FACTORSASSOCIATED WITH INCIDENCE OF CONTRACEPTIVE DISCONTINUATION AMONG WOMEN 15-49 YEARS OF AGE IN HAI DISTRICT, TANZANIA 1991-1993

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ABSTRACT

A retrospective survey among women 15-49 years of age who accepted oral, injectable and IUD contraceptives for the first time during the period October 1991 through September 1993 at Family Planning Service Delivery Points (SDPs) in Hai District, was conducted between December 1993 and March 1994.

The aim of the study was to determine incidence and factors associated with contraceptive discontinuation, method switching and quality of care at the SDPs.

A total of 1055 subjects from 15 SDPs selected by a multi-stage sampling method were investigated following house to house interview using a questionnaire. The data was analyzed by SPSS and STATXACT software.

Results showed that 37.8% of the study population discontinued contraception with monthly incidence rates of 1 to 333 per 1,000 person-months exposure at risk of discontinuation; with the high rates occurring during the first three to six months of method use.

Risk factors influencing contraceptive discontinuation significantly included: age group 40-49, early marriage, low parity, having no or low number of living children, low education status for women and/or husband, desire for additional children, Roman Catholic and not gainfully employed. Others were: spacing contraception, informal inter-personal communication prior contraception, lack of informed method choice, method switching, clinic-drop out

and dissatisfaction with quality of care at SDPs.

Reasons reported for discontinuation included: Side-effects of method (48.8%), insufficient quality of care at SDPs (13.1%), planned pregnancies (12.8%), unplanned pregnancies (6.8%), and rumours (6.8%).

A woman dissatisfied with contraceptive method and services may either change to another technique and source of supplies if sufficiently motivated or drop out of the family planning program participation if motivation is weaker.

Improving quality of care at SDPs according to clients characteristics and needs especially for newly recruited clients with risk factors that influence contraception discontinuation will motivate and satisfy clients and minimize discontinuation.

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LIST OF ABBREVIATIONS

DMPA	=	Depot Medroxyprogesterone Acetate
COCS	=	Combined Oral Contraceptives
CUT.380A	=	Copper T.380A
IUCD/IUD	=	Intrauterine Contraceptive Device
MOH	=	Ministry of Health
NFPP	=	National Family Planning Program
TFPSAS	=	Tanzania Family Planning Situational Analysis Study
TDHS	=	Tanzania Demographic and Health Survey
CI	=	Confidence Interval
OR	=	Odds Ratio
SPSS	=	Statistical Package for Social Sciences
SDP	=	Service Delivery Point
MCH/FP	=	Maternal and Child Health/Family Planning
MCHA	=	Maternal and Child Health Aids
MMC	=	Muhimbili Medical Centre
MUCHS	=	Muhimbili University College of Health Sciences
FP	=	Family Planning
IPPF	=	International Planned Parenthood Federation
WHO	=	World Health Organization

DEFINITION OF TERMINOLOGIES

Contraceptive Continuers:

Refers to women who reported using a contraceptive method within the 24 month interval of the follow-up study. This included both women who, until on the last day of the observational period were still using the method that they had chosen at enrollment and women who had changed to a different method.

Contraceptive Discontinuers (or Contraceptive drop-outs):

Were women who had completely stopped use of any contraceptive method during any time of the follow-up interval.

Family planning:

Implies the ability of individuals and couples to anticipate and attain their desired number of children and the spacing and timing of their births. Family planning is achieved through contraception and treatment of involuntary infertility.

Contraception:

Any means capable of preventing pregnancy. The

contraceptive can be obtained through temporary or permanent means.

Contraceptive discontinuation:

Termination of any contraceptive method use at any time of the follow-up interval.

Contraceptive method switching:

Changing from one form of contraceptive method to another but not simply changing brand names of a contraceptive method.

Modern methods of contraception (sometimes called as effective methods of contraception):

This refers to those contraceptive methods having a failure rate in actual, consistent and correct use of less than 20% per year. These methods can be either irreversible or reversible of short or long term. These include: pills, IUD, injectable (e.g. Depo-provera, NET), implants and voluntary surgical contraception (i.e. tubal ligation in females and vasectomy in males).

Traditional methods of contraception:

This refer to:

(a) Natural methods which are employed by an

individual or couple to do selective intercourse either to achieve or avoid pregnancy after studying the woman's menstrual cycle and identifying infertile and fertile periods. The methods include: the calendar rhythm, the basal body temperature, the symptothermal, the Billing ovulation and Breast feeding.

(b) Cultural practices related reproduction and sexuality that affects fertility. Examples: Postpartum and lactational abstinence, coitus interruptus and polygamy.

(c) Intentional use of locally available plants and substances for purpose of controlling fertility, e.g. "pigi".

Family planning services delivery points (SDPs):

These are placed where family planning services are provided. The main service outlets are governmental health institutions, hospitals, health centres and dispensaries.

Non-response:

Refers to the failure to measure some of the units in the selected sample due to various reasons such as failure to locate or visit some units, not-at-home and

refusal to cooperate.

Call backs:

A technique by which a minimum number of contacts that must be made on any unit (drop out) before abandoning it as "unable to contact".

Client or acceptor of a contraceptive methods:

Is one who uses a contraceptive method.

Services provider:

One who provides family planning methods and services at an SDP. This is usually a health personnel such as a Maternal and Child Health Aider (MCHA).

Contraceptive spacers:

Those who expect to plan for a baby at some future time (i.e. delaying pregnancy).

Contraceptive limiters:

Those who did not expect to plan any further pregnancies (i.e. preventing pregnancy)

Incidence of contraceptive discontinuation:

Refers to new cases (contraceptive discontinuers) occurring among previously unaffected individuals

(contraceptive continuers).

Incidence rate of contraceptive discontinuation:

Refers to the number of individuals undergoing contraception discontinuation onset in the study population divided by the sum of time periods experienced by all individuals in the study population during which these events occur per 1,000 i.e.

Incidence rate =

$$\frac{\text{Number of individuals undergoing discontinuation per 1000}}{\text{population time periods (in person-months)}}$$

Where the deminator indicates the sum of time periods for all individuals in person-months.

Person-months:

Refers to the number of months of contraceptive practice that each client contributes to a cohort study.

Unplanned pregnancy:

Defined as pregnancy that came sooner than it was wanted or was not wanted ever.

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DECLARATION

I HEREBY DECLARE THAT THIS DISSERTATION IS MY ORIGINAL WORK AND HAS NEVER BEEN SUBMITTED FOR A DIPLOMA OR DEGREE IN ANY OTHER UNIVERSITY

CANDIDATE'S SIGNATURE M. Nyangaji DATE 16.10.1995.

M. NYANG'ANYI, MD

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1.0. INTRODUCTION

Discontinuation of contraceptive practice is a complex social, cultural, psychological and often medical problem involving numerous contraceptive methods and channels characterized by a range of variables often independent of family planning programmes.[1] It is a component of several patterns of contraceptive use and is as yet only partially understood. There are very few papers explicitly on discontinuation, but quite a considerable number which touch in some way on the problem of contraception. Hence, the picture we have gained to date of contraceptive discontinuation is fragmentary. However, discontinuation cannot come as a surprise: the natural side effects of the principal contraceptives and the differences between users, services and the societies to which discontinuers belong, are given as features of any organized family planning programme services.

In Tanzania, recognizing the need to coordinate and consolidate the existing family planning activities, and the need to plan a comprehensive strategy for future efforts in this field, the Ministry of Health and Social Welfare produced a five-year plan of operation for the NFPP 1989-1993. This operation document cited major strengths and a number of basic weaknesses of the existing Family Planning programme. Among the weaknesses, was the high discontinuation rates of modern contraceptive methods ranging from 20-70% of the initial acceptors as reported

from few service delivery points in the country.[2] This is a serious programme problem which must be given priority. Probably this high discontinuation rate could contribute significantly to the low level of contraceptive prevalence rate (CPR) of 6.6% for the married women who are currently using a modern method of contraception as indicated by results from the recent Demographic and Health Survey (TDHS, 1992).[3]

Before the Ministry of Health (MOH) can develop appropriate strategies and implementation plans to address the problem of contraceptive discontinuation, a more systematic and closer examination of the magnitude and factors influencing the discontinuation is required in different geographical areas of the country. The reasons which are currently at the root of these problems also need to be examined and confirmed. To date no such assessment has been conducted on a large scale. In response to these information needs this study was therefore undertaken in Hai district.

In this report, the information obtained on all 1055 contraceptive acceptors is analysed, discussed and finally recommendations for a reduction of discontinuation rates and promotion of family planning services in the study area and Tanzania in general, are suggested.

It should be noted that no single intervention will work in isolation but only when combined approaches are carried out, that the desired effects will have an appreciable impact.

2.0. STATEMENT OF THE PROBLEM

Discontinuation has rarely been studied for its own distinctive features as a regular and foreseeable aspect of family planning. Moreover, there are very few papers explicitly focussing on discontinuation, although quite a number shed light more or less directly upon it. The organizational contexts of these studies are very different. Some present the findings of clinic-based data characteristically with a small, self selected intake over a long period, while some report on similar services within larger specialized projects.[4]

In Tanzania, for example, very few area-specific studies mainly clinic-based have been done in the country. From these studies it was found that the magnitude of contraceptive discontinuation was very high and varies greatly in different geographic areas of the country.[5] The estimates of the discontinuation rates varied from 20-70%. The variation was also method specific depending on the method used. Similarly, by adoptation of the life table method, under the term "extended use-effectiveness" a number of studies in other selected developing countries have shown consistently high cumulative rates of discontinuation for the oral, injectable and IUD contraceptives.[6] For the IUD, discontinuation is nearly one-third in the first year, nearly one-half by the end of the second year. Pill discontinuation is higher still, approaching one-half at the end of one year, and two-thirds

by the second year. Similar rates as for the pills were reported for injectable users.

Besides the magnitude of the discontinuation cited above, these studies provide necessary but incomplete information on a number of user attributes (Socio-demographic characteristics and stereotyped reasons for contraceptive discontinuation) and a few clinic variables. These data, though subject to variations in the field conditions and methods of study, indicate that contraceptive discontinuation is a serious problem to most Family Planning Programmes which must be given priority.

2.1. RATIONALE OF THE STUDY

This study is important because it aims at determining the magnitude and potential risk factors that have considerable impact on discontinuation use of modern contraceptive methods by women of reproductive age. Although the National Family Planning Programme (NFPP) is aware of the low level of contraception adoption, low continuation rates and high contraceptive discontinuation, it still has no adequate information on the magnitude and factors associated with the high contraceptive discontinuation in its various systems of service delivery points (SDPs).[6,7] The previous studies had shown that the magnitude of contraceptive discontinuation was very high and varied greatly in different geographical areas of the country ranging from 50% to 70%. These studies, however,

were clinic-based only. The problem with some of these clinic-based studies was that the study population was never as clearly defined and followed-up to an extent that some of the causes and possible determinants of contraception discontinuation were inconsistent for general agreement, possibly due to methodological problems including small sample sizes.[8] Furthermore, over a certain period of time a considerable proportion of acceptors might fail to return to the clinic. Doubtless, some of the lost clients had stopped taking contraception because of side effects or for other relevant reasons, while others among them were still on contraception but obtained supplies from other sources.[6,8] All this may contribute to less accuracy of estimating the magnitude of contraceptive discontinuation. Hence, a carefully designed clinic-based study in conjunction with a follow-up of the study population in the community approaches was needed to describe the problem in different geographical areas of the country including Hai district in which no such studies had been conducted before.

In addition, the study aimed to assess the clients' views and experiences with regard to the problem of contraceptive method switching and discontinuation which were hitherto unknown. Moreover, the quality of care of family planning services at the SDPs, during their observational periods of contraceptive use of the methods accepted was to be assessed.

