

From the Department of Nursing, Department of Obstetrics and Gynecology
Makerere University College of Health Sciences, Kampala, Uganda

And

The Division of Global Health (IHCAR), Department of Public Health
Sciences, Karolinska Institutet, Stockholm, Sweden

CONTRACEPTIVE USE AMONG YOUNG PEOPLE IN UGANDA
Exploration of obstacles, enablers, and quality of services

Gorrette Kayondo Nalwadda



Makerere University



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To my daughter Ashley Catherine Nagawa

And to my dear parents Joseph B Kayondo (RIP) and Agnes Nalule Kayondo (RIP), in
memory of the love, care and trust

ABSTRACT

Background: Unsafe abortions, a life shortening condition leading to untimely deaths of young women in low income countries, are a public health concern. The bio-social gap, which is the period between menarche and marriage has widened, thus the time young women/men need contraception has increased. High rates of teen pregnancy, unintended birth, unsafely induced abortions and associated mortality among young women, is attributed to low contraceptive use. Paradoxically, awareness about contraception is high. It is not understood why young people are not using contraceptives, hence this study.

Aim: To explore and analyze obstacles and enablers to contraceptive use and quality of services provided to young people aged 15-24 in two districts in Uganda, in order to increase knowledge about why contraceptives are not used and identify areas for improvement. **Methods:** The studies were carried out among young people 15-24 years and health care providers at public, private not for profit (PNFP), and private for profit (PFP) contraceptive delivery points. Quantitative and qualitative approaches were used. Focus group discussions (FGDs) were used to explore young peoples' views about obstacles and enabling factors to contraceptive use (study I). Semi-structured questionnaires were used to guide face-face interviews with health care providers to determine factors influencing contraceptive use and provision (Study II). Simulated client methodology was used to assess the quality of contraceptive services and clients experiences of contraceptive care (Study III and IV). Descriptive statistics (II, IV), inferential statistics (II, IV) and factor analysis (III) were performed. Qualitative data were analyzed using content analysis (I) and thematic analysis (IV).

Results: Young men and women described multiple obstacles to contraceptive use, which were categorized as misconceptions and fears related to contraception, gender power relations, socio-cultural expectations and contradictions, short term planning, and health service barriers (I). Additionally, young people recounted several enabling factors that included female strategies to overcome obstacles, changing perceptions and attitude towards contraceptive use and smaller family size (I). Contraceptive use and provision to young people were constrained by sporadic contraceptive stocks, poor service organization, limited number of trained personnel, high costs, and unfriendly service. Most providers were not competent enough to provide long-acting methods. There were significant differences in providers' self-rated competence by facility type. Private for-profit providers' competence was limited for most contraceptives. Providers had misconceptions about contraceptives, they had negative attitudes towards the provision of contraceptives to young people, and they imposed non-evidence-based age restrictions and consent requirements. Thus, most providers were not prepared or were hesitant to give young people contraceptives. Short-acting methods were, however, considered acceptable for young married women and those with children (II). Means and categorized quality scores for all aspects of quality were low in both public and private facilities. The lowest quality scores were observed in PFP, and medium scores in PNFP facilities. The choice of contraceptive methods and interpersonal relations quality scores were slightly higher in public facilities. Needs assessments scores were highest in PNFP facilities. All facilities were classified as having low scores for appropriate constellation of services. Information given to users was suboptimal and providers promoted specific contraceptive methods. A minority of providers offered young people their preferred method of choice and a minority showed respect for privacy (III, IV). Both qualitative and quantitative results highlighted favorable reception, provider bias, and low client satisfaction. Two thirds of the providers choose a contraceptive method for the client. The clients reported satisfaction with contraceptive services in 29 percent of the consultations. Privacy was reported to be observed in 42 percent and clients felt respectfully treated in 50 percent of the consultations (IV).

Conclusion: Our findings suggest changing perceptions and attitudes in favor of contraceptive use and smaller family size although obstacles still exist (I). Provider, client, and health system factors restricted contraceptive provision and use for young people (II). The quality of contraceptive services provided to young people was low (III). Young people were not able to exercise their rights to choose, obtain and use contraceptives when needed. Overall satisfaction with the services was low and client- provider interactions were often unfavorable (IV).

Implications: Reducing obstacles and reinforcing enabling factors through education, culturally sensitive behavior change strategies have the potential to enhance contraceptives use. Alternative models of contraceptive service delivery to young people are needed. Contraceptive use prospects are dependent on provider behavior. Concurrent quality improvements and strengthening of health systems are needed.

Keywords: Contraceptive use, young people, fertility, service provision, quality of care, Uganda

LIST OF PUBLICATIONS

- I. **Nalwadda G**, Mirembe F, Byamugisha J, Faxelid E. Persistent high fertility in Uganda: young people recount obstacles and enabling factors to use of contraceptives. *BMC Public Health*. 2010; *10(1)*: 530.

- II **Nalwadda G**, Mirembe F, Tumwesigye NM, Byamugisha J, Faxelid E. Constraints and prospects for contraceptive service provision to young people in Uganda: providers' perspectives. *BMC Health Services Research*. 2011; *11*:220.

- III **Nalwadda G**, Tumwesigye NM, Faxelid E, Byamugisha J, Mirembe F. Quality of care in contraceptive services provided to young people in two Ugandan districts: a simulated client study. *PLoS ONE* 2011, *6(11)*.

- IV **Nalwadda G**, Mirembe F, Byamugisha J, Tumwesigye NM, Faxelid E. Young peoples' interface with providers of contraceptive care in two Ugandan districts *Manuscript*

Articles will be referred to in the text by their Roman numerals (I-IV).

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LIST OF ABBREVIATIONS

AIDS	Acquired Immune Deficiency Syndrome
CPR	Contraceptive prevalence rate
FAM	Fertility awareness methods
FP	Family Planning
GDP	Gross Domestic Product
HC	Health Center
HIV	Human Immunodeficiency Virus
HSD	Health Sub District
IMR	Infant Mortality Rate
IUD	Intra Uterine device
LAM	Lactation Amenorrhea
MMR	Maternal Mortality Ratio
MOH	Ministry of Health
NGO	Non-Governmental Organization
PFP	Private for profit
POPSEC	Population Secretariat
PNFP	Private not for profit
PRB	Population Reference Bureau
RH	Reproductive Health
STI	Sexually Transmitted Infection
SRHR	Sexual Reproductive Health and Rights
TFR	Total Fertility Rate
UBOS	Uganda Bureau of Statistics
UDHS	Uganda Demographic and Health Survey
UNDP	United Nations Development Fund
UNFPA	United Nations Population Fund
WHO	World Health Organization

DEFINITIONS

Adolescents are persons aged between 10-19 years [2].

Contraception is defined to include the following methods of contraception: oral hormonal pills, the intra-uterine device (IUD), the male condom, progestin-only injections, the implant, vaginal barrier methods, the female condom, emergency contraception, female and male sterilization, and traditional methods such as fertility awareness methods [3].

Contraceptive prevalence rate refers to the proportion of population of childbearing age (15-49) that is currently using either a modern or a traditional contraceptive method.

Contraceptive prevalence is the percentage of women who are currently using, or whose sexual partner is currently using, at least one method of contraception. It is usually reported for married or in union women aged 15 to 49. A union involves a man and a woman regularly cohabiting in a marriage-like relationship [4].

Family planning implies the ability of individuals and couples to anticipate and attain their required number of children, spacing and timing their births

Simulated client is a data collector posing as a client [5]

Total fertility Rate is the expected average number of children that would be born to a woman in her lifetime, if during the course of her childbearing years, she were to experience the age-specific fertility rates prevailing in a given year or period, for a given country or other specified area [6].

Traditional methods of contraception include rhythm (periodic abstinence), withdrawal, prolonged abstinence, breastfeeding, douching, lactation amenorrhea method and folk methods.

Unintended pregnancies is defined as one that the woman would have preferred to have at another time (mistimed) or would not have wanted at any time (unwanted) [7].

Unmet need for contraception is when a woman has an unmet need for contraception if she is married, in a consensual union, or never-married and sexually active; is able to become pregnant; does not want to have a child in the next two years or wants to stop childbearing; and is not using any method of contraception, either modern or traditional [8].

Young people are persons aged between 15-24 years [2].

Youths are persons who are aged 18 to 30 years [2].

PREFACE

I am a nurse/midwife. I started appreciating the reality of sexual reproductive health and rights (SRHR) problems of young people when I worked for SRHR initiative in Makerere, Department of Women and Gender Studies as a counselor. I quickly fitted well and identified with both male and female young people. Their problems were overwhelming and yet preventable including past experiences of crude abortions, infections such as Sexually Transmitted Infections (STI) including HIV, sexual exploitation, and fertility concerns.

In July 2003 I was sponsored by the Department of Women and Gender Studies to attend a course in advocacy for adolescent SRHR. This further opened my eyes to the reality of fertility, sexuality and contraceptive needs of young people and how we can help. I and my friends conceptualized a center for youth friendly SRHR. We developed an information kit for young people but funding was not forthcoming. During this work we identified areas for further research to better understand the problems of young people. At that time I was pursuing a master's degree in Population and Reproductive health, and my thesis focused on "Perceptions and attitudes of young people towards fertility regulation in six universities in Uganda". The results were astonishing. Towards the end of the master's program, I had an opportunity for a fellowship in bioethics and research ethics and was enthusiastic on ethical issues surrounding reproductive health. When I was contacted by Prof. Florence Mirembe and later on Prof. Elisabeth Faxelid about the opportunity of doing a PhD in MU/KI collaboration I considered advancing research in the area of contraception among young people to further understand and build on research evidence for policies and programming in Uganda.

1. INTRODUCTION

Half of the world's population of seven billion people is in or entering their reproductive years, consequently there is tremendous need for contraceptive use [9,10]. Forty percent of all pregnancy-related deaths occur in sub-Saharan Africa, where only ten percent of the world's women live [11]. Unsafe abortions is common despite being a life shortening condition leading to untimely deaths in young women in low income countries [12]. Approximately 30,000 African women die each year from unsafe abortion, reflecting a huge need for effective contraception [13,14].

Adopting use of contraceptives could reduce maternal deaths due to unwanted pregnancy by 25 to 40 percent, and also reduce abortions and HIV/AIDS [15,16]. Further, contraceptive use would reduce poverty by contributing to women's empowerment and increasing their chances to continue higher education, specifically in countries with high birth rates [17]. Therefore, delaying the onset of child birth and adopting a smaller family norm improves the health of women and their children and allow families to make investments for a better future [18,19]. Health birth timing and spacing are linked to better pregnancy outcome, and increase child and maternal survival [20,21]. Hence, use of contraceptives can help young women avoid health risks associated with teenage pregnancies, in addition to the social and economic aftermath of early childbearing [3,16].

Contraceptive services, which include counseling, information, education, method delivery and follow up, should be available to both men and women including adolescents [22]. A variety of modern contraceptive methods exist including copper intra-uterine device (IUDs), hormonal contraceptives (oral pills, injectables, combined patch, vaginal rings, levonorgestrel IUDs, and sub-dermal implants) , male and female sterilization, barrier methods including the male and female condom, diaphragms, spermicides and cervical caps [3]. Traditional methods include lactation amenorrhea method (LAM), fertility awareness methods (FAM) such as standard days method, cervical mucus method and basal body temperature, as well as withdrawal [3]. Emergency contraception pills contain the same hormones as oral contraceptives. Though not intended to be used as a regular family planning method, it is used after unprotected sex to avoid pregnancy [3,16].

1.1 Contraceptive use in a global perspective

Contraceptive use indicators including contraceptive prevalence rate, method mix, and satisfied demand are increasing in many countries [23,24]. Progress of such indicators is antecedent of fertility decline [25]. Worldwide contraceptive prevalence has risen

steadily from 54 per cent in 1990 to 70 per cent in 2010 [8,26,27]. Whereas use of contraceptives has increased in many countries, most sub-Saharan Africa countries have not reported progress [8,28]. On the contrary the pace of increase of contraceptive use has slowed down in sub-Saharan Africa [29]. Cultural resistance to acceptance of contraception still exists in many African countries [25]. However, in countries such as Botswana, Kenya, Zimbabwe, and southern Nigeria fertility decline has been documented, which points towards weakening traditional support for high fertility [30].

To date nearly one-third of women lack access to modern contraception worldwide [21], despite the fact that contraception is one of the most effective approaches to achieve the Millennium Development Goals (MDGs) four and five that aim at reducing childhood mortality, improving maternal health and reducing unintended pregnancy [11]. Annually, 342,900 deaths occur from complications of pregnancy and child birth [31], 99 percent of this take place in low-income countries [21,22]. It is worth to note that 70,000 of these deaths are due to unsafely induced abortion following unintended pregnancy [21]. It is believed that health and social consequences of unwanted fertility would be minimized if existing contraceptive technologies were broadly available, accessible, affordable and acceptable to a wider range of people in need of contraception [32].

