individual's contraceptive and reproductive behaviour. Receiving high-quality family planning services can promote contraception in persons who are ambivalent about their fertility intentions, persons who do not use services because of perceptions of poor quality and persons who have discontinued use of a contraceptive method because of poor-quality services or discourteous treatment by providers (Ramarao et al., 2003). In addition to empirical evidence, the association between quality of care and contraceptive continuation has been well demonstrated by some field studies. For example, in Bangladesh, a study indicates that women who report receiving a high level of care were 27.0% more likely to adopt contraception in the next 30 months than were those who received medium or low levels of care (Koenig et al., 1997). Similarly, a study conducted in Philippines suggested that quality of care received at the time a women adopted a contraceptive method influenced her contraceptive use at follow-up, and the predicted probabilities of contraceptive use were low for low-equity care (Ramarao et al., 2003).

In the developing world, contraceptive prevalence has risen dramatically over the past forty years, from about 10% of women in 1965 to about 60% (over 80% in East Asia) in 2000 (UNFPA & PATH, 2006). According to the NFPRHS, contraceptive prevalence was around 87.0% in China, which could be the highest in the world. This high level of contraceptive prevalence is largely attributable to the improved quality of family planning services. Some scholars argue that since the mandatory nature of the programme, it is hard to disentangle the motivations for selecting a specific method from the overall pressure to adopt a reliable method (Koffman et al., 1992). This argument was more likely to be true in 1980s and more applicable to women now in their 40s.

As figure 8 suggested, despite an uninterrupted higher level in age group 25-29 and onwards, the contraceptive prevalence in 15-19 age group is considerably low. This situation could be problematic. Coupled with the socioeconomic development, the attitude of young generation towards premarital sex has gradually become open. As a survey conducted among university students showed, 14.0% of interviewees reported

themselves sexually active (Huang et al, 2005). Another study carried out in seven Chinese provinces found that 16.8% of urban women and 12.2% had experienced premarital sexual activities, and the rate of premarital pregnancy increased between 1987 and 1991 (Xu, 1998). On the other side, the knowledge on reproductive health and family planning services which young people are able to access is limited (Gao et al., 1997). Sexual Education has been introduced to schools for many years. However, for those sexually active adolescents, their sex-related knowledge mainly comes from peers or mass media, other than teachers (Zhang et al., 2007). Also, as this paper suggested, as few as 2.5% of women in CP5's endline survey reported that they had been taught contraceptive knowledge in schools (Figure 4). FP service sites are supposed to be key points to offer adolescents reproductive knowledge and services. However, the technical capacity and staff attitude are not always in places. As this paper suggested, many FP workers do not receive any training on adolescent reproductive health (Table 6). A study shows that many FP workers hold an ambivalent attitude towards providing sexual and reproductive health services to unmarried young people (Tu et al, 2004). Apparently, these disadvantages will pose an obstacle that will prevent young people to access knowledge and services that can help them to avoid unwanted pregnancy and infection of STDs.

China's family planning policy depends not only on high prevalence of contraception, but also on induced abortion. Due to long-term contraceptive methods, such as IUD and sterilization, only 25.0% of women of reproductive age have had at least one abortion (Winckler, 2002). Among those abortions, over 30.0% were due to no practice of contraception at all, most of them being unmarried young women (Xiao & Zhao, 1997). The main reasons for induced abortion among married women are contraceptive failure and failing to obtain birth permit from government (Hardee et al., 2004).

The contraceptive failure rate used to be reported high in China (Kaufman, 1993). The 1988 national two-per-thousand fertility survey indicated the first-year failure rate was 19.0% for condom, 10.3% for IUD and 0.7% for female sterilization, which are of relatively higher level compared with other countries (Wang, 2002). For those unintended pregnancies caused by contraceptive failure, induced abortions served as a backup method, or an ultimate remedial approach for contraceptive failure (Wang et al., 2003).

Induced abortion generates adverse impact on health of women, particularly those pregnant women who did not have birth permit. A study conducted in Sichuan demonstrated that maternal mortality among women who had no birth permit was 2.6 times as high as those who had (Ni & Rossignol, 1994). A study in Yunnan suggested that women without birth permit had a significantly reduced chance to receive prenatal examinations, exempt from heavy physical work before birth, and give birth under aseptic conditions (Li, 2004). Economic penalty and other social cost were assumed to be the reasons for the low accessibility of women without birth permit to antenatal care services (Doherty, 2001).