Also, some studies[1] have shown that a survey of contraceptive use (continuers) and discontinuation (discontinuers) in isolation, either at single pints in time or in terms of one contraceptive method, gives a distorted picture of actual contraceptive practices, and neglects the differential development impact of services. Hence, the current study found it important to follow-up and assess the experience of clients using the three principal contraceptive methods (oral, injectable and intrauterine contraceptives) at different times within a period of twenty four months.

An identification of all these causes and associated factors in the community in conjunction with the determination of the true population incidence patterns, would make a contribution towards the establishment of the basis for effective preventive measures of the modern contraceptive discontinuation. It would also ultimately lead to the improvement and expansion of family planning services by the planners and managers of the National Family Planning Programme in the study area and Tanzania in general.

3.0. REVIEW OF LITERATURE

3.1. Definition of contraceptive discontinuation:

Contraceptive discontinuation generally refers to stopping or terminating contraception after using all measures, either traditional or modern, designed to prevent pregnancy by inhibiting ovulation, fertilization or implantation.[6]

This study, however, covers only three most commonly used modern, reversible and effective contraceptive methods for females in Tanzania which include oral contraceptive method (pills), injectable contraceptives (Depo-provera) and intrauterine contraceptive devices (IUCD).[7]

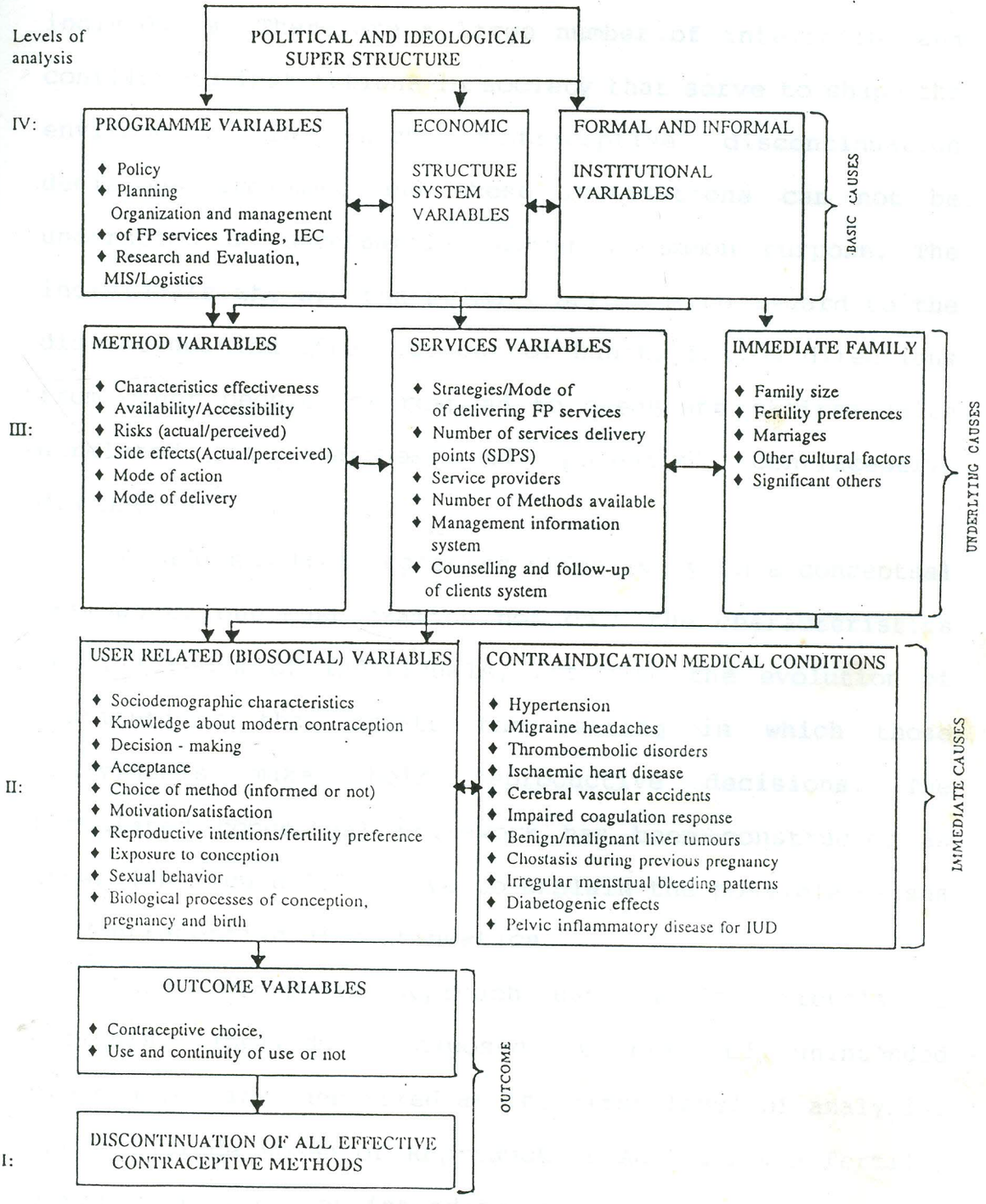
However, sometimes there is a procedural problem which leads to lack of standardization: at what point should the cut-off point be placed for measurement purposes?. For the intrauterine contraceptive device, expulsion or removal without reinsertion or change of method is identifiable, i.e. the device is not in situ at the recording date. For the oral and injectable methods there is usually some arbitrary point of last contact which may be used as a standard. Studies[9] vary as to whether they assume a woman is a continuing user until the device (IUCD) is not in situ or she has finished all the pills and injectables she has been given or only some of them. Others may stipulate some period since last contact according to a method accepted. The concept of considering a woman a continuing user until an IUD is not in situ or when she has stopped/finished all

or some of the pills and injectables delivered to her is assumed in the current study.

3.2. Causes of contraceptive discontinuation

The causes of contraceptive discontinuation are many, varied and interrelated, in such a way that there is a need to identify and analyse critically these causes, together with their possible determinants.[2] This will help plan for the establishment of acceptable and feasible designs of actions appropriate in a particular situation. an overview of the possible factors causing contraceptive discontinuation can be explained in a formulated conceptual frame work as shown in Fig. 1.0. and discussed below.

Figure 1: General conceptual framework of possible causes of contraceptive discontinuation



3.3. Conceptual approach on Contraceptive Discontinuation

Contraceptive discontinuation is the outcome of a decision-making process that involves both institutions and individuals. There are a large number of interacting and conflicting institutions in society that serve to shape the environment in which contraceptive discontinuation decisions are made and these institutions can not be understood as necessarily having a common purpose. The individuals who are the primary actors with regard to the discontinuation often act out of habit, follow directions from other people, or respond to needs and desires quite unrelated to awareness of potential contraceptive discontinuation.[10]

To address these concerns effectively in a conceptual framework, one must examine not only the characteristics and attitudes of individuals, but also the evolution of institutions that create the setting in which those individuals make their reproductive decisions. The formulated conceptual framework has been constructed as shown (in figure 1.0) above to explain the possible causes of contraceptive discontinuation.

This conceptual approach uses 4 depth-levels of analysis. Individuals exposed at risk of unintended pregnancies are identified at the first level of analysis. These include women of Reproductive Age who are fertile, sexually active, not intending to become pregnant but not using any form of contraception.

The next level of analysis consists determinants that would be identified as the immediate causes of the problem. Here one examines the user related theory of fertility which defined that interaction of social behaviour with the biological processes of conception, pregnancy and birth. That is, how an individual woman will behave in a particular way (in this case to use or stop contraceptive method) when under the influence of given social variables such as marriage at early ages, low parity, need for more children, low education and economic status. Similarly, medical contraindications to contraceptive method use are considered here. (See figure 1.0) of the conceptual framework.

At the third level of analysis, the possible underlying causes of the contraceptive discontinuation are identified. They are numerous and inter-related. They have been divided into three major groups: variables pertaining to contraceptive methods, variables related to family planning services provision, family structure variables and the immediate family - structure variables. These three groups of institutions constitute the primary (underlying) environments within which fertility or contraceptive discontinuation decisions are formulated; they are aggregated according to the role they play in influencing fertility behaviour of the proximate or user related variables described above.

Above this level of underlying causes can be found a fourth level which constitutes the basic causes of the problem. This covers the National Family Planning Programme Variables including its policy, organisation, management and other basic components of the programme. The level also includes the economic system which affects production, distribution and consumption of commodities and exploitation of resources. Formal and informal institutions included here provide basic services such as the educational infrastructures (which include schools, the press, radio, television, and various avenues of cultural expression). The institutions also promote proper practices regarding provision of the quality care of family planning services and use of appropriate and culturally acceptable contraceptive technology to the potential clients. The tasks for formal institutions are performed by the government and the ruling Party, Voluntary Agencies, and International donors. Contribution to these activities is also achieved by the informal institutions like households, extended families, "Significant Others", traditional healers, traditional birth attendants and religious institutions.

At the apex of this framework stand the political and ideological principles espoused by significant sectors of a given society. To large degree, the institutions that people build are designed to represent and promote their ideology. Although ideologies are seldom accepted in a

uniform fashion by all members of society, one function they serve is to provide the basis for defining the scope and nature of the relative power invested in the state, in constituent social groups and in individuals.

By implication, the conceptual framework involves a complex mix of factors which result from a number of basic political, economic, socio-cultural and psychological circles that create an environment conducive for discontinuation. These factors interact at different levels to bring about contraceptive discontinuation.

3.4. Causes of Contraceptive Discontinuation as found in some studies conducted Globally

In one study by Karagaratnam, et al (1969)[11] on the discontinuation rates for oral contraceptives by the pill acceptors who first came to the National Family Planning clinics in Singapore from July 1967 to 31st December, 1968 it was found out that 46% of the sample discontinued to use the pills. Among them nearly 70% had known reasons for discontinuing which included: method failure and planned pregnancies (11%), medical conditions (22%) such as all kinds of side effects, personal and no longer required (13%) such as womens fear, relative/spouse request, financial constraints, illness, living away from husband and all other reasons (24%).

In one comparative study of low dosage use of oral contraceptives it was found that many of the reasons for

dropping out suggest that there was insufficient instructions and motivation of the women during their first visit, so that they were not prepared for the side effects and difficulties of the methods and were not sufficiently motivated to work with them.[12] This is supported by a recent research at the population council which showed that improvement in quality of service is seen as decreasing fertility by increasing the acceptance, continuation and thus increasing the prevalence of contraceptive use of methods and decreasing the discontinuation rates.[13]

Dropout Because of Side Effects

Several available studies[14] indicate that a substantial proportion of all dropouts, especially those occurring during the first 3 cycles of use of the pills, are attributed to side effects. The overall range of variation in the ratio of dropouts caused by side effects to total dropouts due to other reasons is very wide, from zero to 75 percent, although half of all the studies fall in the range of 15 to 30 percent, and two thirds in the range between 10 and 40.

It is fairly clear from the available studies that the side effects most frequently cited as reasons for a hormonal contraceptive method discontinuation are nausea and vomiting, headache, dizziness, nervousness, break through bleeding, plus amenorrhoea, lower abdominal pain and weight gain.[15]

3.5. Factors Associated With Contraceptive Discontinuation

1. Characteristics of women (age, parity, education income).

Very few of the available studies[11] on modern contraceptive methods classify discontinuation rates of the method according to various characteristics of the women such age, parity, education, occupation etc. The Westoff-Ryder study (1968)[16] in the United States of America and the Wiseman[17] study in England on duration of use of oral contraception provides some useful data on this subject as do the Bombay studies by Kanitkarand and Shah[18] and the Frankin-Tietze study[19] on the discontinuation of the IUD.

The Westoff-Ryder study showed that younger women (aged less than 30 years) had somewhat higher continuation rates than older women. But, the Wiseman study in England and kanitkar's study in Bombay did not show higher rates for younger women. In Wiseman's study, continuation rates were highest at ages 25-34, in kanitkar's study, women over 35 years had the highest discontinuation rates for the first six months or so.

One hypothesis is fairly well supported by the data for each country: that continuation rates, after about the first six months, at any rate, tend to be lower, for the elderly women (aged 35 and above) than for women in main reproductive age groups. this could probably be expected, since the fecundity of the older women would tend to be falling during the course of the study and some would be reaching menopause.