It has been proposed that the greatest demand for contraceptives in Africa will come from young married women who wish to space their children, unlike the pattern in Europe and Asia where the demand come from older women who wish to limit or cease family building [29,30,33]. Accordingly, the actions young people take to regulate their fertility will determine the size and wellbeing of the future population.

1.2 Ugandan demographic and health situation

Uganda is classified as one of the 49 poorest countries, and it's population growth is one of the highest in the world, at 3.4 percent [4]. In 2011, the population was estimated to be 34.5 million [10], and the bottom of the population pyramid is also getting larger. Uganda has the second youngest population in the world. Nearly 52 percent of its inhabitants are under the age of 15, and 78 percent are under 30 years of age [26]. The age group 15-24 years is estimated to constitute 20 percent of the population [34]. There are big challenges such as high unemployment rate (80%) among the 15-24 years old [34]. Life expectancy at birth in Uganda is 49 years for men and 51 years for women. Uganda has the third most rural population in the world, with 87 percent of the inhabitants residing in rural areas [26]. Noteworthy, about 65 percent of the Ugandan population are living on less than \$US2 per day [10], and 31 percent

are below the poverty line [35]. Poverty and low literacy rate (69%) are key underlying causes of poor health [1], particularly among young people with limited resources.

Maternal and child health conditions account for 20.4 percent of the total burden of disease in Uganda [36]. In 2002, the proportion of government expenditure on health was 2.2 percent of the Gross Domestic Product (GDP) [37], increasing to 8.2 percent by 2009 [1]. There is shortage of human resource for health, for example the doctor-patient ratio is 1 to 18,600 and nurse-patient ratio is 1 to 7700 [26,34]. These gaps in health work force coupled with inequitable distribution by geographical location and service delivery need, may contribute to the poor reproductive health indicators in Uganda [1].

1.2.1 Reproductive health indicators in Uganda

Although the reproductive health indicators (Table 1) have been improving in the last 15 years, indicators remain at unsatisfactory levels. For example, maternal mortality that was 527/100,000 live births in 1991 reduced to 435/100,000 live births in 2006 [38,39], which is still very high. While the decline might be attributed to the decline in poverty levels and improved access to antenatal services [1], the high mortality ratio is considered to be related to low contraceptive use and low coverage of skilled attendance at birth in the country [38]. Notwithstanding the apparent improvements, the indicators are still below the world wide averages [40]. Despite an observed decline, HIV/AIDS continues to be a burden in the general population, with a current HIV prevalence of 6.4 percent among adults [41,42]. However, these national average figures conceal the inequalities across the country, between rural and urban as well as between the rich and the poor [41]. For instance 80 percent of births are attended by skilled personnel in urban areas compared to 37 percent in the rural areas [38].

It is important to note that the demographic health survey of 2000/1, included Lactation Amenorrhea Method (LAM) as a modern contraceptive method (Table 1), if excluded the proportion of women who reported using modern contraceptives would drop to 14 percent [43]. LAM was excluded in the 2006 survey [38], but it is not clear if it was included as a traditional method in previous surveys [43].

Table 1: Trends in reproductive health indicators in Uganda

Indicator	1991	1995	2000/1	2006/7
Total population (million)	16.7	19.3	24.4*	28.4
TFR (birth per woman)	7.1	6.9	6.9	6.7
Teenage pregnancy (%)	-	43	31	25
Infant mortality rate (%)	122	81	88	76
Maternal mortality ratio/100,000 LB	527	506	505	435
Births attended by skilled health personnel (%)	38	38	38	41
HIV prevalence rate (%)	30	15	6.1	6.4
<i>Contraception</i>				
Contraceptive prevalence rate-any method (%)	5	15	23	24
Use of a modern method	2.5	7.8	18.2	18.0
Unmet need for FP (%)	52	29	35	41

LB- Live Birth, FP- Family planning, TFR – total fertility rate. Source: State of Uganda Population Report, 2007 [35] and Uganda Demographic Health Surveys [38,39,44], * Population according to 2002 census [37]

1.3 Contraceptive use pattern in Uganda

Family planning services have been implemented in Uganda for nearly 60 years. Initially the services were run by urban based Non-Government Organizations (NGOs) and restricted to married women, either accompanied by the spouse or provided with a written document to confirm spousal acceptance [43]. Efforts to reduce unmet need and nationwide introduction of contraceptive services in public health units started subsequent to the national population policy, which was adopted only after the international conference on population and development in 1994 [39]. Later, the gender policy supporting reproductive health issues was developed [45]. In general, government support to family planning has been limited and also contraceptive supplies have been insufficient, particularly in rural areas [43]. Regardless of limited government support to information and contraceptive supplies, awareness of contraceptive methods is almost universal at 98 percent [38]. The HIV/AIDS epidemic led to increased acceptance of condom use and open discussion of sexual matters [46]. Paradoxically, knowledge about contraceptives has not been translated into contraceptive use [47]. It is, however, worth mentioning that the knowledge about contraceptives reported from demographic health surveys is based on one single question, whether one has ever heard of contraceptive methods [38], which may be misleading. In recent years, Uganda has developed a liberal family planning policy that states that all sexually active men/women should have access to contraceptives without need for consent of partner or parent [48].

However, use of contraceptives in Uganda is low. In 2006, only 24 percent of married women of child bearing age were using a method of contraception, 18 percent a modern

method and six percent a traditional method [38]. In urban areas, 38 percent of married women aged 15-49 years used a modern contraceptive method compared with only ten percent in the rural areas [38]. Contraceptive use among sexually active unmarried women was 54 percent [38]. Conversely, contraceptive use among young people was much lower than in the general population. Only eleven percent of married young people aged 15-19 and 21 percent of those aged 20-24 used a method [49]. Similarly, use was low among uneducated women [49]. Highly educated women desire small families, and contraceptive use has increased in this group as also shown in other countries [33,50,51].

The most popular modern contraceptive method in Uganda is the progestin-only injection, currently accounts for 40 percent of contraceptive method mix among married women [26,38]. Despite availability and promotion in the ongoing HIV/AIDS prevention campaigns, condom use for contraception is reported to be only two percent [38].

1.3.1 Contraceptive methods and HIV

It is estimated that 440,000 Ugandan women aged 15-49 are HIV positive [52]. The proportion of young people aged 15-24 with HIV is four percent [26,53]. Access to contraceptives and child bearing decisions in this particular group is essential [54]. Recent research has highlighted that hormonal contraceptive methods, in particular progestin-only injection might increase woman's risk of acquiring HIV and also increase the risk to male partners of HIV infected women using hormonal contraceptives [55,56]. Though still under debate, this has created a dilemma in current practice and policy direction.

1.4 High persistent fertility in Uganda

In Uganda, fertility has hardly changed in the last four decades [6,57]. Uganda is one of the seven low-income countries with current fertility levels of more than 6 children per woman [6]. The high and persistent fertility is a pressing matter of social, public health, and political concern. Excessive fertility contributes to the high maternal morbidity and mortality of 435/100,000 live births [38]. Further, it strains individuals, families, and public resources, and hinder opportunities for economic development [17].

The current total fertility rate (TFR) of 6.7 children per woman is high compared to other countries in the region for example Kenya with a TFR of 4.4 and Zimbabwe with 3.8 children per woman [6,38,58,59]. The difference in fertility is attributable to the fact that more women use contraceptives both in Kenya and in Zimbabwe compared to women in Uganda. The contraceptive prevalence rate (CPR) in Kenya is 39 percent and

in Zimbabwe it is 60 percent compared to 23 percent in Uganda [6,26]. Accordingly, fertility has declined in Kenya from 8 children per woman in 1970s to 4.4 children per woman to date [6,59]. Similarly, TFR in Zimbabwe has declined from 6.7 in early 1980s to 3.8 currently [6]. The slight increase in contraceptive use over the last two decades in Uganda seems to have had no significant effect on TFR, which has remained at around 7 children per woman [51]. The paradox is that the TFR in Uganda is estimated to exceed the required 5.3 children per woman by more than one child [57,60].

The persistent high fertility has resulted in a growing youthful population in Uganda. This young age structure has resulted in a high child dependence ratio, for every adult in Uganda there is one dependent child [35]. The young population will soon grow into reproductive age suggestive of an inbuilt population momentum for future growth [57].

1.4.1 Fertility and young people

By 2010, one third of the Ugandan population were young people between 10 and 24 years, a critical fertility period [34]. This indicates that a large number of adolescents and youths are at or are reaching reproductive age and are potential candidates for sexual activity and early parenthood [60]. Sexual activity begins early in Uganda. It has been observed that by 15 years of age, eleven percent of adolescents have initiated sex and by 18 years 64 percent have had their first sexual intercourse [60]. At the same time, the bio-social gap or the duration between menarche and marriage has widened [61,62]. Therefore, the need and time period for contraception by young people has increasing dramatically.

1.5 Need for contraception in Uganda

Prevention of high and persistent fertility is important to change patterns of unintended pregnancy and to address disturbingly high child and maternal morbidity and mortality, an overall rise of extreme poverty, continuing food insecurity, and the growing numbers of people living in slums and in abject poverty [29,51]. Use of family planning is considered to prevent one third of maternal deaths by allowing women to delay motherhood, space child birth, avoid unintended pregnancy, which lead to unsafely induced abortions, and end child bearing for couples who have reached their required family size [19,63]. Further, closely spaced births result in high infant mortality [20].

Unintended pregnancy, the underlying cause of unsafe abortions, is common and on increase in Uganda [7]. The proportion of unintended pregnancy rose from 29 percent in 1995 to 46 percent in 2006 [38,39]. Approximately 300,000 induced abortions are

estimated to be performed annually among women aged 15-49 in Uganda [7]. Half of the maternal deaths among those 15-24 years old are due to unsafe abortion following unintended pregnancy [63,64]. This is a sign that contraception is needed in this age group. The birth interval is also short among young people with nearly 41 percent of women 15-19 years having another baby in less than 24 months, and by late 20s women have more than 3 children [38].

Unmet need for contraception is defined as the category of married women, or women in a consensual union, or never-married and sexually active women who are able to become pregnant, do not want to have a child in the next two years or want to stop childbearing but are not using any method of contraception, either modern or traditional [24,25]. Unmet need for contraception is very high in Uganda. One in three women of reproductive age report unmet need for contraception [49]. The unmet need for contraception among Ugandan women aged 15-19 years is 40 percent, while it is 35 percent for women aged 20-24 years [49]. The figures on unmet need for contraception are consistently high over time [38,44], indicating that women have not found it easier to obtain suitable methods of contraception [65]. The unmet need is higher among rural women, poor women, and women with limited education than among their counterparts [38,50].

1.6 Why contraceptives are not used

The question remains why contraceptive use is low in Uganda. The demographic health surveys have cited fear of side effects (25%), partner disapproval (15%), not knowing where to obtain a method (13%) and religious opposition as reasons for limited use [38,51]. Also in other settings male partner opposition has been associated with unmet need and increased reliance on less effective traditional contraceptive methods [66]. Social and cultural norms related to gender inequality and negative perceptions that contraceptives lead to promiscuity have been cited as other reasons for limited use of contraceptives [67,68]. In addition, polygamy, early marriage, and bride price constrain women's ability to negotiate contraceptive use [69,70]. Previous studies in Uganda have attributed lack of modern contraceptive use to unemployment, unavailability of contraceptive supplies, pronatalism, and health workers not prescribing contraceptives to unmarried persons [47,71,72]. Additional challenges cited to affect contraceptive use include limited information, low resource allocation, and lack of access to quality contraceptive services [73,74].

1.7 Quality of care and contraceptive use

The World Health Organization (WHO) define high quality contraceptive care to mean that the client is given sufficient and quality information about contraceptives so that an informed decision can be made [22,75]. Quality of care in contraceptive services would mean broad method choice, technically competent providers, high quality interaction between clients and providers, good follow up, and contraceptive services integrated with other reproductive services such as sexually transmitted infections (STIs) and HIV [76,77].

Facility based studies have demonstrated that quality of care indicators such as provider attitudes, distance to service delivery points, and the range of contraceptive methods available have a strong influence on a woman's decision to adopt contraception [78,79]. The access-quality linkage is a crucial element in the utilization of contraceptives [80]. Quality is important to ensure greater impact of health interventions, to meet regulations and client's right, to improve organization efficiency and institutional proficiency, and also for protection of resources [81,82,83]. Quality of services is a mean to better reproductive health outcomes, and would attract clients and influence their contraceptive behavior [77].

Evidence from other low resource settings has linked poor quality of contraceptive services to high rates of discontinuation, reduced utilization, non-compliance and hence high unintended fertility [84]. The current Ugandan national health policy seeks to increase access to quality, affordable, acceptable and sustainable contraceptive services [85], but provision of quality contraceptive services for young people remains under debate. Studies in other settings have shown that quality of care can impact on individuals' decisions to use or not use modern methods or the choice of methods [86,87,88]. Low quality of contraceptive services may be one of the many contributing factors to non-use of contraceptives among young people.