Findings in this paper, however, indicate that the induced abortion ratio, defined as the number of induced abortions per 1,000 live births, has kept going down since the beginning of 1990s (Figure 7). Data from CP4 endline survey showed that compared with the baseline survey, the proportion of women who had not had any abortion

increased, while the proportions of women who had had once, twice or more abortions all shrank (Figure 8). However, to attain a full understanding of the current level of induced abortion, detailed follow-up information needs to be collected, for the reason that the total times of induced abortions a woman has had during her whole reproductive ages is more informative and conclusive than the times of induced abortion a women by now has had.

It can be assumed that the possible reasons for fewer induced abortions may include: 1) The high prevalence of long-term contraception; 2) Reduced failure rate of contraception; and 3) Abolishment of the birth permit system. As suggested by CP4 and CP5, the overall prevalence of contraception is considerably high in China. Unfortunately, no updated data on the national level of contraceptive failure rate is available by now. Wang's study suggested a high contraceptive failure rate (Wang, 2002). Nevertheless, the data used in his study were collected in 1988, and thus his conclusions are unable to reflect the present situation.

It was announced in 2002 that couples were no longer required to obtain the birth permit for their first child (Hesketh, 2005). Actually, advocating for abolishing the birth permit system was one of several project goals of the CP4. The final report of the CP4 said that all the 32 project counties had abolished the birth permit system since 1999.

Conclusion and Recommendation

In conclusion, following the global trend to stress the quality of care in family planning programmes, China has changed the direction of its population control policy, even though the fundamental goal of the policy remains the same. The government tends to have a sluggishly growing population through providing good-quality family planning services to clients and thereby to increase the prevalence of contraception, other than through ruthless fining and economic sanction. This ideological shift has been translated into improved quality since 1990s. By reviewing data from CP4 and CP5, this paper clearly shows that the quality of family planning services has been improved in following aspects:

1. Most of women choose their preferred contraceptive methods via self-decision or discussion with their husbands.
2. Information has been provided to most clients through counselling before and after adoption of contraception, and counselling and IEC materials are available in most FP service sites. Most FP workers have received training not only on contraceptive methods, but also on STD prevention and prenatal care.
3. The level of knowledge on contraception and reproductive health among women has been substantially improved. Most women are aware of possible side-effects of the methods they are using. FP workers have become the major source of knowledge.
4. Relevant primary health cares, including antenatal and postnatal health care, delivery care and STD prevention, have been integrated with the family planning services.
5. Most women give their births in medical facilities. Postnatal home visits are available for most women.

Despite the improved quality of family planning services since 1990s, there are some issues needing to be addressed in future endeavours:

1. Women should be further empowered so that they can really make decision on contraceptive methods. Today, fewer decisions on contraceptive methods are made by FP workers and most decisions are made by couples. However, it is unclear how well women's opinion is respected by their partners during the process of discussion. The issue of gender inequality and inequity should be considered and addressed in family planning programmes. Men needs to been thought as clients, partners and also agents in family planning campaign, since they generally control most social and economic power in families and communities. Tailored FP/RH knowledge and services should be available for male clients.
2. Findings suggest that almost all family planning service sites provide clients counselling and IEC materials about contraceptive methods. However, there are still over half of women reporting unawareness of possible side-effects of the methods they are using. This inconsistency implies an inefficient delivery of contraceptive knowledge from FP workers to clients. In rural communities, communication on

contraceptive knowledge between FP service providers and women is a demanding work because of the fact that most rural women are not well educated, and most FP service providers have not received specific training on explaining complex medical issues with plain and understandable language. IEC materials also could make a difference if target audiences were illiterate. Initiative approaches should be conceived so that information given to clients is easily understandable and rememberable. Training on FP service providers should be strengthened and IEC materials should be contextualized. Plus, providing counselling should not be a once-for-all work. Instead, it should be given to clients repeatedly in each clinic visit or home visit.