Westoff and Ryder showed that lower parity women (less than 3 living children) had higher discontinuation rates than higher parity women (more than 4 living children) women. But Kanitkara's study, during the first 7 cycles are higher for the higher parity women (with more than 4 living children).

Life-table continuation rates were positively related to age and number of living children. The older the women, and the larger the number of living children, the higher continuation rates. Among the women under 30 years old, women 25-29 years of age had higher rates than those under 25 years. Among those aged 30 and over, women of 35 years had higher continuation rates than those aged 30-34 years.[18,19]

2. Decision-making

In changing sexual behaviour and fertility, people go through an extended decision-making process. People go through steps, often thinking about choice and gathering information and opinions from various sources for sometime before making a full commitment to family planning.

Counselling by service providers can be an important step in facilitating personal decision-making.[20] Successful continued use of contraceptive method requires that sexual partners talk to one another and share responsibility for decisions and behaviour.

Couples who discuss about family planning and the number of children they want, taking into consideration of the welfare and well being of the family in general, are more likely to continue using contraceptive methods and achieve their family planning goals than those who do not.[21]

In one study by Ward, M.V. et al (1992) on exploring socio-cultural barriers to family planning among Mayans in Guatemala, the results indicated that social pressure against family

planning is a substantial barrier to its use. Community leaders, religious leaders, "significant others" and husbands exert considerable influence on family planning decisions and usually oppose the use of contraceptives.[22]

3. **Client-provider relations**

The way service providers treat clients has a substantial impact on client's willingness to follow advice and to return for supplies and services or when they have problems. Thus family planning clients are more likely to discontinue contraception or not return to service facilities if they are not treated with courtesy.[20,23,24] Thus good individual counselling is a crucial part of effective family planning programs.

Reproductive intention (fertility preferences)

Women are assumed to initiate child bearing at marriage (or at entry into a socially sanctioned union) and to continue child bearing until they reach their desired family size. At this point in their reproductive life cycle, women are assumed to want more children and to practice contraception to avert unwanted pregnancy until the end of their reproductive years. Women who

want to stop child bearing are referred to as "limiters" and those who have not achieved their desired family size as "spacers".

Contraceptive use among spacers is assumed to be lower than use among limiters. Data from 18 countries with Demographic and Health Surveys (DHS) support this concept, where it was shown that the level of contraceptive use was 49 percent among the limiters and 24 percent among the spacers.[25] That is, in these countries, there was a systematic pattern of differences in these variables depending on the stage of the fertility preference transition: In societies where relatively few women want to limit childbearing, reproductive intentions have only a modest impact on contraceptive used and fertility, whereas in countries where large proportion of women want no more births, most of them continue to practice contraception to control their fertility.

4. **Source of influence in the decision making to choose a method:**

Free and informed choice of family planning methods should be a fundamental principle of a family planning program. The overall mix of methods can vary not only from country to country

but also among regions and districts and among family planning acceptors served by different delivery systems.[26]

In one operational study of choice and continuation of oral, injectable and IUD contraceptives which was conducted in several countries (India, the Philippines, South Korea and Turkey)[27] it was found out that there was significant decrease in contraceptive discontinuation when women were given balanced information by the service provider on various aspects of the contraceptive methods compared with previous patterns of contraceptive use without a balanced presentation of information on the methods and the decision of the method for individual accepter being made by the service provider alone without considering preferences of their clients. This suggests the value of permitting a free, informed choice of contraceptive methods.

5. **Follow-up procedures**

Once a woman has become a client in a family planning clinic, the major role of the formal communication effort is to encourage her to enrol in the programme as an effective user of a good

contraceptive method.[28]

Differences in the operation of the clinics are, perhaps, more important than differentials in the client population characteristics. The major consideration here is the difference in follow-up methods, that is, the amount and type of follow-up in terms of the post proper record keeping made to clients who discontinue contraception. It is important to note that all the clinics with poor continuation rates had no follow-up.

The reasons for not coming back to a clinic will influence the extent to which follow-up might be expected to work. If the causes make the clients unavailable for service-e.g. moved, planned pregnancy, or birth control no longer needed-then follow-up can have no result. If the causes are ones of motivation, attitudes, or accessibility, follow-up can have a significant impact.[22,23,29,30]

One study[17] found out that 48% of the clients discontinued pills after a two year period, 15 per cent of these had moved, 27 per cent wanted a baby or no longer needed contraception, and the remaining 58 per cent still needed contraception.

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Many of the reasons for dropping out suggest that there were insufficient instruction, and motivation of the women during their first visit, so that they were not prepared for the side effects and difficulties of the pills IUDs and were not sufficiently motivated to work with them.

6. **Responsiveness**

Increased programme responsiveness will translate into greater sustained contraceptive use. To achieve this, there need to be effective mechanisms for feedback and for programme modification. For example, in one study, in rural Egypt it was found that a system for distributing contraceptives and the levels and kinds of information being provided were failing to meet the perceived needs and wants of the users. In a responsible pilot project, efforts were made to learn of the failings from the clients and to remedy them with clients participation.[26]

3.6. Contraceptive Discontinuation in some developing countries in general:

Information regarding discontinuation of contraceptives in developing countries has been quite limited until recently and still is far from adequate.[22] The studies themselves vary greatly in their design, the completeness of reporting and

explanation of how the data are handled (many of them are currently in progress).

Parker Mauldin (1978)[20] surveyed the experience with contraceptive methods in industrially less developed countries and found out that on average, with few exceptions, less than 20% of the married women of the reproductive age were then using contraceptives. It was found out that, continuation rates were terribly low in studies from several dozen selected countries. Of 100 women who had had IUDs inserted an average of 34 had had them removed during the first 12 months and an average of 10 more had done so within the second 12 months. Of 100 women who had actually begun using the pills, 20 to 30 had dropped to use them during the first cycle and an average of 55 had abandoned them within the first 12 months and 16 more within the second 12 months. Important differences noted in the various studies included the following matters: the kind of method used, the length of time for which a prescription is valid, the charge made for a method, whether the services are available to al eligible women or only to selected target population (such as married or parous women) the frequency and type of follow-up to women who do not return for additional supplies, availability of other sources for the methods and varieties of methods.

One study was conducted in Lusaka, Zambia in which 2,192 client records were examined randomly in 22 family planning clinics throughout Lusaka province.[33] In this study, 25% of the clients never returned to the clinic within one calendar year of the initial visit, 31% returned only once or twice, 25% returned 3 or 4 times - which was the normal number of visits for a client receiving 3 cycles of pills at a visit.

18% returned 5 or more times because of problems or because they were given a small quantity of contraceptives at each visit.

The fact that 43% of the clients above made at least 3 or more visits to the clinics within a year indicated high motivation on the part of the clients to practice contraceptive. However, one year after enrollment, only 24 per cent on average of female acceptors were still actively attending the clinics. 76 per cent had failed to return as scheduled. The percent of active clients at the end of one year ranged from 0 - 40% in the different clinics.

3.7. The extent of the problem in Tanzania

In Tanzania there is no study that has been conducted nation-wide to provide an estimate of the magnitude of the drop-out rates among women of reproductive age (15-49) who accept the modern, effective and reversible methods of contraception.

However, very few area-specific studies (mainly based at the family planning clinics) have been conducted in the country. From these studies it was found out that the magnitude of contraceptive discontinuation was very high and varies greatly in different geographical areas of the country.[6] The estimates of the discontinuation rates varies from 20-70%. The variation was also method-specific depending on the method used.

In one study done at Amtulbhai UMATI clinic in Dar es Salaam and in another at Bagamoyo MCH/FP clinics it was shown that the contraceptive discontinuation rate (drop-out rates) based on failure of the contraceptive users to report for the next appointment after three months were similar in both groups.[34] This was found to be 20% of the surveyed population.

The other study conducted at Songea MCH/FP clinic the drop-out rate was found to be as high as 63 per cent within 8 weeks of starting to use a method.[7] Still some other reports from rural areas in the country the discontinuation rates was found to vary from 50-70 percent within one year of method use.[35]

The reasons for discontinuation in these study areas differed from one area to another. However, rumours and misconceptions about the modern contraceptive methods were the important elements

which the service providers at the Songea MCH/FP clinic study could point out as the main causes of the drop out. In the other study conducted by Marero (1991) in an urban population in Musoma Tanzania, it was found out that fears for the side-effects of the contraceptives were the main reasons for stopping contraceptive among past users of the contraceptive methods.[36] The main side effects included: irregular and heavier per vaginal bleeding and sometimes spotting, nausea and vomiting, headaches, excessive weight gain, lower abdominal cramps/backaches and frequent expulsion of the IUDs. Few clients stopped contraception as they desired to have a baby.

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4.0. OBJECTIVES

4.1. Broad objectives

4.1.1. To determine the incidence rates of contraceptive discontinuation for the contraceptive methods initially accepted among women of the study population during observational periods of contraceptive use in Hai district.

4.1.2. To determine the influence of selected user related factors upon the risk of contraceptive discontinuation in the study area.

4.1.2. To determine the client's views and experiences with regard to the problem of contraceptive discontinuation during their observational periods of contraceptive use of the methods initially accepted.

4.2. Specific objectives

4.2.1. To determine the incidence rates of contraceptive discontinuation for the oral, injectable and intrauterine device contraceptives at various interval lengths of time of contraceptive use among the women of the study population at risk during the study period.

4.2.2. To determine the proportion distributions and relationships between contraceptive discontinuation and socio-demographic characteristics of the client (1. age, 2. marital

status, 3. age at first marriage, 4. Parity, 5. Number of children. 6, desired number for more children, 7, woman's educational level, 8. husband's education level, 9. religion, 10. occupational status)

4.2.3. To determine the proportion distribution and relationships between contraceptive discontinuation and situational factors:-

- Source of information about FP before contraceptive acceptance.
- Source of influence in the decision to choose a contraceptive
- Purpose of using contraception: spacing versus limiting.
- Changing source of contraceptive supplies and services.
- Location of family planning services delivery sites.
- Follow up visits.

4.2.4. To determine the influence of contraceptive switching upon contraceptive discontinuation for all and specific methods.

4.2.5. To determine distribution of respondents by level of satisfaction with contraceptive methods and service offered at the SDPs.

4.2.6. To determine the proportion and relationships between contraceptive discontinuation and

client's views about service providers' action on selected specific aspects of quality of care at SDPs; (explained how method works, benefits and risks of methods, how to use method, discussed possible side effects and how to manage them, inquired from clients problems about method used).

4.2.7. To identify reasons for:

- Contraceptive method switching;
- Contraceptive discontinuation; among the study population.