1.8 Gender and contraception

Gender perspectives in contraceptive services are important to examine power relations, social organization, and to understand social structures. In Uganda, the proportion of women who have attained secondary school education is low. Young people's access to education is varied by gender in favor of the boy child [34]. Cultural gender norms often restrict girls to attain the highest education level possible. Besides, only a small proportion of young women have personal money, which further impacts on their decision making ability, and influences their exposure to media information, as well as their empowerment [89]. Furthermore, social expectations put pressure on girls

to marry and begin child bearing early [90]. Moreover, the societies put value and preference on a boy child [54]. Studies have demonstrated a link between gender aspects and contraceptive use [91,92]. There are differences in access to services based on social values associated with being a man or woman [66]. Studies also highlight that gender based violence, providers negative attitudes and parent's notion of morality in sexual matters, all affect women's access to health care, particularly reproductive health care services [93,94].

1.9 Health systems challenges and contraception

A health care system is described as all the organizations, institutions and resources whose primary purpose is to improve health [95]. Health systems are means to deliver effective and affordable care, to facilitate meeting the MDGs and to achieve increased equity, particularly for the poor [22]. A health system needs staff, funds, supplies, transport, communications, and overall guidance and direction in order to function well. Further, it needs to provide services that are responsive to the needs, financially fair, and treat people with respect [95].

1.10 Uganda health system and contraceptive services

The Ugandan health care system has been decentralized subsequent to the health sector reforms. The reforms also embrace privatization and elimination of user fees for health services at public health facilities [96]. Three types of facilities exist, the public, the private not for profit (PNFP), and the private for profit (PFP). The PNFP facilities include faith-based organizations and NGOs. Public and PNFP service delivery points include hospitals and health centers while PFP facilities comprise of private clinics, pharmacies and drug stores, a variety of shops, and also traditional healers. The PFP facilities are mostly located in urban areas or townships and health care in these settings is mostly financed privately by the patients.

Box 1. Health care facilities in Uganda [1]

Hospitals and Health Center (HC) are 3245

Public (2309), PNFP (659) and PFP (277)

- 113 district or general Hospitals- (59 public, 46 PNFP, 8 PFP)
- Public hospitals; 4 national referral; 11 regional & 44 general
- 169 HC IV (156 public, 12 PNFP, 1 PFP)
- 955 HC III (762 public, 186 PNFP 7, PFP)
- 2008 HC II (1332 public, 415 PNFP 261 PFP)

Population served:

-Hospital-500,000

- HC IV- 100,000, HC III-25,000, and HC II- 5000

Public, PNFP, and PFP facilities deliver services at four levels within the health system namely hospitals and health centers IV, III, and II (Box1). There are 110 districts in Uganda. Each district has health sub-districts with a referral facility at level IV or a general hospital. The health centers (II-IV) provide preventive and basic curative maternal child health services, including contraceptive services. The district or general hospitals provide inpatient and outpatient care and have the capacity to provide permanent contraceptive methods. The regional referral hospitals serve a population of about 2 million each, have specialists and provide specialized services including comprehensive contraceptive services. At community level there are village health teams that are expected to serve around 1000 people. These teams have an important role in health promotion. The teams include community drug distributors, who may provide contraceptive information and refill. Contraceptive services are provided at all levels of the health system in public and private sectors (NGOs, pharmaceutical sector, and private medical practice). To a limited extent, outreaches are used to provide contraceptive services [1].

1.10.1 Policy environment

Favorable youth policies exist in Uganda, including a National Youth policy [97], sexual and reproductive health policy [48], sexual and reproductive health minimum package [98], and laws prohibiting harmful customary practices like early marriage [45]. A road map for accelerating the reduction of maternal and neonatal mortality and morbidity in Uganda (2006-2015) is in place and family planning is one of the four key prioritized interventions [99]. However, meeting contraceptive needs of young people, who form a wide segment of the population, and improving the quality of services continue to be a challenge. Despite the fact that promotion of family planning is an official government policy, the apparent lack of consensus to practice family planning and contradictory arguments from political and religious leaders continue to have a negative impact on contraception practices [99].

2. CONCEPTUAL AND THEORETICAL FRAMEWORKS

The studies in the thesis address a central question why a large fraction of young Ugandans express a desire to avoid pregnancy but do not use contraceptives [49]. The results are described and discussed in relation to the conceptual framework and Bruce-Jain theoretical framework described below.

2.1 Conceptual framework

The conceptual framework (Fig.1) describes and connects aspects of inquiry. The framework highlights intertwined linkages between societal, client and health system factors that influence contraceptive use, which ultimately affect fertility [76,100]. The framework recognizes that societal, community and client related factors, such as conflicting community knowledge on contraceptives, poor understanding of available services and value of children influence young people's reflections and perspectives towards contraceptives and demand for services (Paper I).

The health system is an important link into the inquiry about why contraceptives are not used. Health care system features, such as service delivery, structural and health care provider related factors impact access to and provision of contraceptive service for young people (Paper II). The framework recognizes that the interactions between service delivery, health workforce (provider knowledge, fears, and beliefs), information, availability of commodities and technologies, funding, and stewardship influence contraceptive service provision and thus use (Paper II).

The service outcomes, including quality of services and client satisfaction (Paper III, IV) are linked to service utilization, and ultimately contraceptive use. The conceptual framework implies that improved maternal health, satisfaction of clients' reproductive intentions as well as fertility are consequences of demand for and provision of contraceptive services [101].

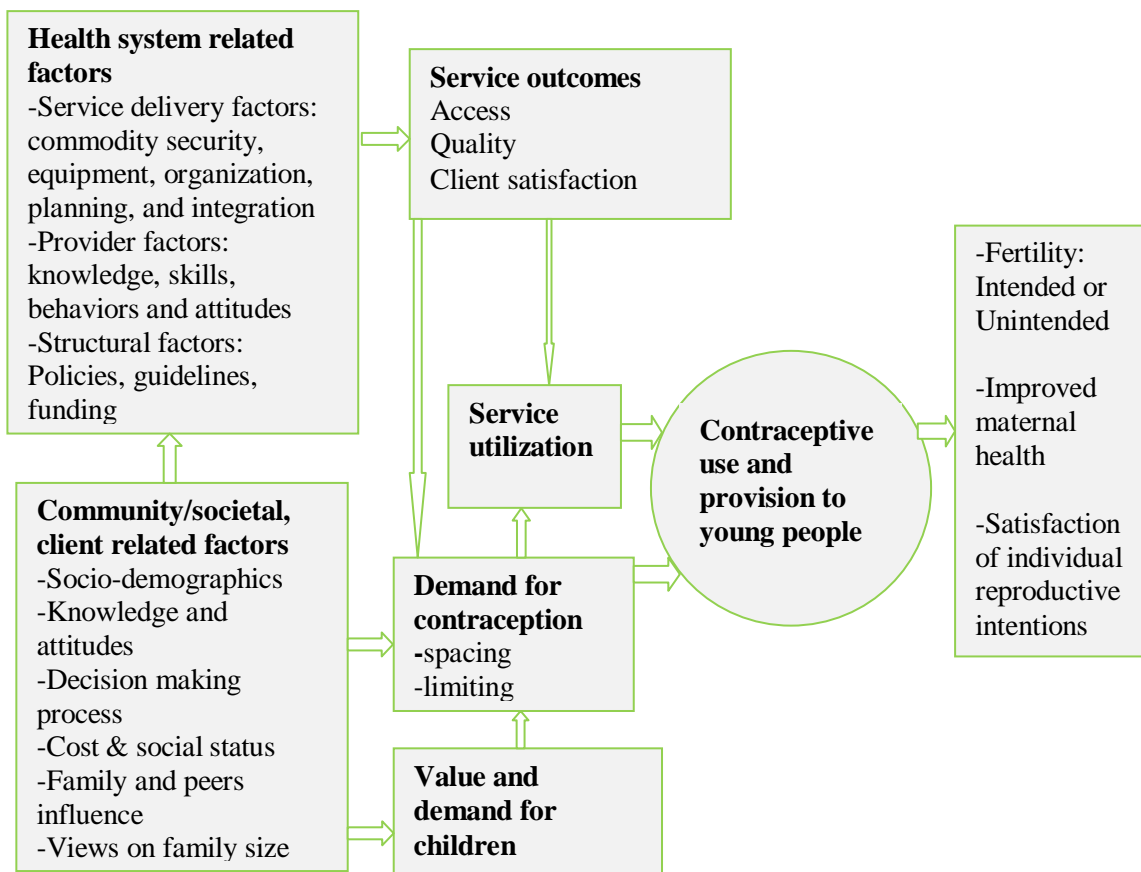


Figure 1: Conceptual framework illustrating factors influencing contraceptive use and provision to young people

2.2 Bruce and Jain theoretical framework

The studies on quality in this thesis were grounded in the Bruce and Jain theoretical framework of assessing quality of care in contraceptives services [102,103]. The framework recognizes six elements of assessing quality, which include choice of contraceptive methods provided, information given to users, technical competence of providers, interpersonal relations, continuity mechanisms, and appropriate constellation of services or appropriateness and acceptability. The six elements reflect aspects of the services clients experience as critical for contraceptive adoption and continued utilization [88]. Studies that have used the framework have shown that quality of care can impinge on individuals' decisions to use or not use modern methods or the choice of methods [86,87,88]. However, it is not clear if all the elements of quality are relevant constituents of service quality in Africa, or to young people [104]. We assessed all the six elements of quality of care in contraceptive service to young people (Paper III).

3. RATIONALE

Fertility levels are high and traditions and cultural practices that encourage high fertility are still strong in Uganda [29]. Unregulated child bearing has socio-economic and health consequences ranging from school dropout, unemployment, low income, poor household, and also maternal and infant morbidity and mortality [4]. Individual fertility decisions take place within a particular socio-economic and cultural context [24]. Young people's perspectives on fertility regulation are crucial, considering their responsibility for the current and future contraception dynamics. Context specific research on fundamental but sensitive topics among young people such as contraception is required [69] .

There is a discrepancy between the desire to prevent pregnancy and actual contraceptive use [47]. Paradoxically awareness of contraceptive methods is almost universal in Uganda [38]. Yet, young people remain vulnerable since knowledge about contraceptives has not transformed into practice [64]. There is absence of data to explain the knowledge-practice gap and young people's intentions to use contraceptives [49]. Besides, even where contraceptives are available for young people, the services are avoided [105]. It is not clearly understood why young women/men do not use contraceptives. Evidence about why contraceptives are not used is urgently required to accelerate progress towards achieving the MDGs and the targets in the Health Sector Strategic plan [36,41].

Demographic and health survey data have no or only modest information on how facilities operate, infrastructure, provider behavior, and information related to contraception among unmarried individuals. Family planning programs might not have achieved their objectives because they focus on adult married women, ignoring young people [9,106]. Literature on young people's perceptions and experiences of contraceptive services and their interface with the provider is still meager. Medical, economic, cultural, and social barriers to contraceptive use have been highlighted in literature [91,107]. However, studies have not provided in-depth understanding and relative importance of reasons why contraceptive use is low among young people. Furthermore, in Uganda about 58 percent of contraceptive users discontinue using a method in 12 month [38]. While past studies restricted to specific project areas have assessed a few aspects of quality [108,109], no study in Uganda has examined quality of care aspects in contraceptive services provided to young people. Previous studies have recommended exploration of barriers to contraceptive use among young people, circumstances surrounding decision to practice contraception and interactions with service providers [64,110]. This thesis describes and analyzes young people/clients and health care providers' perspectives about obstacles and enablers to contraceptive use

and examines the quality of services provided to young people. Understanding these dynamics will enable us to make culturally sensitive recommendations about strategies towards meeting contraceptive needs of young people.

4. AIMS AND OBJECTIVES

4.1 AIMS

To explore and analyze obstacles and enablers to contraceptive use and quality of services provided to young people aged 15-24 in two districts in Uganda, in order to increase knowledge about why contraceptives are not used and identify areas for improvement. The ultimate goal is to contribute to efforts to reduce unintended pregnancy, increase demand and reduce unmet need for contraception among young people.