3. Expanding services which clients can acquire in family planning programmes has become a consensus. However, some risks should be carefully assessed. Firstly, expanded service of services will increase the work load of FP workers and be likely to worsen the quality of care. Secondly, expanded services will require more FP workers to be employed, and/or FP workers to be trained on new knowledge. This is sometimes an impossible task in areas with limited human resources. Thirdly, once a FP service sites provides various health care services to clients, it must guarantee good quality of all these services, otherwise clients' trust to the clinic will shake and they will hesitate to seek family planning services there. In China, the family planning services are provided by an independent system. Expanding the services provided by family planning programmes tends to create an overlapping between the different systems and leads to an incomplete utilization of existing resource. For FP service sites, benefit and risk of expanding the contents of services should be carefully assessed. Forming good cooperation between FP service sites, general hospitals, and maternal & child hospitals is essential for health facilities to utilize the existing recourses to the fullest. A well functioning referral system should be built so that one client can be referred to appropriate service providers in case administrating his/her condition is out the capacity of the first point of contact.

5. The coverage of FP service should be extended to reach adolescents and unmarried young people, particularly those out of school and in migration. Services for young people should be comprehensive, youth friendly and of good quality. Since most young people are students or migrant workers, FP/RH services for them should not only be limited to clinics, and outreach services should be available at schools or communities. Building a partnership involving family, community, school, youth organization, FP services sites and other sectors will create an enabling environment which is crucial for adolescents to overcome the fear of stigma and discrimination that may retard them to seek services in case of need.

6. A national monitor and evaluation system for quality control of care should be built. Establishing a monitor and evaluation system which is similar to the sentinel surveillance system in HIV/AIDS prevention programmes could be a feasible option for the sake of limited resource. Data collection and analysis should be done on regular basis and standardized questionnaires and unified indicators should be used to make sure results from different areas and different periods are comparable.

References

- All China Women's Federation (ACWF), 2001, *Report on the Second Social Status of Women in China*, Women's Studies Institute of China: Beijing.
- Attane, I., 2002. China's family planning policy: an overview of its past and future. *Studies in family planning*, 33 (1), p.103-113.
- Berer, M., 2003. Integration of sexual and reproductive health services: a health sector priority. *Reproductive Health Matters*, 11(21): p.6-15.
- Bertrand, J.T., Magnan, R.J. & Ruterberg, N., 1994. *Handbook of Indicators for Family Planning Programme Evaluation*. Chapel Hill, North Carolina: Carolina Population Centre, MEASUREE Evaluation Project, University of North Carolina.
- Bertrand, J.T., Hardee, K., Magnani, R.J. & Angle, M.A., 1995. Access, quality of care and medical barriers in family planning programmes. *International Family Planning Perspectives*, 21(2), p.64-69.
- Bruce, J., 1990. Fundamental elements of the quality of care: a simple framework. *Studies in Family Planning*, 21(2), p.61-91.
- Campbell, C. D., Wang, F. & Lee, J.Z., 2002. Pretransitional fertility in China. *Population and Development Review*, 28(4), p.735-750.
- Cheng, Y. et al., 1997. Contraceptive practices of women requesting termination of pregnancy: A study from China. *Contraceptive*, 55(1), p.15-17.
- Chinese State Council, 2005. Gender equity and women's development in China. Available at: <http://www.lawinfochina.com/Wbk/display.asp?id=48&keyword> [Accessed 18 August 2008].
- Cotton, N. et al., 1992. Early discontinuation of contraceptive use in Niger and the Gambia. *International Family planning perspectives*, 18(4), p.145-149.
- Blumenthal, D. & Hsiao, W., 2005. Privatization and Its Discontents-The evolving Chinese Health Care System. *The New England Journal of Medicine*, 353 (11), p. 1165-1170.
- DFID China, 2003. Gender equity and poverty reduction in China: issues for development policy and practice. Available at: www.dfid.gov.uk/pubs/files/gender-equality-china.pdf [Accessed 19 August 2008]
- Dehne, K. & Snow, R., 1999. Integrating STI management into family planning services: what are the benefits? Geneva: World Health Organization. Available at www.who.int/reproductive-health/publications/integrating_stis_into_fp_services [Accessed 28 July 2008]