5.0. METHODOLOGY

5.1. Study design

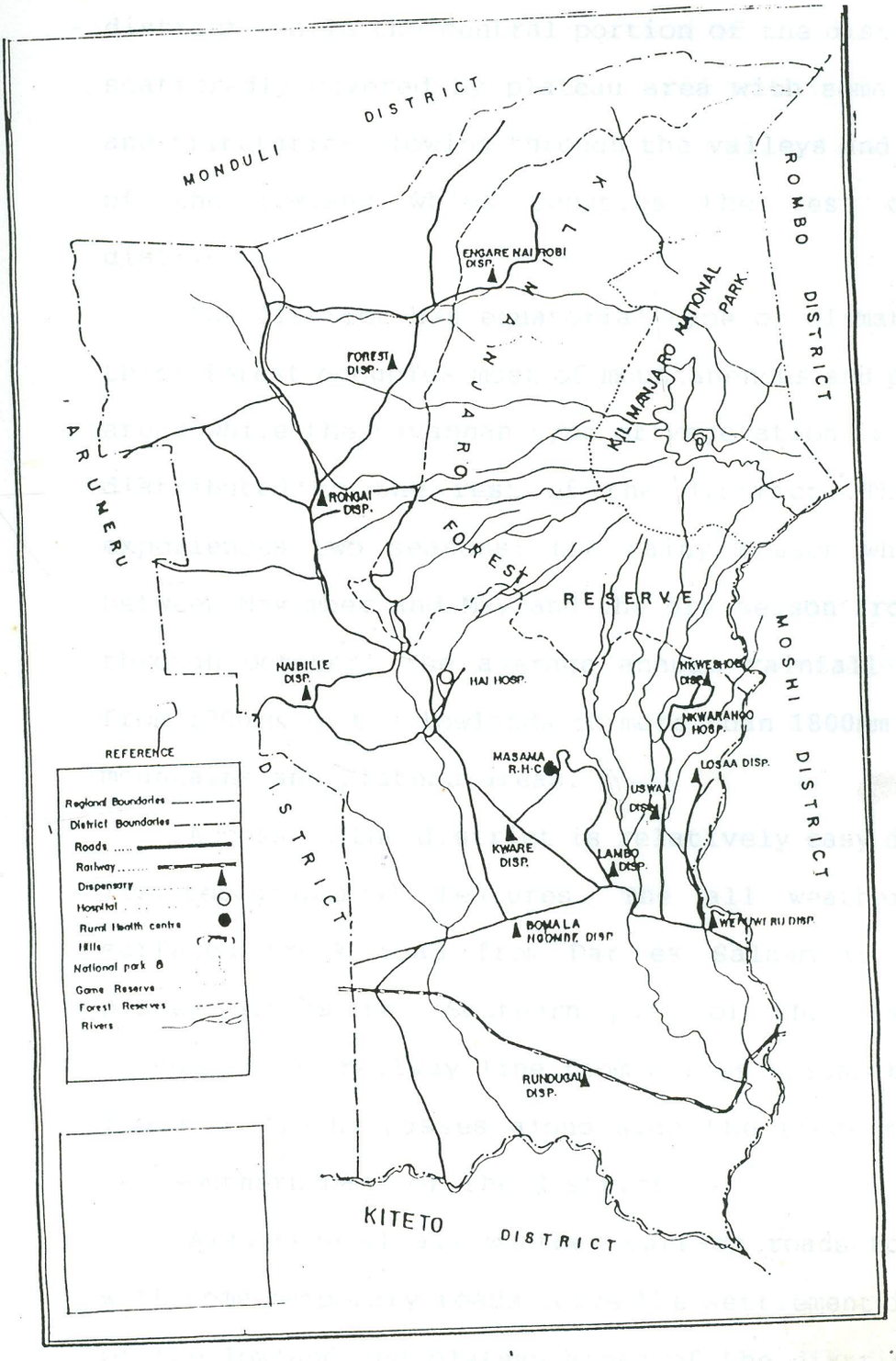
A retrospective cohort study was conducted in Hai district from 13th December, 1993 to 24th March, 1994. This was based on the follow-up of the experience with modern contraceptive methods among women of reproductive age (15 to 49 years) since their first visits/enrollment to the health facilities which provide modern contraception in the district, during the period of 1st October, 1991 through 30th September, 1993. The study was involved only with practice of the three effective, temporary modern contraceptive methods which are commonly and widely distributed to the eligible targets population as stipulated in the National Family Planning Programme.[7] The methods were the combined oral contraceptives (pills), Injectable contraceptives (Depo-provera) and Intra-uterine contraceptive devices (IUCDs).

5.2. Description of the study area

Hai is one of the six district of Kilimanjaro region. It covers an area of 2,168Sq. Km. Topographically, the district extends along latitudes 2°48' and 3°30' South while longitudinally it lies between 30°17' and 36°51' East. It is bordered to the East with Moshi rural and Rombo districts, while to the South it is bordered with Kiteto district. The Western boundary is created

by Arumeru district while Monduli district constitute the northern boarder of the district (figure 2.[37]. All the three districts above belong to Arusha region.

Figure 2: Map showing health facilities in which survey was conducted: Hai district, Kilimanjaro region 1994



The district is distinctly divided into 3 belts: the hilly and mountainous belt which characterizes most of the eastern and northern parts of the district, while the central portion of the district is scatteredly covered by plateau area with some rivers and tributaries flowing through the valleys and plains of the lowland which occupies the rest of the district.

Hai district has equatorial type of climate. The thick forest occupies most of mountanenous and plateau areas while the Savannah type of vegetation is fairly distributed to the rest of the district. The area experiences two seasons: the rainy season which is between November and May and the dry season from June through October. The average annual rainfall ranges from 1200mm in the lowlands to more than 1800mm in the mountains and plateau areas.

Access to the district is relatively easy despite its topographical features. The all weather hard surfaced trunk road from Dar es Salaam to Arusha passes across the Southern part of the district. Likewise, the railway line from Dar es Salaam through Tanga to Arusha passes along side the truck road in the southern part of the district.

Also several all weather surface roads together with some temporary roads serve the settlement in most of the lowland and plateau areas of the district.

Administratively, the district is divided into 3 divisions, 11 wards and 61 registered villages. According to the National 1988 Census,[38] there were 200,136 people in the district of whom 97,334 were males and 102,802 females. The annual growth rate was 1.6% per year while the average household size was 5.4 people.

The district has a tribal heterogeneity. The major ethnic tribes are the Wachagga, Wapare, Wamasai and Wameru. The majority of the people were followers of Protestant, Roman Catholic or Islamic denominations. Traditionally, the family in Hai district is patriarchal.

The main occupations are subsistence farming and livestock rearing. Few individuals are employed in government and private sectors while others are engaged in small petty businesses. Bananas, maize, beans, wheat, rice and potatoes, are grown as food and cash crops. Coffee, tea, barley and timber are grown as the main cash crops. The main livestock being reared in the district include cattle, goats, sheep, pigs and chicken. These animals are considered as an index of prestige in some of the tribes.

Hai district has a well established health care network. The health services are delivered through 2 hospitals, 2 health centres and 34 dispensaries. Like other parts of the country, the health units remain

the main source of contraceptive supplies and services in the district. However, not all health care units in the district provide modern family planning services. Majority of these units provide MCH/FP in its intergrated form while a few provide neither MCH nor family planning services.

While all 33 health facilities owned by government, parastatal and protestant authorities provide both modern and natural family planning services, the remaining 3 health facilities owned by the Roman Catholic authorities provide MCH and natural family planning services only. The hardly mention about modern contraception to the users for the belief that any other form of family planning (apart from the natural) contradicts the act of procreation and is unacceptable to the Church. No other sources of family planning methods and services, such as pharmacies and dispensaries, private clinical and medical services providers such as hospitals, clinics, physicians and midwives.

5.3. Selection of the study area

Most of the isolated studies done on modern contraceptive discontinuation were conducted in regions with very low contraceptive prevalence rate (CPR) compared to the National CPR which, also being low, stands at the level of about 7.0%.[3] Examples, included were those studies conducted at Songea MCH/FP

clinic in Ruvuma region with CPR of 5.1%, Bagamoyo MCH/FP clinic in Coast region with CPR of 3.3% and at Musoma urban MCH/FP clinic in Mara region with CPR of 3.0%. No such specific studies have been conducted in areas with CPR higher than 20.0% like in Kilimanjaro region which has the highest CPR of 25.1% for the modern contraceptive methods in the whole country of Tanzania.[3] Thus a study in such areas with high CPR might be considered appropriate for later comparative purposes to those areas with low CPR as regards to the patterns factors associated with contraceptive use and discontinuation.

5.4. **Target population**

The target population consisted of all women of child bearing age (15-49 years) who accepted either the oral contraceptives, injectable contraceptives or the intrauterine contraceptive devices during their first time of admission/enrollment to the health facilities that provided modern contraceptive methods and services in Hai district in the period of 1st October, 1991 through 30th September, 1993.

5.5. **Study population**

This comprised a sample of 1085 modern contraceptive acceptors drawn from the eligible target population in 15 service delivery points using probability sampling techniques. No substitute of the subjects already selected in the sample was done.

Of these 1085 subjects, 30 (2.8%) were non-respondents for various reasons described in table 1 and were not substituted.

5.6. **Sample size determination**

Based on the estimated 50% of the modern contraceptive method acceptors who discontinue contraception after 1 year of use and standard error of 5%, the sample size of 1085 subjects was calculated by using the formula of single proportions.[39]

$n = Z^2 pq/d^2$

When n = estimated total sample size

Z^2 = the standard normal deviate, usually set at 1.96 which corresponds to 95% confidence level.

p = estimated proportion in the target population who discontinue modern contraception

q = estimated proportion without discontinuation (ie. 1-p = 0.5)

d = Standard error set at 0.05 (5%)

$$n = \frac{(1.69)^2 \times 0.5 \times 0.5}{(0.05)^2} = 384.16$$

Due to multistage sampling this number was raised to 1085 by a multiplying factor of 2.85.

5.7. **Sampling technique**

A multi-stage sampling design was adopted in this study. The initial phase consisted of random selection of the service delivery points (SDPs) from which acceptors had to be recruited. A list of all 35 SDPs providing modern contraceptive methods and services was first stratified into 11 administrative wards of Hai district and then arranged by size (number of acceptors) within the strata. The stratified list of SPDs was numbered from 1 to 35. On the basis of relative proportion of the SDPs for each ward, a total of 15 SDPs were systematically selected on a probability proportionate to their size of family planning acceptors.

Next, a list of the eligible family planning acceptors from each of the selected SDP was created. Each of the list obtained was systematically randomly sampled; the number of individuals selected within each of the sampled SDPs varied with the size of the SDPs. ie. the number of subjects selected in each SDP varied in proportion to the population of family planning acceptors for the modern contraception in each SDP. This exercise continued until the required sample of 1085 subjects for the study was accomplished.

5.8. **Recruitment and Training of Research Assistants**

Six mature, responsible and long experienced

female health workers were recruited from the health units in Hai district to conduct the study in the field as Research Assistants (RAS). Three of these Research Assistants were Maternal and Child Health Aides (MCHAs) while the other three were Trained Nurse/Midwives (TN/Ms). All these had formal training in family planning and had long experience in the provision of family planning services in the Maternal and Child Health Clinics of the health facilities in the district. Additionally the researchers were fluent in the vernacular/local languages spoken by the study population (i.e. Kichagga, Kipare, Kimasai and Kimeru languages). One MCHA and two TN/Ms had prior experience in household community survey work activities.

Prior to data collection operations, a three-day training seminar was held at Bomang'ombe Hostel, in Hai district, for the whole team at which instructions were given on the study approach in general and on some specific responsibilities.

Among other things, extensive role playing was used to familiarize the team with the questionnaire administering. Also, during the training period, the team spent a day at Chekereni and Mabogini dispensaries, in Moshi rural district, as part of the pre-test. The whole team was co-ordinated and supervised by the Principal Investigator (the author).

5.9. Ethical Considerations

This study was approved by Research and Publication Committee of MUCHS. Permission to conduct the study in Hai district was obtained from the relevant regional, district, ward health facility and village authorities. Informed consent was obtained from each woman of the study population. All agreed, except three for unknown reasons, refused to participate in the study.

5.10. Pre-test

Before starting the full-scale study, a pretest was carried out to test the study procedures. The pretest was conducted at Chekereni and Mabogini dispensaries in Moshi rural district. The procedures planned for the full-scale study were employed.

The undertaking proved an extremely useful tool for assessing the practicality of the proposed methods. Among other modifications made, the pretest results provided a basis for reformulating certain questions, inserting new response categories into the questionnaire and confirming the usefulness of the interviewer's manual.

5.11. Data collection

The survey, conducted from 13th December, 1993 to 24th March, 1994 was based on acceptors drawn from the selected 15 health facilities in the district, using a previously field-tested questionnaire. The family

planning registers for the FP acceptors in most of the selected health facilities for the study provided an extensive and detailed information which enabled the investigator to identify and locate every eligible selected subject for the study. For each client the data obtained from the register included the following information, the names, address(es), the administrative ward, village, village chairman, ten cell leader or any other significant individuals and marks to facilitate the identification and location of the client. A house to house interview was carried out to all clients by RAs.