4.2 OBJECTIVES

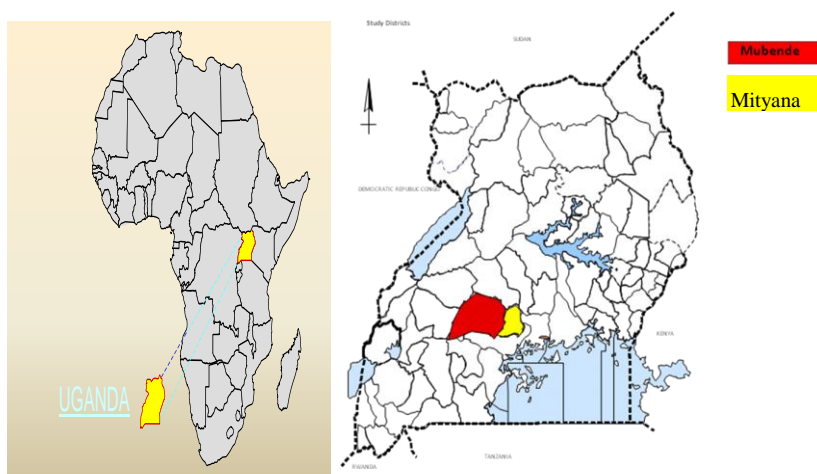
Specific objectives are to:

1. Explore views about obstacles and enabling factors for contraceptive use among young people (I)
2. Determine health care providers' perspectives on factors influencing contraceptive use and provision to young people (II)
3. Analyze and assess the quality of contraceptive services provided to young people (III)
4. Describe young peoples' experiences of contraceptive care, client-provider interactions and subsequent choice, access and satisfaction (IV)

5. METHODS AND MATERIALS

5.1 Study setting

The studies in this thesis were conducted in Mityana and Mubende districts in central Uganda (Fig. 2). Mityana district was created in 2005 from Mubende district. The two districts have poor reproductive health indicators. The maternal mortality ratio is 600/100,000 live births, and the infant mortality is 116/1000 live births, both above national average shown in Table 1 [34]. The two districts were projected to have a population of nearly 1 million people in 2010 [34,37], and a TFR of 8 children per woman with an annual population growth rate of 3.6 percent [38]. More than 60 percent of the population is estimated to be less than 18 years of age [34]. Both districts have teenage pregnancy rates of 30 percent compared to 25 percent nationally and 20 percent in urban areas [38]. Urbanization level is 17 percent, implying that 83 percent of the population lives in rural areas. The overall literacy rate is 60 percent among men and 55 percent among women [34]. There are five main ethnic groups in these districts; Baganda, Banyoro, Ankole, Bakiga and Banyarwanda. The primary language is Luganda. The main economic activity is subsistence farming.



Map of Africa

Map of Uganda

Fig. 2: Maps showing study country, and districts

In 2007, Mubende district had one hospital and 51 health centers, while Mityana had one hospital and 48 health centers. In 2009, the number of HC increased by four in Mityana and by five in Mubende [34]. Forty percent of deliveries are assisted at health facilities in Mityana but only 16 percent in Mubende district [1]. The net intake in secondary schools in Mityana is seven percent, and in Mubende it is five percent [34].

Each district has three health sub-districts (HSD). One HSD in each district has a hospital in addition to primary health centers, private clinics and drug stores. The HSD with the hospital covers approximately 500,000 people. Each of the remaining HSDs covers approximately 100,000 people. In each district the HSD with a hospital was purposively selected as study site to ensure representation of a cross-section of all facilities including public, PNFP, and PFP facilities. The studies were conducted in the health facilities and in communities/catchment areas in the two selected HSDs. Public, PNFP, and PFP facilities at all the four levels of health care delivery in each selected HSD, namely hospital and health centers IV, III and II were included in the studies. In addition, PFP facilities included private clinics, pharmacies, and drug stores. The author comes from this area and knows the local language, which facilitated the planning and implementation of the research, particularly the qualitative studies.

5.2 Overview of study design

This thesis is based on material from three studies summarized in Figure 3.

Study I was a qualitative exploratory study that used focus group discussions (FGDs) and corresponds to paper I. The group process helped to explore and clarify young peoples' views and thoughts on contraceptive use, what they think, and why they think in the way they do [111]. Paper II corresponds to study II, a quantitative cross-sectional study that employed face to-face interviews with healthcare providers, using a semi-structured questionnaire with both open ended and closed questions. In addition, skills assessment and a brief facility audit of the basic amenities related to provision of contraceptives were done. Paper III and IV are based on data from study III, a facility-based cross-sectional study that employed simulated client methodology. Paper III is based on the quantitative data that was obtained using a structured questionnaire. Paper IV uses both qualitative and quantitative data based on semi-structured narrative debriefing and a structured questionnaire.

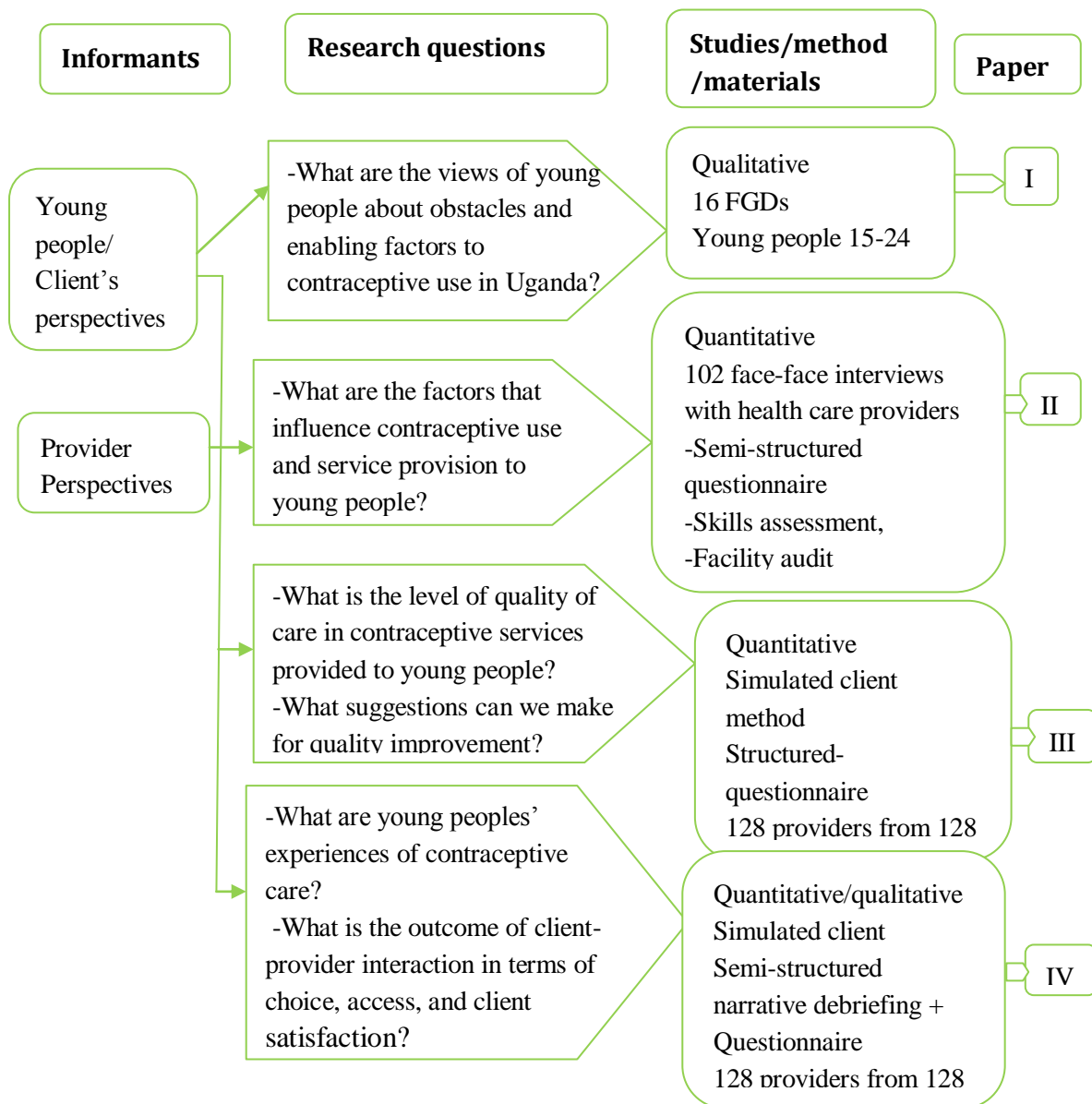


Figure 3: Methodological summary of the studies showing informants, research questions, materials and methods

5.3 Study participants, recruitment and data collection

Paper I

Focus group discussions, a qualitative method to gather information from small groups of people on experiences, norms, and values was used [112]. The author, together with the local council authority in each district, identified and collaborated with village youth leaders to recruit participants. A total of 16 FGDs (8 in each HSD) with 6-12 persons in each group were conducted in the local language (Luganda). The author moderated 12 of the FGDs. A trained and experienced nurse-midwife assisted by either a male or a female social scientist with field experience moderated the other four. A FGD guide was used and all the group discussions were audio taped after obtaining consent from the participants. The FGDs lasted between 60 and 90 minutes. The groups

were homogeneously composed according to age (15-19, and 20-24 years), sex and marital status. The discussions were held at a convenient venue identified by the participants. The topics discussed included contraceptive practices and attitudes to contraception, contraceptive method-specific problems, perceptions of access to services, concerns about side contraceptive effects, decision making process in relation to contraceptive use, and specific enabling factors and obstacles to contraceptive use. The moderator gave participants information about contraceptive methods after each session and advised participant in need of methods to visit local staff at the nearest contraceptive delivery point.

Paper II

This was a descriptive facility based study that utilized data from health provider interviews, a health facility audit, and providers' assessment of their own skills. The face-to-face semi-structured interviews were held with 102 health care providers from 100 health care facilities (public, PNFP, and PFP). Public and PNFP health facilities were identified using recent Ministry of Health lists from the two district health offices. PFP facilities were identified using district lists of pharmacies and drug stores from the National Drug Authority and lists of private clinics registry. The lists consisted of 35 public (2 hospitals, 33 health centers), 11 PNFP (all health centers), and 84 PFP health facilities (20 clinics, 4 pharmacies, 60 drug shops). The study excluded facilities not providing contraceptives during the study period.

The health care provider in charge of maternal health /family planning services from each of the health centers and private clinics was selected and interviewed. In each of the two hospitals, two providers, one from the family planning unit and another from the maternity unit, were selected and interviewed. This was done because both units provided contraceptive service and information. In drug stores and pharmacies, the most conversant person in provision or selling of contraceptives was identified and interviewed. The interviews were conducted in English and each interview lasted 45 to 60 minutes. The questionnaire consisted of open and close-ended questions. Open-ended questions were used in order to provide greater depth on experiences, views, and attitudes of the providers [113]. Responses to open-ended questions were coded and the codes merged into categories to allow quantitative assessment. Interviews elicited information on facility and provider characteristics, providers' views and opinions on provision of contraceptives to young people, views about health care system obstacles, and also factors leading to contraceptive use. The questionnaire was pre-tested in Kampala district and changes made before data collection started.

Providers were also asked to rate their competence in comprehensive counseling, ability to give different contraceptive methods and management of side effects on a

scale of 0-3. Further, a brief facility audit was conducted using a checklist to find out the basic amenities available in relation to provision of contraceptives. I conducted some of the interviews and facility assessments myself and also supervised the research assistants during the remaining data collection process. The research assistants were nurse/midwives with field research experience who were trained for two days on study procedures and data collection. The research assistants also participated in the pretesting and revision of the questionnaire before use.

Paper III and IV

This study employed a combination of quantitative and qualitative methods.

Simulated client method (SCM) was used to obtain data on quality of contraceptive services provided to young people 15-24 years (III), and contraceptive care experiences and client-provider interactions at contraceptive service delivery points (IV). This method was preferred in order to decrease the level of intrusiveness during a consultation that is caused by the presence of an independent observer, reduce faulty recall, and at the same time capture both the observable and intangible aspects of the care-giving process [5,114]. Lists of facilities were obtained from each of the two district health offices as described in study II above. All the 130 contraceptive delivery points were included in the selection of study facilities in study three. However, two facilities were not included in the analysis.

Simulated clients (SCs) were young men and women 15-24 years old. Five female and two male SCs were recruited from the two study districts through youth leaders. The SCs were graduates in midwifery, social work or advanced level secondary education. They had good communication skills and were fluent in English and the local language in the study area (Luganda). The SCs were carefully trained for three days. They participated in the pre-testing of the case scenarios and in adjusting the case scenarios before use. The scenarios represented the main contraceptive methods (oral contraceptive, progestin-only injection, implant, condom, and side effects with oral contraceptives) and were used as a guide to elicit information and services from providers. The questionnaire and the scenarios were developed by the author and reviewed by the research team, pilot tested in Kampala District, and modified before use to ensure that they captured information on all quality of care variables. The six scenarios and the questionnaire were designed to capture information on indicators of quality of care in contraceptive services based on the care giving process according to the Bruce-Jain framework as described in literature [76,103,115].

The SCs were oriented to the questionnaire and each given one case scenario to perform throughout data collection. SCs were systematically assigned to facilities. In facilities where the contraceptive method in the assigned case scenario was not offered,

the case scenario was replaced with another. One of the six scenarios, the condom case scenario, did not yield much information and was used less frequently since some providers tended to just give or sell the condoms to the SCs without much of interaction and information.

Providers were not aware that these particular clients were involved in research. Immediately after the encounter the SCs narrated their interaction to the author (IV). Thereafter, the SC was interviewed either by the principal investigator or by two trained interviewers (nurse/midwives) on the events during their visit using a structured questionnaire (III, IV). These semi-structured narrative debriefing [5], were done as soon as possible after the consultation (mostly within one hour).