- Doherty, J. P., Norton, E.C., & Veney, J.E., 2001. China's one-child policy: the economic choices and consequences faced by pregnant women. *Social Science & Medicine*, 52, p.745-761.
- Dou, L., Yuan, W., Peng, Meng. & Gao, E., 2007. Current Situation of the Integration of RTIs prevention and treatment into routine FP programme. *Journal of reproductive & Contraception*, 18(2), p.102-109.
- Foreit, J. R. & Frejka, T., 1998). *Family Operation Research-A Book For Readings*. New York: Population Council.
- Gao, E., Tu, X. & Yuan, W., 1997. Factors influencing premarital contraceptive use at time of first intercourse among women in Shanghai. *Chinese Population Science*, 61(4): 57-64.
- Gu, B., Xie, Z. & Hardee, K., 2003. The effect of family planning on women's life: The case of the People's Republic of China. *International Family Planning Perspectives*, 30(2), p.68-76. Available at: <http://www.guttmacher.org /pubs /journals /3006804.html>[Accessed 17 August 2008].
- Gu, B., Simmons, R. & Szatkowski, D., 2002. *Offering a choice of contraceptive methods in Daqing county, China: changing practice in the family planning programme since 1995*. In N. H. Measham (Ed.). New York: Population Council.
- Hare, D., 1999. Women's economic status in rural China: Household contributions to male-female disparities in the wage-labour market. *World Development*, 6(27), p. 1011-1029.
- Hardee, K., Xie, Z. & Gu, B., 2004. Family planning and women's lives in rural China. *International Family Perspective*, 30, p.68-76.
- Herrick, J., Turner, K., McInerney, T. & Castleman, L., 2004. *Women-centred Postabortion Care: Reference Manual*. Chapel Hill, NC.
- Hesketh, T. & Zhu, W., 2004. Health in China: the healthcare market. *British Medical Journal*, 314, p.1616-1618.
- Hesketh, T., Li, L. & Zhu, W., 2005. The effect of China's one-child family policy after 25 years. *New England Journal of Medicine*, 353(11), p. 1171-1176.
- Hemminki, E., Wu, Z., Cao, G. & Viisainen, K., 2005. Illegal births and legal abortions – The Case of China. *Reproductive Health*, 2(5). Available at: www.reproductive-health-journal.com/content/2/1/5[Accessed 03 August 2008].
- Huang, J. et al., 2005. Knowledge, attitude, behaviours, and perceptions of risk related to HIV/AIDS among Chinese University students in Hunan, China. *AIDS Patient Care and STDs*, 11(19), p.769-777.
- Hubacher, D. et al., 1999. The costs and benefits of IUD follow-up visits in the Mexican Social Security Institute. *International Family Planning Perspectives*. 25(1), p.21-26.

Huntington, D., Cheryl, L. & Isacc O.Q, 1999. User's perspective of counselling training in Ghana: The mystery client trail. *Studies in Family Planning*. 21(3), p.171-177.

Jones, G.& Leete, R., 2002. Asia's family planning programmes as low fertility is attained. *Studies in Family Planning*, 33(1), p.114-126.

Kaufman, J., 1993. The cost of IUD failure in China. *Studies in Family Planning*, 24, p.194-196.

Keller, A.B., 1973. Patient attrition in five Mexico City family planning clinics. *Clinics, Contraception and Communication*. Edited by J. M. Stycos. Des Moines, Meredith Corporation, New York, Appleton-Century-Crofts. p. 25-50

Kim, Y.M., et al., 1992. Improving the quality of service delivery in Nigeria. *Studies in Family Planning*. 23(2), p.118-127.

Koenig, M.A., Hossain, M.B., & Whittaker, M., 1997. The influence of quality of care upon contraceptive use in rural Bangladesh. *Studies in Family Planning*, 28(4), p.278-289.

Koffman, J., Zhang, Z., Qiao, X. & Zhang, Y., 1992. The quality of Family planning services in Rural China. *Studies in Family Planning*, 23(2), p.73-84.

Lei, Z-W. et al., 1996. Effect of pretreatment counselling on discontinuation rates in Chinese women give depot-medroxyprogesterone acetate for contraception. *Contraception*, 53(6), p.357-361.

Li, J., 2004. Gender inequity, family planning and maternal and child care in a rural Chinese county. *Social Science and Medicine*, 59, p.695-708.

Li V.C. et al. . (1990). Characteristics of women having abortion in China. *Social Science and Medicine* , 31 (4), 445-453.

Liu, Y., 1997. Male participation and sharing of responsibility in family planning. 23rd IUSSP General Population Conference Symposium on Demography of China. Beijing, China. P.523-535.

Liu, Y., 2004. China's public health-care system:facing the challenges. *The World Health Organisation*, 82, p.532-538.

Li, Y., 2005. The Challenges of Aging toward Chinese Society. *Public Administration and Management: An Interactive Journal*, 3 (10), p.25-45.