No substitution of subjects already selected in the sample was allowed if one was not located and interviewed. However, much efforts were made to locate and interview clients who were missing at their homes. For instance, those found temporarily absent were revisited and regarded as non-respondents if no found the third time. Also field trips were often made to remote areas to locate as few as one or two subjects.

Similarly, double counting was searched for and avoided as much as possible especially for those respondents who gave wrong addresses.

5.12. **Interview**

The interview was conducted in Kiswahili by using a pre-coded structured questionnaire. A typical day would begin with each interviewer visiting a client at

her home. A detailed explanation of the study was made to the respondent in order to create a good rapport and obtain informed consent. The interviewing process was conducted confidentially and each respondent was approached and interviewed separately. Some clients before giving their informed consent preferred to be interviewed away from their home areas for confidentiality purposes as they did not want either their spouses or relatives/friends know that they were using contraceptive methods. This was ascertained during obtaining informed consent from the respondents.

Each respondent was asked about the data on her demographic and socio-economic status, the main-source of information from which she first heard about family planning, the source of influence in the decision making process and also whether the client made a satisfied free and informed choice about the contraceptive methods.

Also inquiry was made to the type of contraceptive method Ii.e. whether the pills, injectable or loop) the respondent had originally adopted, whether or not she had continued with the method, changed to another or discontinued it. When the respondent indicated that she was no longer practicing contraception use, an effort was made to establish the reason(s) for termination.

Similarly, the reasons for method change and switching of the source of contraceptive supplies and services were inquired from the clients concerned.

For each client, efforts were made to establish the duration or the interval length of contraception use based on the client's memory recall, the client's family planning card which is kept at the clinic and cross-checking this information against the family planning register which is also kept at the health facility where the client was attending for supplies and services. Where necessary, locally known past events were used to get information which could not be remembered. These sources of information either independently or jointly helped establish the date the client first visited the service delivery point and supplied with a particular contraceptive method. Also these documents indicated subsequent visits including the date the client was last supplied with a method during the period of 1st October, 1991 through 30th September, 1993.

Similarly, in situations where the loop was removed or expelled involuntarily, the documents could indicate when that happened.

The questionnaire was also designed to learn from the client's perspective about how information, counselling and family planning services were provided at the service delivery points by the service

providers. Distance to the nearest source of contraceptive supplies for each respondent was also covered in the interview.

5.13. **Quality control of the data and data processing**

Each interview was edited by the principal investigator who made consistent visits to the assistant field interviewers as part of the supervision for data collection. The consistence of data collection was regularly checked. In rare event when extensive information was missing or inconsistent, repeat interviews were sought.

In addition, every day after data collection, the principal investigator and other interviewers had to meet to ensure that the questionnaires were adequately filled as well as to discuss problems encountered during the day of data collection process ready for the next day.

The principal investigator checked and corrected the data in the field to ensure that all the information had been properly collected and recorded. Also, before and during data processing, the information collected was checked again for completeness and internal consistency. Thereafter, the responses for the open ended questions were reviewed, categorized and coded. Pre-coding to the closed questions had been done before data collection (see appendices for the questionnaires). With a close

consultation of a computer operator, the principal investigator entered the data into the computer available at the Institute of Public Health, MUCHS, using SPSS Software package.

5.14. **Data analysis**

The SPSS software package[40] was used in data entry, frequencies and cross-tabulations at the Institute of Public Health, MUCHS.

For comparative purposes, the sample respondents were categorized into two subgroups of women according to their contraceptive practice status during their periods of contraceptive use which included: subjects who terminated their contraceptive use referred to as contraceptive discontinuers or dropouts and those subjects who were still continuing to use contraceptive methods referred to as continuing users or simply contraceptive continuers.

Frequency distributions (including means and mediums) in raw numbers or percentages, either by grouping the data or leaving them ungrouped were generated to arrive at district estimates of the characteristics of the sample.

Chi-square (X^2) analysis was used in cross-tabulations to determine significant differences in contraceptive practice status among women of the study population continuing or discontinuing contraception. Odds Ratios together with their 95% Confidence

Intervals were estimated in determing the association between contraceptive discontinuation and some selected possible risk factors. A p-value of 0.05 or less was considered to indicate a significant difference. All P-values given are two-sided.

5.15. **Study Limitations**

Limitations of this study were some potential errors which included:-

1. Non-response of 30 subjects due to various reasons such as difficult to trace/locate clients as a result of false names, wrong addresses given by the subjects. Also some clients refused to participate (see table 1). This could have affected the representativeness of the study sample.
2. Inherent problems of recall errors for the retrospective information. Some data on contraceptive dates of beginning or terminating contraceptive use were not consistently recorded/reported in some subjects due to memory recall problems of past events during the period of contraceptive use. This missed information might have affected the results of this study.

6.0. RESULTS

Table 1 shows that during the survey a total of 1055 subjects were identified and interviewed. The coverage was about 97% (1055/1085) of the expected subjects. Reasons for non-response are stipulated in the table. The analysis was, therefore, based on 1055 subjects.

Table 1: Frequency distribution of interview response rates of the study population.

Eligible Family planning acceptor	Number	Percent
Interviewed	1055	97.2
Not interviewed (lost to follow ups):		
Wrong or inadequate addresses in records	16	1.5
Transfer/moves out of the district	8	0.7
No addresses in records	3	0.3
Refusal to participate	2	0.2
Temporary absence from home	1	0.1
Total	1085	100

Data presented in table 2 shows the distribution of the number and percent of acceptors who had continued or dropped out of the family planning programme. A total of 657 (62.2%) of the acceptors were continuing with a method of contraception while 398 (37.8%) had reported that they were no longer participating in family planning.

With a focus on contraceptive discontinuation and viewed according to specific methods the table also reveals that all methods had relatively the same proportion of discontinuers. The type of method accepted, however, did not differ statistically significantly with regard to contraceptive discontinuation.

Table 2: Frequency distribution of the study population by type of contraceptive method initially adopted

Contraceptive method adopted	CONTRACEPTION PRACTICE STATUS					
	Discontinuers		Continuing users		Total	
	No	%	No	%	No	%
Oral contraceptives	237	37.8	390	62.2	627	58.4
Injectable contraceptives	75	37.3	126	62.7	201	19.1
Intra-uterine contraceptives	86	37.9	141	62.1	227	21.5
Total	398	37.8	657	62.2	1055	100.0

$X^2 = 0.1844$; df = 2; P-value = 0.9908

Table 3 shows estimated monthly average incidence rates of contraceptive discontinuation per 1,000 person-months of contraceptive use observations among women of the study population at risk, according to interval lengths of contraceptive use.

The results show that the incidence rates of contraceptive discontinuation decrease with increasing interval lengths of contraceptive use after acceptance of the contraceptive methods.

Table 3: The frequency distribution of monthly estimated incidence rates of contraceptive discontinuation per 1,000 person-months by interval length of contraceptive use for all methods among women of the study population, Hai district, October 1, 1991 - September 30, 1993.

Interval lengths of observational contraceptive use in months	Total number of acceptors	Number of contraceptive discontinuers during the intervals lengths of contraceptive use	Estimated person-months at risk of discontinuation during the interval lengths of contraceptiveuse	Estimated average incidence rates of contra-ceptive discontinuation Per 1,000 person-months
0 to less than 4	119	94	282	333
4 to less than 7	178	117	924	126
7 to less than 10	179	85	1462	58
10 to less than 13	110	49	1224	40
13 to less than 16	139	28	1948	14
16 to less than 19	131	14	2237	6
19 to less than 22	92	9	1829	5
22 to 24	107	2	2466	1
Total	1055	398	12372	32

Figure 3 shows how the estimated incidence rates of contraceptive discontinuation varies inversely with the interval lengths of contraceptive use from 333 per 1,000 person-months in the subjects with less than four months' of contraception use to 1 per 1,000 person-months in those subjects who had used contraceptive methods for twenty two to twenty four months.

Figure 3: Frequency distribution of monthly estimated incidence rates of all contraceptive methods discontinuation per 1,000 person-months at risk by interval length of observational contraceptive use among women of the study population

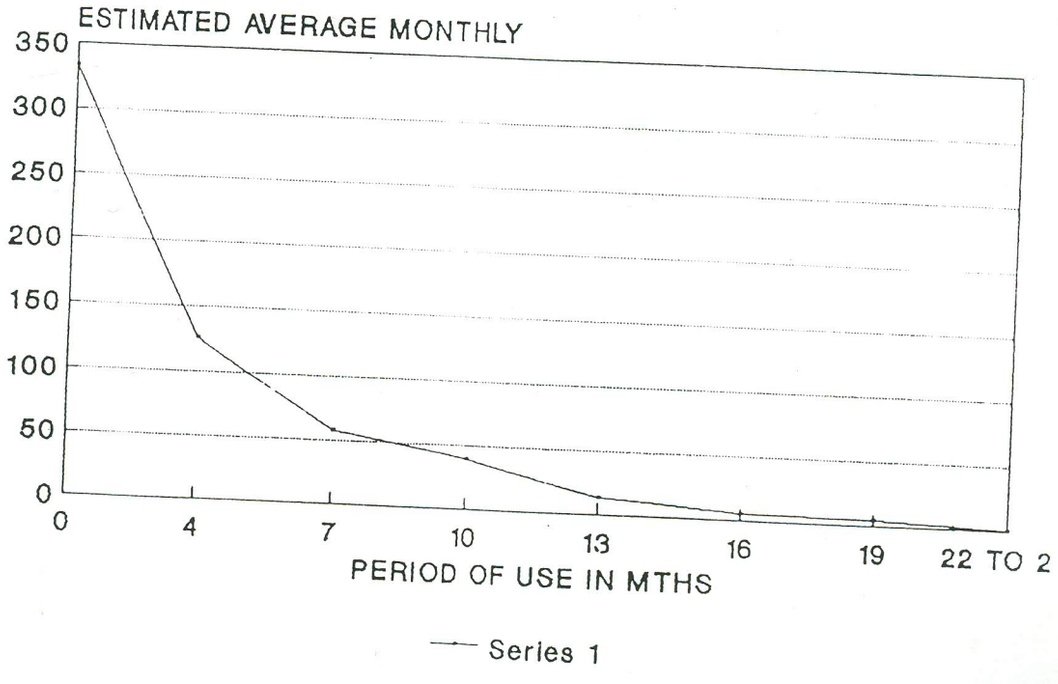


Table 4 shows the frequence distribution of estimated incidence rates of oral contraceptive discontinuation by the interval lengths of contraceptive use. Results show a decreasing trend of the incidence rates as the duration of contraceptive use increases. The rates decreased from 350 per 1,000 person-months in the subjects with less than four months of oral contraceptive use to 1 per 1,000 person-months in the subjects who had an experience of oral contraceptive use for 22 to 24 months.

Table 4: The frequency distribution of estimated incidence rates of oral contraceptive discontinuation per 1,000 person-months by interval length of oral contraceptive use observation among women of the study population, Hai district October 1, 1991 - September 30, 1993.

Interval lengths of observational contraceptive use in months	Total number of acceptors	Number of contraceptive discontinuers during the interval lengths of contraceptive use	Estimated person-months at risk of discontinuation during the interval lengths of contraceptive use	Estimated average incidence rates of contraceptive discontinuation per 1,000 person-months
0 to less than 4	78	64	182	350
4 to less than 7	100	63	503	125
7 to less than 10	95	38	774	50
10 to less than 13	63	28	694	40
13 to less than 16	99	24	1373	17
16 to less than 19	77	10	1319	8
19 to less than 22	57	8	1137	7
22 to 24	58	2	1339	1
Total	627	337	7322	32

Table 5 shows the estimated incidence rates for injectable contraceptives method discontinuation in relation to the interval lengths of contraceptive use. The data in the table shows that the incidence rates of contraceptive discontinuation varies inversely with the interval lengths of the time the contraceptives were used.

The data in table 6 shows how the incidence rates of intrauterine contraceptive device varies reciprocally with the interval lengths of the average time practising the contraceptive method.