5.4 Data management and analysis

Paper I

The FGDs were translated and transcribed in English directly by the author and a social scientist with experience in translation and transcription of focus group data. The data was analysed using latent content analysis (Table 2), a technique that involves in-depth interpretation of the underlying meaning of the text [113,116]. The unit of analysis was the focus group. All transcripts were read several times; codes were identified and grouped into categories. The categories were subsequently interpreted for the latent meaning and organized into themes. Relevant and substantial quotations were used to enrich the data.

Paper II

Responses from open-ended questions were coded by the author. The codes were discussed and agreed upon with co-authors. Data were entered into Epi-data 3.1, cleaned, exported and analyzed with SPSS 17. Descriptive and inferential statistics were done. The mean self-assessment score was computed for each of contraceptive service offered. Analysis of Variance (ANOVA) was carried out to test the significance of the difference in the means across the types of health facilities (Table 2). Chi-square test was used and the level of statistical significance was set at 0.05.

Paper III and IV

The responses from SCs, which were related to quality of care were categorized and analyzed according to Bruce and Jain framework; choice of contraceptive methods provided, information given to users, technical competence of providers, interpersonal relations, continuity mechanisms, and appropriate constellation of services or appropriateness and acceptability [103]. The unit of analysis was the facility. Descriptive statistics (III, IV), one-way analysis of variance and factor analysis was performed using the principal component analysis method (III). Data from the

description of SC experiences (IV) was analyzed using thematic content analysis [117,118]. Transcripts from each visit were analyzed one by one by the author. Codes were assigned according to content. These were grouped, into themes which were reviewed, refined according to content of the entire data for deeper understanding of the SCs encounters with the providers [116,119].

Table 2: Methodological summary of the studies

	Paper	Study population	Data analysis method	Study period
I	Persistent high fertility in Uganda: Young people recount obstacles and enabling factors to use of contraceptives	146 young people	Content analysis	March-May 2008
II	Constraints and prospects for contraceptive service provision to young people in Uganda: providers' perspectives	102 health care providers in 100 facilities	Chi-Square statistics ANOVA	Aug 2008-Feb 2009
III	Quality of care in contraceptive services provided to young people in two Ugandan districts: a simulated client study	128 Health care providers	ANOVA, Kruskal Wallis Factor analysis	Sept 2009-April 2010
IV	Young peoples' interface with providers of contraceptive care in two Ugandan districts	128 Health care providers	Chi -square Thematic content analysis	Sept 2009-April 2010

5.5 Data quality control

In order to ensure reliability and validity of data, triangulation by the combination of several research methodologies, researchers, and methods for analysis of data were employed in the studies [120]. Research assistants were trained and supervised and consultations maintained with the supervisors. The SCs were also trained carefully before data collection started. All research instruments were pre-tested before data collection. Data were cleaned, and checked before entry.

5.6 Ethical considerations

Ethical approval was obtained from the Higher Degrees and Research Ethics Committees of Makerere University, Uganda National Council for Sciences and Technology (all studies), and the Regional Ethics Committee in Stockholm, Sweden (study 3). Administrative clearance was sought from the district authorities. The studies carried minimum risk to the participants. Written or verbal consent was secured from all research participants. Additional consent was obtained from parents for adolescents 15-17 years (I). Informed consent was obtained from service providers six month before the study period in study III. Participation was voluntary and confidentiality was maintained during the studies.

6. RESULTS

6.1 Obstacles to contraceptive use and provision

6.1.1 Young peoples' perspectives on obstacles to contraceptive use (I)

The young men and women described multiple obstacles that impede contraceptive use, which were classified into five categories that included misconceptions and fears, gender power relations, socio-cultural expectations and contradictions, short term planning, and health service barriers.

Misconceptions surrounding contraception and reproduction were prominent obstacles. The young people believed that contraceptives interfered with fertility, and they were frightened to use something that could harm their ability to reproduce. Both married and unmarried women believed that pills burned the woman's eggs. Similarly, male and female participants believed that pills could accumulate in the body and destroy the reproductive system. Some also believed that contraceptive pills are abortifacient. Condoms were believed by both male and female participants to damage the uterus, to be porous, and to have infectious lubricant. The participants believed that condoms had pores or grooves with actual perforations that allowed transmission of HIV. The participants expressed a lot of fear related to contraception. They were afraid of the side effects, afraid of getting pregnant without contraception, afraid of the response from their church, and afraid of parents' and partners' reactions. The fear originated from their own and their peers' experiences, and from misinformation given to them by parents/elders, maybe in order to discourage them from having intercourse. Some young unmarried women expressed more fear of the side effects of contraceptives than of a pregnancy.

"Those pills are dangerous; they go through the fallopian tube and go to that area where eggs come from. So, when the pill falls in the middle of all the eggs, it burns them all.....they burn the entire woman's eggs and form a big scar. You may die without ever becoming pregnant" (FGD Married women's group, 15-19 years)

Young people revealed gender inequalities in terms of power, roles, decision making, and negotiation for contraceptive use. The women reported lack of power in decision making as a key obstacle to use. The women recounted partner disapproval and verbal or physical abuse if the man discovered that the woman used contraceptives. The women also said that discussions about contraception were considered unacceptable, and often rejected by the partner. Young married women reported severe conflict with the husband and the in-laws in relation to contraceptive use.

"One friend was using 'family'-injection without approval of her husband but started bleeding severely and had to tell him to get help to go to the health unit. This caused

serious problems for her since her husband wanted more children” (FGD Married woman, 20-24 years)

Male counterparts commented that women also oppose contraceptive use and react negatively when men raise contraceptive issues, contending that women fear the risk of not having children following use of contraceptives. Unprotected sex was said to enhance a man’s reputation among other young men. Male participants said that women are weak and easily influenced to have unprotected sex. In contrast females reckoned that men want more children and manipulate women into sexual relations without contraceptives. Young people noted that decision making related to contraception was dominated by men, and cited power struggles, couple’s disagreements and rare consensus on contraceptive use. The final decision depended on the preferred number of children by the man.

Socio-cultural expectations and contradictions were reported as obstacles to contraceptive use. Young people said that traditional societal norms prohibit sexual activity and pregnancy before marriage, but also that society perceives that a woman’s purpose of life is to have children. The churches were also said to be very pro-natal with statements like “go out and multiply”, “contraceptive use is perceived as murder” and “children are a blessing”. Although young people are expected to be virgins till marriage, it was reported in the FGDs that in reality many young women and men are sexually active. Despite this, society condemns parents talking with their children about sex and contraceptive use. Parents were said to reject contraception and yet they did not want their unmarried daughters to become pregnant.

“Parents and elders are against contraceptives. If they find you with a condom, they lose confidence in you...parents should be made to accept that things are changing to allow these methods...nature is nature, young people need sex, it is better to tell them about contraceptives” (FGD Unmarried men’s group, 20-24 years)

Communities were said to link use of contraceptives to promiscuity and prostitution, and also to future infertility, hence young people were stigmatized if they used contraceptives. Also examples of providers reporting to parents or partners if young men or women came to the health unit for contraceptives were given.

“If you come for condoms every day at the health unit, the health worker gets scared that you are having too much sex and can tell your parent. Youth are shy and fear to be reported to their parents” (FGD Unmarried men 15-19 years)

In addition to short term planning, peer pressure and pleasure from sex were said to override fear for pregnancy, HIV and other STIs. Couple built trust and confidence in their relationship early and condoms were frequently abandoned after two or three

encounters. Young men reported that consistent use of condoms was difficult with stable partners they trusted and loved. Young men also cited that the hurried manner in which young people have sex does not allow them time to find or purchase condoms after convincing the young woman to have sex. Poverty and need to use money for other means was reported to override need for protection. Young people also said that they felt ashamed and therefore reluctant to ask for contraceptive services from busy health care professionals attending to sick people.

6.1.2 Providers' views on provision of contraceptives to young people (II, IV)

When asked for their views on provision of contraceptives to young people in an open-ended question, most providers (75%) said that contraceptives should not be provided to sexually active young people (II). More than a third of the providers said that they would not provide contraceptives to those less than 18 years of age, unmarried, still in school, and those without children. Slightly less than one third of the providers believed that if young women used contraceptives early in life, they could have long-term side effects such as infertility (II). Some providers (14%) revealed that as parents they considered it morally unacceptable to give contraceptives to young people. Providers said (II) and were also observed (IV) to use scare tactics to discourage young people from having sex. In addition, some providers said that they were too busy to attend to young people with contraceptive needs since they also had to deal with other services (II).

More than a third of the providers (38%) requested for consent from a parent or a spouse when a young person less than 18 years requested contraceptives. Fear of spousal or parental confrontation was the main reason why consent was deemed necessary (II).

6.1.3 Provider perspectives on obstacles to contraceptive use and provision (II)

When asked in an open-ended question for their opinion on obstacles to contraceptive use and provision for young people, providers identified service delivery, provider, structural, client, and community related obstacles. Service delivery factors included inconsistent and sporadic availability of contraceptive commodities (40%) and lack of an appropriate method mix (12%) to meet young people's needs and preferences. Poor infrastructure with limited space to offer both auditory and visual privacy during client consultations (39%), lack of appropriate equipment and educational materials (34%), and storage were other obstacles mentioned. Furthermore, guidelines and national policy on reproductive health and family planning were only available in eleven percent of the facilities and providers were not aware of what was stated in the policy.

Provider-focused factors mentioned by the providers themselves were lack of knowledge about contraceptives (45%), restrictive provider attitudes due to fears, myths, as well as health and safety concerns related to certain contraceptive methods

(40%), and providers' denial or restrictions to provide all or some methods to young people (11%). Structural factors cited were poor service quality, long waiting hours (32%), limited number of qualified personnel and high staff turnover (32%), as well as policy restrictions (17%). Only 38 percent of providers had prior training in family planning despite the fact that they were providing the service. Insufficient funding for community sensitization, outreach, and support supervision were also considered barriers (34%).

Client related factors mentioned by the providers included young peoples' lack of knowledge about contraceptives (72%), their fear of actual and perceived side effects (63%), strong misconceptions about contraceptives (68%) and negative attitudes in general towards contraceptives (54%). Community-related factors included male partners' disapproval of contraceptive use (49%), opposition from parents/peers (13%), cultural norms, such as the wish to have a big family (43%), religious beliefs (30%), and exchange of sex for money (23%). According to the providers, young people constituted a minority of their clientele, and contraceptive service demand in their communities was considered low.

6.1.4 Access, affordability and availability (I, II, IV)

Contraceptive costs were found to be prohibitive to young people not endowed with resources (I). Out of pocket expenditures on contraceptives included direct costs for commodities, transport to and from service delivery points, opportunity costs of time spent travelling and waiting for services, and costs for other supplies incurred at the facility (I, IV). In two thirds of the visits, the SCs were requested to pay for the service (IV). The payments were mostly for actual contraceptives, registration, and consultation fees. Long-term contraceptives (IUD and Implants) were said to cost US\$10 and above. But the availability of these methods was limited. The cost of other more commonly available methods was on average US\$ 0.25 for condom, US\$ 0.5 for one cycle of oral contraceptive pills, and US\$ 0.75 for three monthly progestin-only injections. Payments for services were reported in 7 of the 34 public facilities where services were expected to be free of charge (IV). Furthermore, many providers pointed out that long distances to clinics, the high cost of contraceptives, and unavailability of preferred contraceptive methods in facilities closest to home were barriers to access (II).

Data from the facility audit and the provider interviews showed that most facilities were not prepared to offer basic and comprehensive contraceptive services in terms of service organization and resources. While oral contraceptive pills, progestin-only injection, and male condoms were largely available, long term methods (IUD and Implants) were only available in about six percent of the facilities visited. Fertility awareness methods were offered only in seven percent of the facilities, mostly PNFP

mission based facilities. Other methods such as female condoms, vaginal rings, diaphragms, cervical caps, spermicides, combined patches, and levonorgestrel IUD were not available in any of the facilities (II).

6.1.5 Providers views about side effects of contraceptives (unpublished data II)

In an open-ended question, providers described their views about actual side effects of contraceptives. They reported that although progestin-only injection was the most used method, many clients using it experienced bleeding that ranged from mild to severe. This made clients reluctant to continue with the method or even use other contraceptives. Amenorrhea and loss of libido were described as common side effects that could persist even when the injection method was discontinued. Weight gain was also considered a common side effect. Some providers noted subsequent spontaneous abortions following use of contraceptives especially injections. Providers explained that this was the reason why they were reluctant to give injections to young people. Oral contraceptives were said to cause nausea, palpitations, and sometimes dryness, backache, and headache. Some providers said that IUD might cause pelvic inflammatory disease, adding that this could be severe, especially in a society where men and women do not observe hygiene and often have untreated STIs. Providers regarded FAM to have failed in their communities because such methods need spousal cooperation, which is difficult. Finally, some providers mentioned that clients using cycle or moon beads get pregnant, because people cannot count well.