Liu, Y. & Chang, Y., 2001. The quality of family planning technical services and evaluation in rural China. *Chinese Journal of Family Planning*. (1), p. 33-38.

Liu, Y., Rao, K. & Hsiao W.C., 2003. Medical spending and rural impoverishment. *Journal of Health Population Nutrition*, 21, p. 16-222.

- Liu, Z., 1982. *China's Population*. Beijing: People's Publishing House.
- Luo, G., 2005. Effects of rural-urban migration on rural female worker: A case study of Chinese rural women. Paper for NACS Conference. Helsinki, Finland.
- MEASURE & USAID, 2001. *Quick Investigation of Quality(QIQ)-A User's Guide for Monitoring Quality of Care in Family Planning*. Chapel Hill: Carolina Population Center.
- Mistik, S., Nacar, M., Mazicioglu, M. & Cetinkaya, F., 2003. Married men's opinions and involvement regarding family planning in rural areas. *Contraception*, 63, p.133-137.
- National Bureau of Statistics, 2001. Available at: www.stats.gov.cn/tjgb/rkpcgb/qgrkpcgb/t20020331_15434.htm [Accessed 24 July 2008].
- National Bureau of Statistics, 2006. Available at: National Bureau of Statistics, 2001. Available at: www.stats.gov.cn/tjgb/rkpcgb/qgrkpcgb/t20020331_15434.htm [Accessed 24 July 2008].
- Ni, H. & Rossignol, A.M., 1994. Maternal deaths among women with pregnancies outside of family planning in Sichuan, China. *Epidemiology*, 5(5), p.490-494.
- Pariani, S., Heer, D. & Van A.M.D., 1991. Does choice make a difference to contraceptive use? Evidence from East Java. *Studies in Family planning*, 22(6), p.384-390.
- Pearson, V., 1995. Goods in which one loses: women and mental health in China. *Social Science and Medicine*, 8(41), p.1159-1173.
- Peng, P., 2002. Speech at the 2002 International parliamentarians' Conference on the Implementation of the ICPD of Actoin. Ottawa.
- Peng, X., 1991. *Demographic Transition in China*. Oxford: Clarendon Press.
- Programme of action of the UNICPD, 1994. Retrieved 06 09, 2008, from Linkages-a multimedia resource for enviroment and development policy makers: <http://www.iisd.ca/Cairo/program/p07007.html>
- Programme of action of the UNICPD, 1994. Available at: <http://www.iisd.ca/Cairo/program/p07007.html> [Accessed 3 August 2008].
- Ramarao, S. & Mohanam, R., 2003. The quality of family planning programmes concepts, measurements, interventions and effects. *Studies in Family Planning*, 34 (4), p.227-248.
- Ramarao, S. et al., 2003. The link between quality of care and reproductive use. *International Family Planning Perspectives*, 29(2), p.76-83.
- Ravallion, M. & Chen, S., 2004. Understanding China's (uneven) progress against poverty. *Finance & Development*, 12, p.16-19.

Reynolds, H.W., Liku, J. & Maggawa, B.N., 2003. Assessment of Voluntary Counselling and Testing centers in Kenya: Potential Demand, Acceptability, Readiness, and Feasibility of Integrating Family Planning Services into VCT, [online]. Available at: <http://www.fhi.org/NR/rdonlyres/ejivv3for717jqn72iryuasfxomv5kcfdikzh5v5bdqn7mt32lobzfmq5lokjksuiqpw27mvd6ctvl/VCTFPFinalReport.pdf> [accessed 28 July 2008].

Riley, N. E., 2004. China's population: new trends and challenges. *Population Bulletin*, 59 (2), p.1-36.

Robinson, W.C. & Ross, J.A., 2007. *The global family planning revolution: three decades of population policies and programmes*. Washington, D.C.: World Bank.

Ross, J., Kardee, K., Mumford, E. & Eid S., 2002. Contraceptive method choice in developing countries. *International Family Planning Perspectives*, 28(1), p.32-40.

Santhya, K.G., 2004. Available at: <http://www.searo.who.int/en/Section1243/Section1310/Section1343/Section1344/Section1836/Section1838.htm> [accessed 12 August 2008].

Shi, L., Family planning policy and socioeconomic factors affecting fertility in China. POPLINE. Available at: <http://www.popline.org/docs/0042/073087.html> [Accessed 17 August 2008].