Table 5: The frequency distribution of estimated incidence rates of injectable contraceptive discontinuation per 1000 person-months by interval length of injectable contraceptive use observation among women of the study population, Hai district, October 1, 1991 - September 30, 1995.

Interval lengths of Injectable contraceptive use in months	Total number of acceptors	Number of Injectable contraceptive discontinuers during the interval lengths of contraceptive use	Estimated person-months at risk of discontinuation during the interval lengths of contraceptive use	Estimated average incidence rates of contra-ceptive disconti-nuation Per 1,000 person-months
0 to less than 4	21	15	55	272
4 to less than 7	34	22	197	112
7 to less than 10	42	25	356	70
10 to less than 13	18	9	209	43
13 to less than 16	13	3	180	17
16 to less than 19	28	1	471	2
19 to less than 22	19	0	275	0
22 to 24	26	0	699	0
Total	201	75	2442	30

Table 5 shows the estimated incidence rates for injectable contraceptives method discontinuation in relation to the interval lengths of contraceptive use. The data in the table shows that the incidence rates of contraceptive discontinuation varies inversely with the interval lengths of the time the contraceptives were used.

The data in table 6 shows how the incidence rates of intrauterine contraceptive device varies reciprocally with the interval lengths of the average time practising the contraceptive method.

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Interval lengths of Injectable contraceptive use in months	Total number of acceptors	Number of Injectable contraceptive discontinuers during the interval lengths of contraceptive use	Estimated person-months at risk of discontinuation during the interval lengths of contraceptive use	Estimated average incidence rates of contra-ceptive discontinuation Per 1,000 person-months
0 to less than 4	21	15	55	272
4 to less than 7	34	22	197	112
7 to less than 10	42	25	356	70
10 to less than 13	18	9	209	43
13 to less than 16	13	3	180	17
16 to less than 19	28	1	471	2
19 to less than 22	19	0	275	0
22 to 24	26	0	699	0
Total	201	75	2442	30

Table 6: The frequency distribution of estimated incidence rates of intrauterine contraceptive discontinuation per 1000 person-months by interval length of inntrauterine contraceptive use observation among women of the study population; Hai district, October 1 1991 - September 30 1995.

Interval lengths of Intrauterine contraceptive device use in months	Total number of acceptors	Number of Intrauterine contraceptive discontinuers during the interval lengths of contraceptive use	Estimated person-months at risk of discontinuation during the interval lengths of contraceptive use	Estimated average incidence rates of contra-ceptive discontinuation Per 1000 person-months
0 to less than 4	20	15	44	341
4 to less than 7	43	31	224	138
7 to less than 10	42	22	332	66
10 to less than 13	29	12	321	37
13 to less than 16	28	2	395	5
16 to less than 19	26	3	447	7
19 to less than 22	16	1	317	3
22 to 24	23	0	528	0
Total	227	86	2608	33

Figure 4: Frequence distribution of monthly estimated incidence rates of specific contraceptive methods discontinuation per 1,000 person-months at risk by interval length of observational contraceptive use among women of the study population.

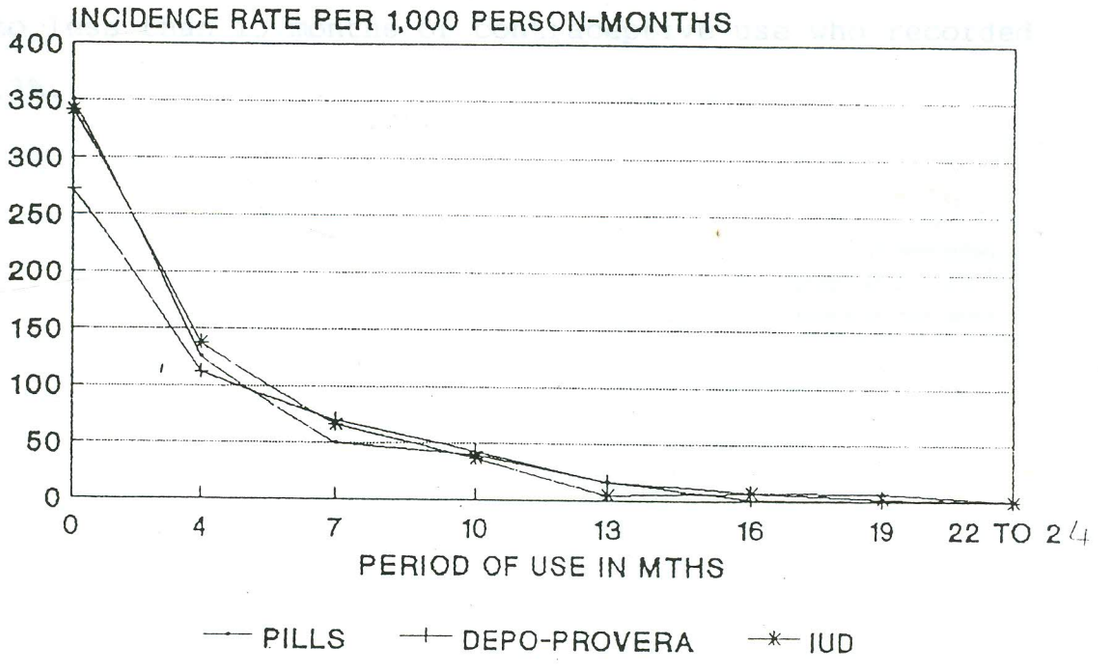


Table 7 shows the comparison of the proportion of subjects who discontinued using contraception at various interval lengths of contraceptive use for all methods of contraception during the study period. It is generally shown that subjects on oral contraceptives most frequently had high proportions of contraceptive discontinuation followed by subjects on intrauterine contraceptives in most of the periods of contraceptive use observations. The women practicing injectable contraceptives showed the least trend of proportion discontinuing contraception in all the interval lengths of the contraceptive use except those with 7 to less than 13 months of contraceptive use who recorded 45.3%.

Table 7: The frequency distribution of contraceptive methods discontinuation according to interval lengths of contraceptive use observations among women of the study population, Hai District, October 1, 1991 - September 30, 1993 (n = 397)

Interval lengths of observational contraceptive use	Contraceptive Method Discontinued							
Duration of contraceptive use in months	Oral Contr.		Inject Contr.		Intra uterine		Total	
	No	%	No	%	No	%	No	%
0 - 7	127	53.6	37	49.3	46	53.4	210	52.8
7 < 13	67	28.3	34	45.3	34	39.6	135	33.9
13< 19	33	13.9	4	5.4	5	5.8	42	10.5
19< 24	10	4.2	0	0.0	1	1.2	11	2.8
Total	237	100.0	75	100.0	86	100.0	398	100.0

$X^2 = 26.27$; df = 6; P=0.0239

Table 8 shows the frequency distribution of contraceptive discontinuation in women of the different age groups.

It was found out that the highest proportion of contraceptive discontinuation was recorded in the age-group of 45-49 years (43.0%) followed by age-groups 40-44 years (39.0%), 25 -29 years (38.7%) and 30-34 years (37.0%). Lowest proportions of contraceptive discontinuations were recorded in the age-groups of 15-19 years (33.3%) and 35-39 years (36.2%).

This pattern of contraceptive discontinuation by age generally reveals that discontinuation increases as the women progress through their perimenopause/menopause phases (40-49 years).

Table 8: The frequency distribution of contraceptive discontinuation in women of different age groups

Age groups (years)	CONTRACEPTIVE PRACTICE STATUS					
	Discontinuers		Continuing Users		Total	
	No	%	No	%	No	%
15-19	10	33.3	20	66.7	30	100.0
20-24	57	37.0	97	63.0	154	100.0
25-29	92	38.7	146	61.3	238	100.0
30-34	86	37.0	147	63.0	233	100.0
35-39	75	36.2	132	63.8	207	100.0
40-44	50	39.0	78	61.0	128	100.0
45-49	28	43.0	37	57.0	65	100.0
Total	398	37.7	657	62.3	1055	100.0

$X^2 = 1.549$; df =6; P=0.9530

Table 9 shows the relationship between marital status and contraceptive discontinuation. The data shows that ever married women (married and separated) had higher discontinuation proportion (38.0%) than were unmarried women (single, engaged, and cohabitation) who accounted for 36.5% of the discontinuers. The difference between the two groups (1.5%) was not statistically significant.

Table 9: The relationship between marital status and contraception discontinuation contraceptive use status

Marital Status	Discontinuers		Continuing Users		Total	
	No	%	No	%	No	%
Ever married	344	38.0	561	62.0	905	100.0
Unmarried	54	36.5	96	63.5	148	100.0
Total	398	37.7	657	62.3	1055	100.0

X^2 = 0.1257;df=1; P-value = 0.7229; OR =1.1; 95% CI = 0.74, 1.53

Table 10 shows the distribution of contraceptive discontinuation in women of the study population by age at first marriage. Women married in the age group 15-19 years old had higher proportion of discontinuation (39.0%) than were women married in the age group 25-29 years old (27.8%).

There was no significant difference in the distribution of the age at first marriage.

Table 10: Distribution of contraceptive discontinuation in women by age at first marriage

Age at first marriage (years)	Discontinuers		Continuing Users		Total	
	No	%	No	%	No	%
15 - 19	274	39.0	417	61.0	735	100.0
20 - 24	65	32.4	132	67.6	210	100.0
25 - 29	5	27.8	12	72.2	18	100.0
Total	344	37.4	561	62.6	963	100.0

$X^2 = 3.82$; df = 2; P-value = 0.1478

Table 11 shows the influence of parity upon contraceptive discontinuation. Results show that majority of the respondents were para four or less (62.3%), then the proportions for the tendency to discontinue contraception use decreased gradually with increasing number of parity from five and above (37.5%). The test for the trend was highly significant (X2=93.37;df=4;P-value =0.0000).

Table 11: Distribution of contraceptive discontinuation by parity of the study population

Parity Category	CONTRACEPTIVE USE STATUS					
	Discontinuers		Continuing Users		Total	
	No	%	No	%	No	%
0	7	18.4	31	81.6	38	100.0
1 - 2	75	40.5	110	59.5	185	100.0
3 - 4	167	54.4	139	45.6	305	100.0
5 - 6	122	37.7	203	62.3	305	100.0
≥ 7	27	13.4	174	86.6	201	100.0
Total	398	37.7	657	62.3	1055	100.0

X2 = 93.37; df=4; P=0.0001

The frequency distribution of the number of living children in relation to contraceptive discontinuation is shown in table 12. The data shows that the tendency for the respondents discontinuing contraception use increases from 34.0% in childless women to 58.3% in women with three living children after which the trend decreases gradually to about 3.5% in women with 7 or more children. The trend test of the observed differences among various numbers of living children is highly significant (X^2 = 164.65; df = 7;P -value = 0.0000).

Table 12: The frequency distribution of the number of living children in relation to contraceptive discontinuation

Number of living children	CONTRACEPTIVE USE STATUS					
	Discontinuers		Continuing Users		Total	
	No	%	No	%	No	%
0	16	34.0	31	66.0	47	100.0
1	35	38.0	57	62.0	92	100.0
2	73	49.7	73	50.3	146	100.0
3	98	58.3	70	41.7	168	100.0
4	118	55.4	96	44.6	214	100.0
5	36	23.4	118	76.6	154	100.0
6	19	14.6	111	85.4	130	100.0
≥7	3	2.9	101	97.1	104	100.0
Total	398	37.7	657	62.3	1055	100.0

X2 = 164.6; df=7; P-0.0000

Table 13 shows the relationship between the number of living children and contraception discontinuation. Results show that respondents who had four or less living children recorded high proportion of contraceptive discontinuation (51.0%) compared to those with five or more living children (15.1). The difference between the 2 groups is highly significant (OR = 5.917; 95% CI = 4.3055, 8.1304; X^2 = 135.4; df = 1; P - value = 0.0000).