6.2 Enabling factors to contraceptive use

6.2.1 Young peoples' perceptions about enabling factors to contraceptive use (I)

The key enabling factors to contraceptive use mentioned during the FGDs were mainly female strategies to overcome obstacles such as secret use and, changing attitudes and perceptions in favor of contraceptive use, and a small family size. Young women recounted using contraceptives secretly as a strategy to protect their interests and counteract male partner disapproval. Secret contraceptive use was an enabling factor specific for young women that was said to prevent unwanted pregnancy, as well as conflicts with partners and families.

“Some married women use contraceptives in secret, most men don't like contraceptives and refuse women from using. Pregnancy is so stressful for women, your husband may not be supportive financially but only interested in alcohol...you need to work and save money from farming for your children, so you sneak in the health unit for injection when coming from the garden” (FGD Married women's, 20-24 years)

The FGD participants enlisted changing perceptions and attitudes towards contraceptive use and a small family size. Both male and female participants reported that they feared pregnancy more than HIV/AIDS, which they said supported contraceptives use. HIV/AIDS prevention campaigns emphasizing condom use were reported to improve decision-making in favor of condoms for prevention of pregnancy as well. Furthermore, worries of carrying a pregnancy, looking after the baby, the costs involved, and fear of negative consequences of abortion were enablers to contraceptive use.

“Pregnancy is tough, one considers cost involved in carrying pregnancy, food and others...it is so worrying to young women. Most of them fear the burden of looking after the child. Taking care of yourself and pregnancy is tough” (FGD Unmarried women’s 20-24 years)

Male counterparts reported fear of early forced marriage, being forced to leave school or being put in jail if found to have made a young girl pregnant as motivators for contraceptive use. Selective contraceptive use was also reported with “on and off” partners and when the man suspected that the woman had an STI.

Both male and female participants recognized that having many children is difficult for working men and women, especially among those living in trading centers/towns. Such young people were motivated to use contraceptives. Female participants recounted a desire for a small family. It was, however, also noted that some men did not want to have the responsibility of many children because of costs for education and health care. The participants also reported that free contraceptives in the public facilities supported use. Antenatal clinics were said to be an important source of information to encourage contraceptive use for women who already had children.

6.2.2 Provider perspectives on prospects for contraceptive use (I, III)

Most providers had recent contact with young people seeking contraceptive services. The majority of providers did not ask for consent from either parent nor spouse when approached by young people for contraceptives. Access was favourable to those having children and those who were married. Progestin-only injections, contraceptive pills, and condoms were available in most facilities and providers said they were competent to give these methods (II). Fertility awareness methods were mostly offered in PNFP facilities (II). Most providers (86%) told the SCs at least one additional method besides the one chosen (III).

Providers revealed what was currently done in facilities to enable young women and men to use contraceptives. This included family planning sign posts in all public facilities and in some PNFP facilities (47%), health education talks (26%), and placing

condoms in a convenient location at the facilities for youth to pick (23%). To a limited extent, providers reported provision of integration services (12%), and private facilities reported selling contraceptives (34%) to some young people (II).

6.3 Quality of care in contraceptive services for young people

6.3.1 Quality of care based on factor analysis and mean scores (III)

Quality of care scores (based on factor analysis) in contraceptive services was low for all the six aspect of assessing quality in both public and private sector facilities (Table 3). The quality scores differed significantly by facility type in five of the six aspects (needs assessment, information given to users, choice of contraceptive method, continuity mechanisms, and interpersonal relations). Private for profit facilities had relatively low scores in all aspects of quality. Overall, PNFP facilities had medium quality scores. Choice of methods and interpersonal relations scores were slightly higher in public facilities. All facilities were classified as having low scores for appropriate constellation of services. Needs assessment scores were highest in PNFP facilities. Suboptimal information scores were observed, especially in private facilities. The overall quality scores differed significantly between public and PFP facilities.

Table 3 Quality of care scores in contraceptive services received by facility ownership

Aspects of quality	Facility ownership				Chi-sq.
	Total n (%)	Public n (%)	PNFP n (%)	PFP n (%)	
<i>Needs assessment (n=104)</i>					
Low	42 (40.4)	12 (41.4)	1 (14.6)	29 (42.7)	
Medium	37 (35.6)	6 (20.7)	2 (28.3)	29 (42.7)	
High	25 (24.0)	11 (37.9)	4 (57.1)	10 (14.7)	***
<i>Information given to users (n=122)</i>					
Low	41 (33.6)	8 (23.5)	1 (12.5)	32 (40.0)	
Medium	41 (33.6)	10 (29.4)	6 (75.0)	25 (31.2)	**
High	40 (32.8)	16 (47.1)	1 (12.5)	23 (28.8)	
<i>Choice of contraceptive method (n=118)</i>					
Low	41 (34.7)	5 (15.2)	1 (16.6)	35 (44.3)	
Medium	38 (32.2)	11 (33.3)	4 (66.6)	23 (29.1)	***
High	39 (33.1)	17 (51.5)	1 (16.6)	21 (26.6)	
<i>Interpersonal relations (N=125)</i>					
Low	42 (33.6)	8 (25.0)	2 (22.2)	32 (38.1)	
Medium	42 (33.6)	7 (21.9)	3 (33.3)	32 (38.1)	**
High	41 (32.8)	16 (53.1)	4 (44.4)	20 (23.8)	
<i>Constellation of services (N=125)</i>					
Low	100(80.0)	25(75.8)	7 (77.8)	68 (81.9)	
High	25 (20.0)	8(24.2)	2 (22.2)	15(18.1)	
<i>Continuity mechanisms (N=126)</i>					
Low	47 (37.3)	12 (35.3)	0 (0.0)	35(42.2)	
Medium	38 (30.2)	9 (26.5)	6(66.7)	23 (27.1)	**
High	41 (32.5)	13 (38.2)	3 (33.3)	25 (30.1)	
<i>Overall quality (N=114)</i>					
Low	39 (33.6)	6 (18.7)	1 (16.7)	32 (41.0)	
Medium	39 (33.6)	10 (31.2)	3(50.0)	26 (33.3)	**
High	38 (32.7)	16 (50.0)	2 (33.3)	20 (25.6)	

* Quality of care scores categorized as low, medium, and high based on factor analysis, N= refers to number of SC visits, **p<0.05, ***p<0.01, p-value- Fishers exact test

Similarly, the mean scores of quality were mostly low in all the six aspects of assessing quality. On a score range from 0-9, the mean scores were 5.3 (CI 4.8-5.7) for choice of contraceptive method and 5.1 (CI 4.7-5.5) for interpersonal relations. In the remaining aspects of assessing quality, the mean scores were 4.9 (CI 4.4-5.4) for information given to users (range 0-11), 0.4 (CI 0.2- 0.5) for constellation of services (range 0-6), 2.1 (CI 1.9-2.3) for continuity mechanisms (range 0-5), and 1 (CI 0.8-1.2) for needs assessment (range 0-4). The results from ranked quality scores based on Kruskal-Wallis test showed significant differences by facility type for information received ($p<0.01$), method choice and continuity of care ($p<0.001$), and interpersonal relations ($p=0.04$), but there was no difference for constellation of service ($p= 0.49$) and needs assessment ($p= 0.07$). Overall quality was statistically different by facility type ($p<0.001$).

6.3. 2 Clients' views and experiences of quality of contraceptive services (I, III, IV)

During the FGDs young people reported that the clinics were habitually out of stock of contraceptives and had limited choices of methods, making it very difficult to use any method consistently (I). Limited opening hours, long waiting time, and lack of youth friendly services were other barriers to access to quality services that were mentioned both by the FGD participants and the SCs (I, IV). Fear of stigma at the health facility propelled some women to procure contraceptives from private clinics/stores since they were said to provide privacy and confidentiality (I).

Interviews with SCs showed that health care providers discussed fertility intentions in only 17 percent of the visits. Instructions about how to handle possible problems related to contraceptive use were discussed in 27 percent of the encounters. A minority of providers informed clients about STIs/HIV (18%) and dual method use (12%). A few providers raised their voice or shouted at clients during the consultations. Instructions about return visits for follow up were given in 42 percent of the visits (III).

6.3.3 Providers' competence to offer contraceptive services (II)

Providers' self-assessment for competence (score range 0-3) to provide contraceptive methods and services were on average low. Providers did not feel competent enough to provide IUDs ($x=0.39$), implants ($x=0.47$), emergency contraceptives ($x=1.05$), and barrier methods other than condoms ($x=0.42$). The mean competence scores for different contraceptive methods and services were higher among providers in public facilities compared to those in PNFP and PFP facilities with the exception of FAM and IUD insertion. Providers from public, PNFP, and PFP facilities rated themselves nearly equally low on competence in providing emergency contraceptives, IUD, implants, and barrier methods (Table 4). Providers' competences differed significantly by health

facility type with respect to comprehensive counseling, FAM, barrier methods except condoms, and management of side effects (II). However, providers considered themselves highly competent to provide pills, progestin-only injections, and condoms (II).

Table 4: Providers' self-assessment score of competence to offer contraceptive services

Contraceptive Services	Health facility type				ANOVA F-value	p- value
	Total (n=102)	Public (n=37)	PNFP (n=11)	PFP (n=54)		
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)		
Comprehensive counseling	1.68 (0.9)	2.1 (0.57)	1.73 (0.47)	1.37(1.0)	8.94	***
IUD insertion	0.39 (0.86)	0.27 (0.77)	0.64 (1.12)	0.43 (0.86)	0.86	NS
Norplant/Implant	0.47 (0.98)	0.46 (0.96)	0.45 (1.04)	0.46 (0.98)	0.00	NS
Barrier methods except condoms	0.42 (0.86)	0.78 (1.16)	0.45 (0.93)	0.17 (0.42)	6.23	*
Fertility awareness methods	1.67 (1.15)	1.95 (1.05)	2.27 (1.19)	1.39 (1.14)	4.45	**
Emergency contraceptives	1.05 (1.32)	1.19 (1.43)	1.00 (1.34)	0.96 (1.26)	0.33	NS
Management of side effects	1.68 (1.08)	2.03 (0.87)	1.54 (1.04)	1.46 (1.18)	3.20	*

*p < 0.05; **p < 0.01; ***p < 0.001, NS-Not significant, SD = standard deviation, ANOVA- Analysis of variance. Scores ranged from 0-3, P-value is from ANOVA test. PNFP- Private not for profit, PFP- private for profit

6.3.4 Choice of contraceptive methods (II, III, IV)

The majority of providers (71%) chose or suggested a specific method to the SCs (IV). Methods were recommended depending on whether the SC said she/he had children or not. The commonly suggested method for clients who stated that they had children was progestin-only injection (54%), followed by contraceptive pills (17%), and FAM (13%). The condom was mostly suggested for those who did not have children (II, IV). The use of IUDs and implants were mostly discouraged for young people. Frequently, providers tried to interest the SCs in methods they believed in or methods that were available at the facility (IV). The SCs were offered their method of choice in 31 percent of the visits (III).

6.3.5 Client satisfaction (IV)

Client satisfaction was reported in only 29 percent of the encounters. The SCs perceived that they were treated with respect during half of the visits and privacy was observed in 42 percent. Client satisfaction varied by facility type, and overall dissatisfaction were reported in 44 percent of public health facility encounters, in 32 percent of PFP facility encounters, and in 20 percent of the PNFP facility encounters. Privacy during consultations was mostly observed in PNFP facilities. Most of the clients would not recommend the facility to others for contraceptive care.

The waiting time ranged from zero to three hours. However, in about half of the visits, clients waited for less than five minutes (53 %). Clients waited longer during visits in public facilities compared to PNFP and PFP facilities. The consultations lasted between five and 60 minutes. In most encounters the consulting time was 10-20 minutes but there was no significant difference by facility type. In 20 percent of the visits, SCs expressed that the consultation was rushed.

6.4 Client-provider interactions (IV)

Six major themes emerged from the narrative descriptions of SCs' interface with the providers. These were client-provider interactions and perceptions of services received, provider behavior and attitudes, decisions made (methods and restrictions), accuracy of advice and information given, privacy and confidentiality, and how providers treated different types of clients. These are illustrated with quotes in Box 2.

The results showed a hierarchal relationship between SCs and the providers. The SCs also observed that no standard approaches were followed in the delivery of contraceptive care. In addition, providers presented side effects in a manner that seemed to be designed to scare the clients. Often providers gave inaccurate information, for example on FAM, side effects, and how contraceptives work. Even where there were positive experiences with information, privacy and confidentiality were problems. Counseling and services were often provided in presence of other clients or providers' family members.

Providers seemed to treat clients differently according to age, marital status and sex. Comments were often made on clients' age and appearance. Male SCs reported special treatment by some excited providers about men's interest in contraceptive services. Young clients said that they either received "parent like" treatment by providers or were treated harshly. Frequently, the unmarried SCs were asked why they at present didn't abstain from sex and ask their partners to wait with sex till marriage. A number of providers gave the SCs contraceptives only after prolonged debate. Experiences of manipulation and soliciting for money by the providers were also reported.