State Family Planning Commission, 1998. Country Report to review its Implementation of the ICPD Programme of Action. Available at: http://www.unescap.org/esid/psis/population/database/poplaws/law_china/ch_record013.htm [Accessed 18 August 2008]

Sullivan, T. M & Bertrand, J.T., 2000. *Monitoring Quality of Care in Family Planning by the Quick Investigation of Quality (QIQ): Country Reports*. Chapel Hill: Carolina Population Center.

Sun, X., 2000. The impact of national family planning programme on the quality of care in China. *Journal of Health Management*, 2 (1), p.1-39.

Tavrow, P.A., 1997. The determinants of client satisfaction with family planning services in developing countries: three essays. A dissertation [Unpublished]: 122-182.

Thomas, N. & Price, N., 1996. The evolution of population policy in rural China. *Health Policy and Planning*, 11 (1), p.21-29.

Timothy, W., Jessie, S. & Yvette, C., 2000. Measuring family planning service quality through client satisfaction exit interviews. *International Family Planning Perspective*. 26(2), p.63-71.

Tu, X., Cui, N., Lou, C. & Gao, E., 2004. Do family-planning workers in China support provision of sexual and reproductive health services to unmarried young people? *Bulletin of the World Health Organization*, 82(4), p.274-280.

Tuan, C.H., 1989. The planned birth policies of China. *Fertility Policies of Asian Countries*, p.53-98. London: Sage Publications.

UNFPA & PATH, 2006. Meeting the need: Strengthening family planning programmes.

Upadhyay, U.D., 2001 Informed choice in family planning: helping people decide. *Population Reports, Series No. 50*. Baltimore: Johns Hopkins School of Public Health, Population Information Program. Available at: <http://www.infoforhealth.org/pr/j50edsum.shtml> [Accessed 28 July 2008].
United Nations, 2000. World Population Prospects.

Wang, D., 2002. Contraceptive failure in China. *Contraception*, 66, p.173-178.

Wang, D., Yan, H. & Feng, Z., 2003. Abortion as a backup method for contraceptive failure in China. *Journal of Biosocial Science*, 36, p. 279-287.

Wang, F., 2005. Can China afford to continue its one-child policy? *Asian Pacific Issues-Analysis from the East-West Centre*, 77, p.1-12.

Wang, Y., 1999. A preliminary comparative study on relationship between marriage behaviour and population development in China and in Western Europe: Research on the traditional societies since the middle ages. *Sociology Study (In Chinese)*, (1); 78-87.

Wells, E., 1997. Involving men in reproductive health. *Outlook*, 14(3), p.1-7. Available at: www.path.org/publications/pub.php?id=363 [Accessed August 17 2008]

Winckler, E.A., 2002. Chinese reproductive policy at the turn of the millennium: dynamic stability. *Population Development Review*, 28 (3), p.379-418.

Wikikoff, B., Mensch, B. & Measham, D., 1994. Postpartum care and family planning services. In: *Reproductive health approach to family planning. Presentations from a panel held on Professional Development Day at the USAID Cooperating Agencies Meeting*. Washington, D.C. Compiled by Population Council. New York.

Woo, J., Kwok, T., Sze, F. & Yuan, H., 2002. Aging in China: health and social consequences and responses. *International Journal of Epidemiology*, 31, p.772-775.

Xiao, B. & Zhao B., 1997. Current practice of family planning in China. *International Journal of Gynaecology & Obstetrics*, 58, p.59-67.

Xinhua News Agency, 2007. Available at: <http://www1.china.org.cn/english/government/213331.htm> [Accessed 06 July 2008].

Xu, L., 1998. Trends, outcomes and influences of premarital pregnancy in seven Chinese provinces. *Population Studies*, 21(1): 51-54.

Yao, X. & Yin H., 1994. *Basic Data of China's Population*. Beijing: China Population Publishing House.

Yan, H., 2007. *Rethinking of China's population policy in line with the change in China's development strategy*. Intertional working paper of the Irmgard Coninx Foundaton. Berlin: Humboldt-University.

Zhang, L., Li, X. & Shah, H., 2007. Where do Chinese adolescents obtain knowledge of sex? Implications for sex education in China. *Health Education*, 4(107), p. 351-363.

Zhang, Y., 1999. Speech at the Hague Forum. Hague Forum. The Hague.

Zhu, W., 2003. The One-child Policy. Available at: <http://adc.bmj.com/cgi/content/extract/88/6/463> [Accessed 06 July 2008].