Table 13: The relationship between the number of living children and contraceptive discontinuation

Number of living children	Discontinuers		Continuing Users		Total	
	No	%	No	%	No	%
0 - 4	340	51.0	327	49.0	667	100.0
5 ≥	58	15.1	330	84.1	388	100.0
Total	398	37.7	656	62.3	1055	100.0

OR = 5.917; 95% = 4.3055; 8.1304; X^2 = 135.4; df =1; P-value = 0.0000.

Table 14 shows the influence of the attitude of whether or not more children are desired upon contraception discontinuation. The results show that women who desired to have more children were about 28 times more likely in favour of contraceptive discontinuation than were women who desired no more children. The difference between the two groups of women was statistically significant (OR = 27.69; 95% CI = 19.7342, 38.8876; X^2 = 474.2; df = 2; P-value = 0.0000)

Table 14: The influence of the attitude of whether or not more children are desired upon contraceptive discontinuation among the women during the follow-up period

Whether or not more children are desired	CONTRACEPTIVE USE STATUS					
	Discontinuers		Continuing Users		Total	
	No	%	No	%	No	%
More children desired	332	76.7	101	23.3	433	100.0
No more or less children desired	66	10.6	556	89.4	622	100.0
Total	398	37.7	657	62.3	1055	100.0

OR = 27.69; 95% CI = 19.7342, 38.8876; X^2 = 474.2; df = 1; P-value = 0.000.

Table 15 shows the influence of education level on contraceptive discontinuation. The results show that subjects with no formal education had high proportion of contraceptive discontinuation (60.2%) followed by those with adult level of education (57.2%). Subjects with secondary education and above scored low proportions of about 20.2% each.

The trend revealed was that the lower the education level of the subject the higher the chance of discontinuing contraceptive use. The differences observed among the various levels of education upon contraceptive discontinuation was highly significant (X^2 = 125.4; df=1,P-0.0000).

Table 15: Distribution of contraceptive discontinuation by education level of the women

Education level of women	CONTRACEPTIVE USE STATUS					
	Discontinuers		Continuing Users		Total	
	No	%	No	%	No	%
None	154	60.2	102	39.8	256	100.0
Adult education	79	57.4	58	42.6	136	100.0
Primary education	126	26.6	348	73.4	474	100.0
Secondary education	37	20.9	140	79.1	177	100.0
Post secondary	2	18.2	9	81.8	11	100.0
Total	398	37.7	657	62.3	1055	100.0

$X^2 = 125.4$; df = 4, P = 0.0000

Table 16 shows furthermore the relationship between educational level of the study population and contraceptive discontinuation. It was also revealed that about 4 times of the women among the non-formal and adult education group were in favour of the risk of contraceptive discontinuation than were among the secondary and above educated group (OR = 4.37; 95% CI = 3.3421; P-value = 0.0000).

Table 16: Relationship between educational level of women and contraceptive discontinuation

Educational level of women	CONTRACEPTIVE USE STATUS					
	Discontinuers		Continuing Users		Total	
	No	%	No	%	No	%
No formal education and adult education	233	59.2	160	40.8	394	100.0
Secondary education and above	165	25.0	497	75.0	662	100.0
Total	398	37.7	657	62.3	1055	100.0

OR = 4.37; 95% CI = 3.3421, 5.7077; P = 0.0000

Table 17 shows the distribution of the risk of contraceptive discontinuation in relation to different levels of education of husbands of the respondents. The proportion discontinuing use of contraception increases gradually from 28.6% for women whose husbands had post secondary education to 60.7% for those women whose husbands were illiterate. The trend for these differences was statistically significant (X^2 = 167.6; df = 4; P-0.0000).

Table 17: Distribution of contraceptive discontinuation by level education of husbands

Educational level of husbands	CONTRACEPTIVE USE STATUS					
	Discontinuers		Continuing Users		Total	
	No	%	No	%	No	%
None	107	60.5	70	39.5	177	100.0
Adult education	120	63.8	62	36.2	182	100.0
Primary education	98	22.2	343	77.8	441	100.0
Secondary education	27	19.8	109	80.2	136	100.0
Post secondary education	4	28.6	10	71.4	14	100.0
Total	350	38.0	554	62.0	950	100.0

X^2 = 167.6, df = 4; P-value = 0.000

Table 18 shows the distribution of religion on contraceptive discontinuation among women in the study population. The results show that Catholics (67.0%) and Animist (traditional religion) (41.5%) had higher incidence of contraceptive discontinuation than were Moslems (37.8%) and others (35.7%). The difference among the various religious categories was statistically significant (X^2 = 211.4; df = 4; P-value = 0.0000).

Table 18: Distribution of contraceptive practice in women by religion

Religion	CONTRACEPTIVE USE STATUS					
	Discontinuers		Continuing Users		Total	
	No	%	No	%	No	%
Protestants	99	18,5	437	18.5	536	100.0
Catholics	233	67.0	115	33.0	348	100.0
Moslems	45	37.8	74	62.2	119	100.0
Animists	17	41.5	24	58.5	41	100.0
Others	4	35.7	7	64.3	11	100.0
Total	398	37.7	657	62.3	1055	100.0

X2 = 211.4; df = 4; P = 0.0000

Table 19 shows the relationship between the occupational status and contraceptive discontinuation among the women in the study population. Results show that housewives (61.0%) and peasants (61.3%) had higher incidence of contraceptive discontinuation than were the civil servants (21.1%) and those engaged in petty businesses (16.9%). The difference among the groups upon contraceptive discontinuation was statistically significant (X2 = 2.028; df = 3; P-value = 0.0000).

19: Distribution of contraceptive discontinuation in women by occupational status

Occupational status	CONTRACEPTIVE USE STATUS					
	Discontinuers		Continuing Users		Total	
	No	%	No	%	No	%
Housewife	150	61.0	96	39.0	264	100.0
Peasant	141	61.3	90	38.7	231	100.0
Petty business	60	16.9	295	83.1	355	100.0
Civil servants	47	21.1	176	78.9	223	100.0
Total	398	37.8	657	62.2	1055	100.0

X^2 = 202.8;df = 3; P = 0.000

When the subgroups were compared, the housewives and peasants together were about 7 times more likely to discontinue contraceptive methods than were the civil servants and those self employed in petty businesses. The difference between the two subgroups was statistically significant as shown in table 20 (OR = 6.924; 95% CI = 5.2363, 9.1558).

Table 20: Relationship between occupation and contraceptive discontinuation among the study population

Occupation	CONTRACEPTIVE USE STATUS					
	Discontinuers		Continuing Users		Total	
	No	%	No	%	No	%
Housewives and peasants	291	61.1	186	38.9	477	100.0
Petty business and civil servants	107	18.5	471	81,5	578	100.0
Total	398	37.8	657	62.2	1055	100.0

OR = 6.924; 95% CI (5.2363,9.1558); X^2 = 201.8; df = 1; P = 0.0000

Table 21 shows the distribution of the initial sources of information before visiting a family planning health unit contraceptive discontinuation among women of the study population. The results show majority of the discontinuers were first with information about family planning services by relatives/friends (52.5%), husbands (31.4%) and public media (21.0%).

Discontinuers whose initial source of information was through MCH/FP clinic and VHW/CBD Personnel accounted for 35.6% and 26.9%, respectively. The difference between these groups on contraception discontinuation was statistically significant (X^2 = 53.83; df = 5; P-value = 0.0000)

Table 21: The distribution of the initial source of information to visit family planning health units upon contraceptive discontinuation among women of the study population.

Initial sources of information to visit Family Planning/ Health Units	CONTRACEPTIVE PRACTICE STATUS					
	Discontinuers		Continuing users		Total	
	No	%	No	%	No	%
Relatives/ friends	176	52.5	159	47.5	335	100.0
Traditional birth attendants/others	3	50.0	3	50.0	6	100.0
MCH/FP clinic personnel	104	35.6	188	64.4	292	100.0
Husbands	37	31.4	81	68.6	118	100.0
VHW/CBD workers	65	26.9	177	73.1	242	100.0
Radio/TV/News papers	13	21.0	49	79.0	62	100.0
Total	398	37.7	657	62.3	1055	100.0

X^2 = 53.83; df = 5; P =0.0000

Table 22 shows the influence of the clinic-based personnel (MCH/FP staff) and others (i.e. VHW/CBD workers, husbands, relatives/friends, radio/TV/News papers and traditional birth attendants) as source of initial motivation for women to visit family planning health units upon contraception discontinuation.

Results show that the proportion for contraceptive discontinuation was lower for subjects whose source of information was through the clinic-based personnel (35.6%) than was for the other sources (38.5%). However, the difference between the two groups was not significant.

Table 22: The influence of clinic-based personnel and others as the initial sources of information to visit family planning health units upon contraceptive discontinuation among women of the study population.

Initial sources of information to visit Family Planning/ Health Units	CONTRACEPTIVE PRACTICE STATUS					
	Discontinuers		Continuing users		Total	
	No	%	No	%	No	%
Clinic-based personnel	104	35.6	188	64.4	292	100.0
Other sources	294	38.5	469	61.5	763	100.0
Total	398	37.7	657	62.3	1055	100.0

OR = 0.8825, 95% CI = (0.6666, 1.1682), P =0.3824

Table 23 shows the distribution of contraceptive discontinuation in the study population according to the decision-makers for women to accept family planning methods. Results show that the proportion of discontinuers whose decision-makers for accepting family planning methods were service providers alone (61.1%) was almost twice the proportions of those discontinuers whose decision-makers were by themselves (24.1%) and jointly done by individual acceptors and service providers (30.8%) after freely informed in either case. The difference among the categories of the decision makers and contraception discontinuation was statistically significant (X^2 = 118.7; df = 2; P-valued = 0.0000).

Table 23: Distribution of contraceptive discontinuation in women of the study population and decision making process in choosing a contraceptive method

Decision maker	CONTRACEPTIVE USE STATUS					
	Discontinuers		Continuing Users		Total	
	No	%	No	%	No	%
Individual acceptor	106	24.1	333	79.9	439	100.0
Service provider alone	206	61.1	131	38.9	337	100.0
Individual accepter and service provider jointly	86	30.8	193	69.2	279	100.0
Total	398	37.7	657	62.3	1055	100.0

$X^2 = 118.7$; df = 2; P = 0.0000

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Table 24 shows the relationship between whether or not the method choice was free and informed in relation to contraceptive discontinuation.

The results show that subjects whose contraceptive method choices were not free and informed had higher proportion (47.4%) in favour of contraception discontinuation than was for the free and informed subjects (33.9%). The difference between the two groups of subjects (13.5%) was statistically significant (OR = 0.5693; 95% CI = 0.4339, 0.7471; P-value = 0.0000).

Table 24: Distribution of contraceptive discontinuation according to whether or not the method choice was free and informed.

Contraceptive method of choice	CONTRACEPTIVE USE STATUS					
	Discontinuers		Continuing Users		Total	
	No	%	No	%	No	%
Free and informed	255	33.9	498	66.1	753	100.0
Not free and informed	143	47.4	159	52.6	302	100.0
Total	398	37.7	657	62.3	1055	100.0

OR = 0.5693; 95% CI = 0.4339, 0.7471); P = 0.0000

Table 25 show the relationship between the purposes of contraceptive use and contraceptive discontinuation among the women of the study population. Results show that subjects who used contraceptive methods for purposes of spacing their births (44.0%) were 4.49 times more likely to discontinue contraceptive use than were for subjects limiting their family sizes (14.9%). The difference between the two groups (29.1%) wss statistically significant (OR = 4.486; CI = 3.0387, 6.6221; P=0.0000).

Table 25: Relationship between purposes of contraceptive use and contraceptive discontinuation among the women of the study population.

Purposes of Contraceptive use	CONTRACEPTIVE USE STATUS					
	Discontinuers		Continuing Users		Total	
	No	%	No	%	No	%
Spacing	364	44.0	463	56.0	827	100.0
Limiting	34	14.9	194	85.1	228	100.0
Total	398	37.7	657	62.3	1055	100.0

OR = 4.486; 95% CI = (3.0387, 6.6221); P = 0.0000.