Box 2. Examples of illustrative quotes of client-provider interactions

Client-provider interactions and perceptions of services received

"..Injection causes bleeding, it may be non-stop, others get headaches all the time or on and off menstrual periods, are you ready for that? there is tension of taking pills every day and the moment you forget you get pregnant" (SC with a Midwife in Public facility)

Providers decisions on methods and restrictions

"...you are lucky if you have a man, first produce more kids before joining such contraceptive methods...oh nurse what can we do?...every contraceptive method is bad- said the lab attendant from the window. The midwife then promoted lactation amenorrhoea and withdrawal method. They both laughed at me... the moment I left, they both started talking about me, that they are surprised such a young person wants to use contraceptives... I felt so embarrassed, so small...I left ashamed and disappointed" (SC with a Midwife, in presence of a Lab attendant, PFP facility)

Accuracy of advice and information given

"...About the natural family planning, he told me about the safe days and he said that the 3 days before the periods and the first 4 days after the periods are unsafe while the rest are the safe days. He added that this method is not accurate and he advised me not to use it because two eggs are released one after the other and that if one bursts, the other remains and if one plays sex while in her periods the sperms meet the second egg and one gets pregnant" (SC with a Nurse in PFP Drug shop)

7. DISCUSSION

This thesis discusses users and providers' perspectives, as well as facility situations related to contraceptive use among young people. As illustrated in the conceptual framework (Fig.1), the findings in the studies contained in this thesis highlight demand and supply side factors that influence contraceptive use and provision to young people. Aspects related to the demand side include socio-economic factors and cultural values that demand large families. Aspects related to the supply side, include health system related factors and the quality of available contraceptive services. The opinions of the young people and the providers did not substantially differ in terms of health service, community barriers and challenges that influence young peoples' contraceptive use.

Young people provided their perspectives on obstacles that impede contraceptive use including misconceptions and fears, gender power relations, socio-cultural expectations and contradictions, short term planning, and health service barriers (I). They also identified enabling factors to contraceptive use including female strategies to overcome obstacles to contraceptive use, changing perceptions and attitudes about contraceptive use and a smaller family size (I). Providers' perspectives demonstrate an interaction between service delivery, provider, structural, and client-specific factors, which influence young peoples' access to and use of contraceptives (II). Examples of such factors include limited method mix, lack of competent providers, negative response by providers, and fears of side effects (II). Our findings demonstrate limited access and low quality of care in contraceptive services provided to young people (III, IV). The analysis of quality of contraceptive services is grounded in Bruce and Jain theoretical framework.

7.1 Obstacles to contraceptive use and provision

7.1.1. *Young peoples' perspectives on obstacles to contraceptive use (I)*

Young people recounted individual, socio-cultural, economic, and institutional obstacles to contraceptive use. Our results show that at individual level young people have strongly embedded misconceptions, profound fears about contraceptives and believe that contraceptives interfere with fertility, which might make initiation and continuation of contraceptive use a challenge. The intensity of misconceptions and fears was surprising. Fear seemed to immobilize young people in their decision-making. The reported fear of infertility is a reflection of the underlying social-cultural values about the importance of child bearing also reported in other studies [47,121]. Further, young people reported that traditional and religious leaders have a strong role in encouraging larger families. The author contends that cultural and religious leaders

can and should be greater allies in the prevention of unintended pregnancy among young women.

Surprisingly, young people placed considerable weight and importance on side effects of contraceptive methods. Although few side effects are known to be life threatening [122], irregular heavy bleeding, loss of libido and weight gain are important problems, particularly among young women using contraceptives secretly. Limited knowledge about contraceptive methods has been linked to concerns about health and side effects [17,123]. It is therefore essential that adequate clinical support is available to readily and competently manage side effects. However, some of the misunderstandings surrounding the side effects expressed also by providers (unpublished data from study II) seem to arise from providers' limited knowledge on side effects management and their lack of distinction between actual side effects and myths. It is worth noting that the benefits related to prevention of unintended pregnancy when contraceptives are used by young people outweigh the potential side effects [16,69]. There is evidence that training providers in communication with clients about contraceptive side effects enhance appropriate clinical support to their clients [124].

Contradictive messages from partners, parents, clergy, teachers, cultural leaders and health workers were identified as key socio-cultural obstacles to use of contraceptives. Young people get conflicting messages since the social norms condemn sex, contraceptives and pregnancy before marriage while partners, peers and media encourage sex [47,125,126]. Persistent pro-natal religious and cultural notions create misunderstandings and criticisms in the communities about contraception [68]. It has been reported that traditions and cultural practices that encourage high fertility are still strong in Uganda as in other countries in the region [66,127]. Our study findings illustrate that cultural and traditional perspective on birth control need to be taken into account when designing contraceptive programs.

Fear of pregnancy not HIV by young men and women is a surprising finding from our studies. Similar findings were reported from a study on emergency contraceptives [74]. Fear of unwanted pregnancy and not HIV indicate the urgent need to promote condom use in order to prevent both unwanted pregnancy and HIV [93]. Also, peer pressure and pleasure from sex was noted to override fear of both pregnancy and HIV. This shows short term thinking and is an attitude that might fuel the HIV epidemic [128].

Contraceptive use among young people was found to be a stigmatised practice. Unmarried women using contraceptives are stigmatized and perceived to be either prostitutes or promiscuous. In this study, young women were afraid of being seen in the queue at service points or being judged by peers or providers. Psycho-social factors

such as fear of social stigma, embarrassment, and social restrictions might deter young people who want to use contraceptive services. A study from Tanzania has demonstrated difficulties to satisfy contraceptive needs in communities where contraceptives are believed to be only for married people [66].

7.1.2 Gender perspectives (I)

Gender inequality in terms of decision making and negotiation for contraceptive use was identified as a major obstacle to contraceptive use among young women. Findings in our studies illustrate young women's limited decision making power and capacity to negotiate for contraceptive use. Limited couple discussions, disagreements, and partner violence was also reported when a woman wanted to initiate or continue using contraceptives. Other studies have also reported that poor spousal communication influences contraceptive use [71,89]. Many young women seem to see fertility as a matter outside their control because of gendered cultural structures. Most women have limited access to resources and are financially dependent on their partners [121], which further limit women's position. In addition, socio-cultural norms asserting that the women's purpose is child bearing, as well as the belief in many children weaken women's capability to negotiate for contraceptive use. Both male and female opposition to contraception was noted although male partner opposition was more prominent due to unequal power in decision making. Research have reported that men's preference influence contraceptive use more than women's preference [129].

7.1.3 Providers views on provision of contraceptives to young people (II, IV)

Surprisingly, the majority of the providers had a view that young people should not use contraceptives. Providers deemed restrictions necessary based on their health and safety concerns, beliefs, moral demeanor, and fear of spousal or parental confrontation. This shows that providers have misconceptions just like their clients, observations also noted elsewhere [94,107]. Providers own cultural and individual positions also interfere with their perspectives on contraception similar to other community members' views. The conservative and negative responses of service providers might influence service as well as contraceptive use negatively [106]. Providers' unwillingness to give contraceptives to young people further illustrates that young people's contraceptive needs are not prioritized. The failure to provide contraceptives to sexually active young people to halt unwanted pregnancy is a concern suggestive of service delivery and health care system crisis[130,131].

Contrary to the national standards and guidelines [48], our studies revealed that providers were imposing restrictions or refused to provide contraceptives, especially to unmarried young people and those without children. Providers imposed consent, age, marital status and child restrictions. This imply that providers are not up to date with

both the World Health Organization contraceptive eligibility criteria and the national policy guidelines [48,132,133]. The mismatch between policy guidelines and provider practices negatively impact young peoples' access to contraceptives. Other studies have reported similar finding [134,135].

7.1.4 Provider perspectives on obstacles to contraceptive use and provision (II)

The providers identified health system gaps to contraceptive access and provision to young people such as sporadic contraceptive commodities, inadequate logistics systems, limited trained staff and weak information systems. Long-acting methods that require fewer visits and have limited adherence or compliance rigor were the least available methods. There was limited access to a variety of contraceptive technologies, hardly any reference to policy guidelines, and limited access to educational materials. Contraceptive use is higher when women have access to a variety of methods [136]. The weak health system, poor service organization, as well as poor quality of services are key factors on the supply side affecting contraceptive use and provision to young people that were identified in the current studies but also cited in other studies [23,89].

Providers also highlighted that cost for transport and contraceptive commodities made access to contraceptive services difficult, especially for those without a disposable income. Despite the inevitable rationing of medical care in Ugandan settings, it is important to address contraceptive commodity security. Other research studies have also noted how costs affect use [90,123].

7.2 Enabling factors to contraceptive use

7.2.1 Young peoples' perceptions about enabling factors to contraceptive use (I)

Despite the existing obstacles, there seemed to be changing perceptions and attitudes in favor of contraceptive use and small family size among young people. Young people expressed urgent needs for contraceptives amidst economic and social pressures. The urgency to use contraceptive suggests that young people are making deliberate efforts and decisions to use contraceptives. Secret use of contraceptives by some women was a strategy identified in our study to counteract traditional and social values. A study from Ghana showed similar findings [121]. The secret use demonstrates the capacity of young women to take action in contexts where social norms prevent women from using contraceptives. This shows that some women maneuver and find ways to use contraceptives despite the gender power inequalities and oppositions from partner and parents. Secret use is, however, likely to put the women at greater risk of violence and desertion if the partner finds out about the use.

Changing attitudes towards a small family size is a positive sign showing that young people are not thinking like their parents. It further implies that there are strategies to counteract traditional norms. The results reflect an attitude change but are not indicative of a broad conviction among young people to adopt and sustain the use of contraceptives. Our findings show that young people who already had children obtained information on contraceptives during antenatal, postpartum, and immunization services. There is national evidence that these services are well attended [1,137]. Thus, strengthening postpartum family planning might be a window of opportunity.

7.2.2 Provider perspectives on prospects for contraceptive use (II)

In addition to short acting methods such as contraceptive pills, and male condoms, a significant proportion of providers expressed competence to provide progestin-only injection a long acting. Recent research also suggests that progestin-only injection can be administered by trained community health workers, which presents an opportunity to expand access [138]. Access to contraceptives was permissible to the married young people and those with children, a positive finding for prospective contraceptive users also shown in other Ugandan studies [105,139]. The reported recent contact providers had with young people in need of contraceptives is indicative of prospects for future use.

7.3 Quality of care in contraceptive services for young people

7.3.1 Quality of care scores and client's views on quality of contraceptive services (III, IV)

The results from this study suggest that the quality of contraceptive services provided to Ugandan young people is low. Both means and categorized quality scores were low for all aspects of quality assessed in accordance with the Bruce and Jain framework. This low quality of services might be suggestive of difficulties young people experience in receiving contraceptives, as well as gaps in existing services. We speculate that improving quality in contraceptive service would increase contraceptive use, consistent with other studies that have related quality of care to contraceptive use [84,88]. The limited contraceptive use in Uganda [38] may, in addition to other factors, such as difficulty in access to services, weak health systems, and cultural beliefs (I, II), be attributable to low quality contraceptive services.

Results from our study further indicate that information and instructions given to clients were incomplete, inaccurate, and often unclear. This implies that it was often not possible for clients to make their own informed choice. Comprehensive and correct information enhances informed choice, a key feature in widening clients' knowledge

and dispelling myths about contraception [75]. The PNFP and PFP health facilities in particular gave moderate or minimal information. This suggests that providers may have limited competence in explaining and providing methods, or have limited time to convey sufficient information to clients, a finding also cited elsewhere [140,141].

The results further indicate that providers control contraceptive choices for young people. The providers were consciously or unconsciously biased when dealing with the young people and often made decision for them, also noted in another study [47]. However, the quality related to choice of contraceptive method was slightly higher compared to other aspects of quality in the facilities visited by the SCs.

Our studies highlight poor method mix to suit individual needs and therefore limited method choice. Allowing women to access and choose from multiple contraceptive methods would increase the likelihood that at least one method of choice would be available given the insufficient supplies of contraceptives at the facilities (II). The limited method mix suggests that young people have limited access to a range of contraceptive methods. However, this might also be explained by the prominent provider bias or recommendation of particular methods. It might also imply that some methods are preferred or more known in the studied communities where young people live [51]. Commercial marketing strategies in Uganda have promoted mostly three main methods, injection, pills and condoms [78], which suggests inherent program bias. These three main methods are the cheapest in the short run, and are also the methods included in the essential national drug list, suggestive of national bias. It has been argued however that long acting contraceptive methods are cheaper in the long run [50]. Method mix has gender bearing since contraception is seen as a women's affair. It is thus not surprising that female methods are more common. Recent study also revealed positive experiences with new female condom [142]. The methods that require male responsibility such as male condoms, rhythm and withdrawal are less frequently used an inclination toward limited male participation in contraception [71]. To promote gender equity, men should be seen as equal partners in contraception [143,144].

This study provides evidence of suboptimal interaction between young people and providers, which is an important aspect of quality of contraceptive services [145]. Negative health care provider attitudes related to young people's contraceptive use has also been observed in a previous qualitative study conducted in Uganda [140]. Such provider behaviors might explain the inconsistencies in contraceptive use among young people. While paternalistic and moral judgments by the providers were said to restrict access to contraception (I), providers also sometimes supported young clients to obtain contraceptives (II, IV).

Surprisingly, the constellation of services was the weakest aspect in the quality of care for contraceptive services. Integration or service mix including dual method use, which is a strong component of appropriate constellation of services, was noted to be limited in the facilities. Information about STIs/HIV, precautions for contraceptive use, and dual methods use, which is important aspect of contraceptive care, was infrequently given. These findings reflect weak constellation of services, consistent with results from a previous study from Uganda [108]. Young people who had overcome all the other obstacles were stopped at the service level (I, II).

Data from the current study indicate low quality regarding continuity mechanisms. Few health care providers informed clients about time for revisits, and clients were rarely informed about sources for re-supplies. Given the importance of continued use and compliance with methods, it is imperative that providers discuss and agree on criteria for follow up visits with their clients.

Our study provides relevant information on health sector performance with regards to contraceptive services for young people. The quality indicators point toward limited compliance by providers with quality of care norms in contraceptive services [77]. Our results show comparable levels of poor quality of contraceptive services offered to young people in public, PNFP and PFP facilities. This is suggestive of poor performance of the national health care system. Others have articulated that young people are often not well received and feel uncomfortable in mainstream family planning clinics [146]. While the capacity of these facilities to provide quality contraceptive services varies, improving quality in both private and public sector might boost on service outcomes [83]. The private sector is too large to ignore, since private providers are responsible for delivering almost half of the services [38,147].

7.3.2 Provider competence to offer contraceptive services (II)

Our findings show gaps in provider knowledge and competence regarding comprehensive contraceptive counseling, management of contraceptive side effects, provision of emergency contraception, fertility awareness and barrier methods, and long-acting methods such as IUDs and implants. A previous study also reported that providers lack important knowledge on emergency contraceptives [139]. Limited knowledge among providers might be a barrier to quality contraceptive care [141]. This might partly explain the low turn up for contraceptive services and the high discontinuation rates [38,69]. Differences in providers' competence by facility type were observed. Providers in PFP facilities rated their competence to be low in providing most of the methods. This might explain why providers avoided to mention methods they did not feel competent to provide and gave inaccurate information,

further creating confusion among the young people who wanted to initiate or continue using contraceptives.

7.3.3 Client satisfaction (IV)

Based on the clients' experiences, the services offered were often unsatisfactory. Our findings show that provider's technical and behavioral inadequacies predicted client satisfaction. Respect by providers, privacy, waiting and consulting time were other predictors. Previous studies have noted that acceptance and use of contraceptives is linked to client satisfaction and quality of care [77,148]. The study results showed that some providers were not respectful and helpful when approached by the clients. Contraceptive clients are more likely to be satisfied when they are welcomed, treated with respect, and encouraged to ask questions and participate in their health care [149]. There variable viewpoints that good quality of care enhances clients' satisfaction and their use of services and improves demand [96]. All in all, clients were not satisfied with the conditions of the facilities, the requirements posed by the providers, and the comfort and convenience of services. Moreover, provider behaviors weaken likelihood for continued use by young peoples. Research has also linked client satisfaction to reduced discontinuation rates [80].

7.4 Methodological Considerations

7.4.1 Quantitative Methods (II, III, IV)

Quantitative data quality is assessed by internal validity (concerned with whether the study is well done and whether the findings are valid), reliability (consistence of measurement or whether the results are replicable), and external validity or generalizability which refers to the degree to which the study findings are relevant to the subjects and settings or context beyond the study [150]. I acknowledge possible strength and limitations that might affect data quality below.

Our studies were limited by the number of facilities, thus our results should be interpreted in light of the relatively small sample size. The aim was to include all facilities (public, PNFP, PFP) in the two HSD. However, the criteria for inclusion in study II was that the facility should provide any contraceptive method, and when the study was conducted only 100 of 130 facilities were providing contraceptives. Though the sample was small, it was adequate for comparisons by facility type and the providers included in the studies were representative of the districts. The findings can thus be generalized to providers and facilities in similar HSDs and districts nationwide. Studies were cross- sectional, thus no causal relationships are drawn.

One representative from each facility was interviewed. The health care provider in charge of maternal health /family planning services (Public, PNFP, private clinics), and the most conversant person in provision or selling of contraceptives (drug store, pharmacies) was selected and interviewed. Thus, the selection of providers might have had an impact on the study results. No provider refused to be interviewed. Study II was limited by the use of data that relied on contraceptive service providers' own perceptions and reports. Self-rating and reports though multipurpose and straight forward, are considered to be more subjective than observed or measured practices [151]. There were also deferring levels of the provider training and experience of the health care providers. However, these shortcomings were minimized through proper interview techniques during the face-to-face interviews conducted by the author and carefully trained interviewers with research field experience. Further, the questionnaires and all research tools were pre-tested and modified before use, a measure that improved reliability of results. The author also closely supervised data collection activities. The tools were developed by multi-professional research team (nurse/midwives, Obstetrics and gynaecology, epidemiologist), guided by research questions.

Study III relied on SCs for evaluation of quality of services provided. It is possible that SCs may not have accurately recalled all the information, but to limit recall bias, the interview was carried out immediately after the encounter with the provider [5,114]. In addition, evaluation was strengthened by the selection of competent SCs with good communication skills, use of more than one SC in the study and by each SC presenting only one case scenario. The SCs were also trained carefully before data collection started. Variation in sex of SCs and of case scenarios is a potential source of fault but applying factor analysis eliminated inconsistent variables and cases. Some of the PFP facilities were drug stores with limited services but these were assessed based on methods they provided according to the case scenario. Use of Yes and No responses (scale 0-1) has limitations of lack of variability. However, the several ways used in analyzing the data including frequency distribution, Kruskal-Wallis test, summative score, and scores created by factor analysis is considered strength.

7.4.2 Qualitative methods (I, IV)

Trustworthiness

In qualitative inquiry, aspects of trustworthiness or assumptions to determine the rigor in which the research process was performed have been described [152,153]. These include credibility (how well the data and analysis addresses aim of the study), dependability (process of research reliable and possible to repeat), conformability (findings derived from the data) and transferability (extent findings can be transferred to other settings or groups) [116,153],

Credibility, which is also defined as the ability to assemble multiple realities [154] was achieved by the following measures. The author spent long periods of time in the study communities, this prolonged engagement and observations strengthened understanding of the realities of the young people. Participants in the FGDs were carefully identified and selected by the author in collaboration with youth and local leaders. In order to capture diverse experiences and perspective, the participants included the younger and older, married and unmarried, male and female, from rural and urban areas with a mix of social economic status. All these contributed to variation and as broad perspectives as possible as illustrated also by the quotes [152]. Credibility was also achieved by triangulation as discussed below. Dependability can be assessed by the reader from clearly documented data collection and analysis while conformability can be judged from transparency in presentation of results [112].

Transferability refers to applicability of qualitative findings to other populations or groups [153,154]. To enhance transferability the author has described the qualitative research process in detail [155], including the context, selection and characteristics of participants, data collection and analysis including illustrative quotes to ensure that the reader can make alternative interpretations of the findings. The richness of the qualitative data provides explanations and reasons stated by young people themselves that increased our understanding about use or not use of contraceptives. The qualitative findings might not be generalizable to all young people, but could be applied in specific Ugandan context or settings and also other countries with similar populations, social economic setting and situations.

Triangulation

Trustworthiness in qualitative research is further strengthened by triangulation [156]. Four ways of triangulation were applied in this thesis which all enhanced credibility in our studies. Method triangulations, a combination of qualitative and quantitative research methods were used. Investigator triangulation was achieved by employing several researcher perspectives (Swedish and Ugandan co-authors with different professions). The coding of the FGD transcripts (I), semi-structured narratives (IV), and open ended questions in the semi-structured interviews (II) was done by the author, and discussed with co-authors [112]. Data triangulation or use of more than one source of data in a study was done (II, IV). The narrative accounts (IV) clarified some quantitative questions (III). Theory/perspective triangulation, which refers to the use of more than one theoretical perspective to interpret data, was done to a limited extent.

Reflexivity

In qualitative research total impartiality on the part of the researcher is unachievable and a researcher is an integral component of the entire process. Reflexivity stresses

acknowledgement by the research that one's perspective, actions and decisions inevitably impacts on the meaning and context of the experience under investigation [157]. Thus, the gender, profession, and social background of those conducting the research and how this is accounted for influence the research process [120,152]. The on-going process of questioning, examining and understanding one's own part in the research process is important [120]. I introduced myself as a researcher, and I jotted notes to reflect on the discussions and interviews. As a nurse midwife, my background helped in building rapport with study participants. This made it safer for the participants to share and participate freely in the FGDs. Young people's accounts and simulated clients' narratives deepened my understanding of realities towards contraception. During interviews and analysis of transcripts I cannot say with certainty which aspects of my past experiences, personal assumptions, appearance, and behavior shaped our data collection and research as a whole. I analyzed transcripts and narratives in light of my experiences and identity. I acknowledge the reflexive accounts and do not claim to fully capture my influence in the data production and analysis. Peer review by diverse research team insiders and outsiders helped to check for consistence [112].

8. CONCLUSION

- Misconceptions, fears and safety concerns about contraceptives were common both among young people and among health care providers
- Gender power inequity with men making most fertility decisions, and socio-cultural contradictions influence contraceptive use negatively
- Contraception among young people is a stigmatized practice
- There are changing perceptions and attitudes in favor of contraceptive use and smaller families among young people but the obstacles still overwhelm them
- Facilities were not prepared in terms of service organization, structures, and resources to provide highly effective contraceptive methods to young people
- Service level barriers to contraceptive access such as restrictive and paternalistic attitudes of service providers were common
- Health care providers made no or limited reference to nationally available supporting policies/guidelines and enforced non-evidence based practices such as consent requirements, age restrictions, and child requirements
- Most health care providers believed that contraceptives should not be used by sexually active young people and were thus unwilling to provide contraceptives to them
- Health care providers had gaps in knowledge and competence to be able to provide comprehensive and quality contraceptives services
- There was poor method mix and limited access to long term methods as well as new contraceptive technologies but short-acting contraceptive methods were available and their provision favorable for young married women and those with children
- The quality of contraceptive services provided to young people was low. All elements of quality of care for contraceptive services (choice of contraceptive methods, information given to users, technical competence of providers, interpersonal relations, continuity mechanisms, and constellation of services) were weak and need improvement
- Health care providers chose or recommended specific contraceptive methods, young people were therefore not able to exercise their rights to choose, obtain and use contraceptives when needed
- Overall satisfaction with services was rated low and client- provider interactions were often unfavorable and hierarchal in nature

9. RECOMMENDATIONS AND IMPLICATIONS

It is important to provide factual and correct information to demystify misconceptions and fears about contraception in order to harness individual and societal motivation towards contraception. This calls for training and retention in all sectors to ensure adequate knowledge among the providers. Fear of pregnancy not HIV is a surprising finding that calls for strategies that promote the use of dual contraceptive methods.

Our findings imply that alternative models of contraceptive service delivery to young people are required. The author proposes the following models. Firstly, alternatives to facility based services such as youth groups, work places, social congregations, schools, and home-based care are needed. Secondly, contraceptive services need to be linked to social development, improved literacy, poverty eradication, and gender equality initiatives. Thirdly, community networks should be utilized to improve information, service, and counseling on contraception in order to foster behavior change, and overcome conservative socio-cultural norms to birth control. Fourthly, legislations that allow distribution of contraceptives in schools, task sharing, immediate post-partum contraception and adoption of a variety of cheaper effective contraceptive methods should be put in place. Finally, joint decision making regarding contraceptive use, with men and women as equal partners should be encouraged.

Improving access, quality and use of contraceptive services requires health system strengthening, quality improvement, human resources, and better stewardship. The Government need to strengthen capacity at community level to procure, distribute, and manage contraceptive commodities and educational materials, thus ensuring that providers and clients have access to reliable supplies and correct information.

It is essential to educate providers, policy makers and communities about young peoples' contraceptive needs and to enhance the image of contraceptives by re-assuring young people and the public that contraceptives are safe. Media and other advocacy approaches could facilitate this process.

Government leadership towards, controlling family size is critical. Government should strengthen commodity security and provide pre- and in-service training of providers regarding long-term contraceptive methods, youth friendly services, and management of side effects. There is also need to disseminate national policies, standards and guidelines on family planning to health care providers and stakeholders in public and private sectors. Integration of contraceptive services at all levels in existing programs in public and private sector facilities should be encouraged.

Future studies and reflections

Future studies should approach and discuss with men about the risks of unwanted pregnancy and excessive fertility. Studies were cross-sectional and descriptive, thus no causal relationships can be drawn. Prospective studies on contraceptive use patterns are recommended.

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