Table 26 shows the influence of changing sources of contraceptive supplies and services upon contraceptive discontinuation.

Results show that subjects who changed their sources of contraceptive supplies and services (44.4%) were about 2.36 times more likely to discontinue contraception use than were subjects who didn't change their sources of contraceptive supplies and services (25.3%). The difference between the two groups of women was statistically significant (OR = 2.357; 95% CI = 1.7845, 3.1143; X^2 = 37.38; df = 1; P-value = 0.0000.

Table 26: The influence of changing sources of contraceptive supplies and services upon contraceptive discontinuation.

Changing sources of contraceptive supplies/ services	CONTRACEPTIVE PRACTICE STATUS					
	Discontinuers		Continuing users		Total	
	No	%	No	%	No	%
Yes	304	44.4	380	55.6	684	100.0
No	94	25.3	277	74.6	371	100.0
Total	398	37.7	657	62.3	1055	100.0

OR = 2.357; 95% CI = (1.7845, 3.1143); X^2 = 37.38; df = 1; P= 0.0000.

Table 27 shows the influence of distance from the nearest source of contraceptive supplies and services upon contraceptive discontinuation.

The results show that subjects who lived less than 5 kilometres from the nearest source of contraceptive supplies and services had low proportion of contraceptive discontinuation (24.5%) compared with subjects living 5 kilometres or more (55.7%). Living below 5 kilometres from the nearest source of supplies of contraceptives was about 76% protective to the subjects against contraceptive discontinuation. The difference between the two groups of subjects was statistically significant (OR = 0.2581; 95% CI = 0.1983, 0.3360; X^2 = 106.0; df = 1; P-value = 0.0000.

Table 27: The relationship between distance from the nearest source of contraceptive supplies/services and contraception discontinuation.

Distance from nearest source of contraceptive services (Kilometres)	CONTRACEPTIVE PRACTICE STATUS					
	Discontinuers		Continuing users		Total	
	No	%	No	%	No	%
Below 5	152	24.5	462	75.5	614	100.0
5 and above	246	55.7	195	44.3	441	100.0
Total	398	37.5	657	62.5	1055	100.0

OR = 0.2581; 95% CI = (0.1983, 0.3360); X^2 = 106.0; df = 1; P = 0.0000.

Table 28 shows the relationship between regular provision of the reminder (including cards, home visits, telephones, letters, etc) for the scheduled dates of the routine follow-up clinic visits and contraception discontinuation.

The results show that subjects who were regularly provided with remainders for their routine follow-up clinics were less likely to discontinue contraceptive use (27.4%) than were subjects without being regularly provided with the remainders (48.5%). The difference between the two groups was statistically significant (OR = 0.4010; 95% CI = 0.3103, 0.518; X^2 = 49.88; df = 1; P-value = 0.0000)

Table 28: Relationship between provision of regular remainder for scheduled dates of the routine follow up clinic visits and contraception discontinuation.

Regular remainder provision	CONTRACEPTIVE USE STATUS					
	Discontinuers		Continuing Users		Total	
	No	%	No	%	No	%
Yes	147	27.4	390	72.6	537	100.0
No	251	48.5	267	51.5	518	100.0
Total	398	37.7	657	62.3	1055	100.0

OR = 0.4010; 95% CI = (0.3103, 0.5181); X^2 = 49.88; df = 1; P = 0.0000.

Table 29 shows the influence of contraceptive method switching upon contraceptive discontinuation for all methods among women in the study population during the follow-up period.

The results show that the subjects who changed their contraceptive methods initially adopted at least once (52.2%), were about twice more likely to discontinue contraceptive use than were the subjects who did not change their contraceptive methods (34.2%). The difference between the two groups upon contraceptive discontinuation (18.0%) was statistically significant (OR = 2.097; 95% CI = 1,5405, 2.8555; P = value = 0.0000).

Table 29: Relationship between switching of originally accepted contraceptive method and contraceptive discontinuation in women during the follow-up period.

	CONTRACEPTIVE USE STATUS					
Originally accepted method switched at least once.	Discontinuers		Continuing Users		Total	
	No	%	No	%	No	%
Yes	107	52.2	98	47.8	205	100.0
No	291	34.2	559	65.8	850	100.0
Total	398	37.7	657	62.3	1055	100.0

OR = 2.097; 95% CI = (1.5405, 2.8555); P = 0.0000

Data presented in Table 30 show the influence of the changes of specific contraceptive methods initially accepted upon contraception discontinuation among the women in the study population.

Results show that subjects who changed oral contraceptives initially accepted (55.8%) to another method were found to be more likely to discontinue contraceptive use than were subjects who didn't change the method (33.9%). the difference between the two groups (21.9%) is statistically significant (X^2 = 18,90; df = 1; P-value =0.0000). Further analysis shows that the odds in favour of discontinuing oral contraceptive method are about 2 times more among subjects who switched the method than were among non-switchers (OR = 2.463; 95% CI = 1.6277, 3.7241; P-value= 0.0000).

Similarly, women who switched intrauterine contraceptive method to another method (53.8%) were more likely to discontinue contraceptive use than were non-switchers (34.6%). the difference observed between the two groups (19.2%) was marginally statistically significant (X^2 = 5.098; df = 1; P-value = 0.0260). It was also shown that the odds in favour of contraceptive discontinuation was about 2 times more among method switchers than were among non-switchers (OR = 2,208; 95% CI = 1.0988, 4.4359).

However, there was no significant difference between

Table 30: Relationship between changes of originally accepted specific contraceptive method and contraceptive discontinuation in women during the follow-up period.

1. **ORAL CONTRACEPTIVE**

Method changes	Discontinuers		Continuing Users		Total	
	No	%	No	%	No	%
Changed	63	55.8	50	44.2	113	100.0
Not changed	174	33.9	340	66.1	514	100.0
Total	237	37.8	390	62.2	627	100.0

X^2 = 18.90; df = 1; P = 0.0000; 95% CI = (1.6277, 3.7241; P = 0.0000)

2. **INJECTABLE CONTRACEPTIVES**

Method changes	Discontinuers		Continuing Users		Total	
	No	%	No	%	No	%
Changed	23	43.4	30	56.6	53	100.0
Not changed	52	35.1	96	64.9	148	100.0
Total	75	37.3	126	67.7	201	100.0

X^2 = 1.139; df = 1; P = 0.2859; OR = 1.415; 95% CI = (0.7466, 2.6833); P = 0.2871)

3. **INTRAUTERINE CONTRACEPTIVES**

Method changes	Discontinuers		Continuing Users		Total	
	No	%	No	%	No	%
Changed	21	53.8	18	46.2	39	100.0
Not changed	65	34.6	123	65.4	188	100.0
Total	86	37.9	141	62.1	227	100.0

OR = 2.208; 95% CI = (1.0988, 4.4359); P = 0.0260; X^2 = 5.098,df=1.

women who changed injectable contraceptives to another method (43.4%) and those who didn't change method (35.1%) with respect to contraceptive discontinuation. Also, subjects who changed injectable contraceptive method were about 1.45 times the odds of those who did not change the method (OR = 1.415; 95% CI = 0.7466, 2.6833).

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Table 31 shows the frequency distribution of reasons for contraceptive method changes among the contraceptive discontinuers according to the methods they initially accepted during the study period.

Table 31: Frequency distribution of reasons for contraceptive method changes among the discontinuers by methods initially accepted during the follow-up period

Reasons for method changes	Oral contra ceptive		Injectable contra ceptive		Intrauterine contraceptive		Total	
	No	%	No	%	No	%	No	%
Undesirable health effects of the method.	46	43.0	19	17.7	17	15.9	82	76.6
Husband refused	13	12.1	-	-	2	1.9	15	14.0
Others (including long distance, etc.)	4	3.7	4	3.7	2	2.0	10	9.4
Total	63	33.7	23	22.8	21	43.5	107	100.0

$X^2 = 9.300$; df = 4; P = 0.0540

Results show that undesirable health side effects of the methods accepted accounted for about 76.6 of the reasons for method changes, of which oral and intrauterine contraceptives contributed 43.0% and 15.9% respectively. Injectable contraceptives was responsible for 17.7% of the reasons for method changes.

The health side effects of these methods mostly included menstrual bleeding disturbances, weight changes and lower abdominal pain associated with abnormal vaginal bleeding. Husband refusal as reason for method change was cited in about 14.0% of the subjects (12.1% for orals, 1.9% for IUCD and nil for injectables). Other reasons including long distances to sources of method supplies and family planning services was mentioned in about 9.4% of the contraceptive drop-outs. The difference observed among the reasons for method changes by the contraceptive discontinuers was slightly statistically significant (X^2 = 9.300, df = 1; P-value = 0,0540).

Table 32 shows that a large majority (83.7%) of the women who discontinued contraception at the time of the study reported that they were not satisfied with the contraceptive methods initially accepted and/or services offered at the clinics compared with 16.3% of the women who were continuing with the methods and services rendered at the clinics. The difference between these sub-groups of contraceptive users was strongly statistically significant. (X^2 = 543.5; df = 2; P-value = 0.0000)

Table 32: Distribution of contraceptive use among women of the study population by level of satisfaction with contraceptive methods and services offered at SDPs.

Level of satisfaction with contraceptive methods and services	CONTRACEPTIVE USE STATUS					
	Discontinuers		Continuers		Total	
	No	%	No	%	No	%
Fully satisfied	66	10.3	577	89.7	643	100.0
Partially satisfied	23	53.5	20	46.5	43	100.0
Not satisfied	309	83.7	60	16.3	369	100.0
Total	398	37.3	657	62.7	1,055	100.0

$X^2 = 543.5$; df = 2; P-value = 0.0000.

Table 33 summarizes the level of satisfaction by the discontinuers with the oral, injectable and intrauterine contraceptives initially accepted and services offered at the clinics. The results show that a large majority of injectable and intrauterine contraceptive acceptors (85.3% and 80.2%, respectively) reported that they were not satisfied with the methods and services offered compared with 74.3% for the oral contraceptive discontinuers. There was no significant difference in the distribution of the various levels of satisfaction of family planning services with regard to contraceptive discontinuation.

Table 33: Distribution of contraceptive use among the contraceptive discontinuers by level of satisfaction with specific contraceptive methods and services rendered at SDPs

Level of satisfaction with contraceptive methods and services	CONTRACEPTIVE METHODS INITIALLY ACCEPTED							
	Oral		Injectable		IUD		Total	
	No	%	No	%	No	%	No	%
Fully satisfied	46	19.4	9	12.0	11	12.8	66	16.6
Partially satisfied	15	6.3	2	2.7	6	7.0	23	5.8
Not satisfied	176	74.3	64	85.3	69	80.2	309	77.6
Total	237	59.5	86	21.6	75	18.8	398	100.0

$X^2 = 5.427$; df = 2; P-value = 0.2462

Table 34 shows percentage distribution of the study population with whom service providers discussed specific aspects of quality of care about contraceptive methods initially accepted. These aspects included information on: how the method works, how to use the method, benefits/risks of the method, possible side effects of the method, how to manage side effects and mentioning of other contraceptive methods. Also, enquiry from the clients, during their clinic follow-up visits, about problems of the methods used was assessed.

Results show that most of the discontinuers were not provided with information on the specific aspects about methods initially accepted than had women who were continuing with contraception. It is revealed that less than 34.0 percent of the discontinuers were provided with information on a number of specific aspects the methods. These aspects included information on: how method about the works 26.3%, benefits/advantages of the method 32.4%, possible side effects 24.6% and inquiry from the client about problems of the method used 33.3%. Also, it is apparent from this table that information on how to use method and discussion about other contraceptive methods was accomplished to relatively many discontinuers (31.7% and 33.1%, respectively).

In view of the association between contraceptive discontinuation and service provider's action when the two groups were compared; it was generally found that there was

a strong statistical significant difference between the contraceptive discontinuers and continuing users with regard to the percentage of service provider's action on each of the selected aspects of quality of care of family planning services provided at the SDPs.

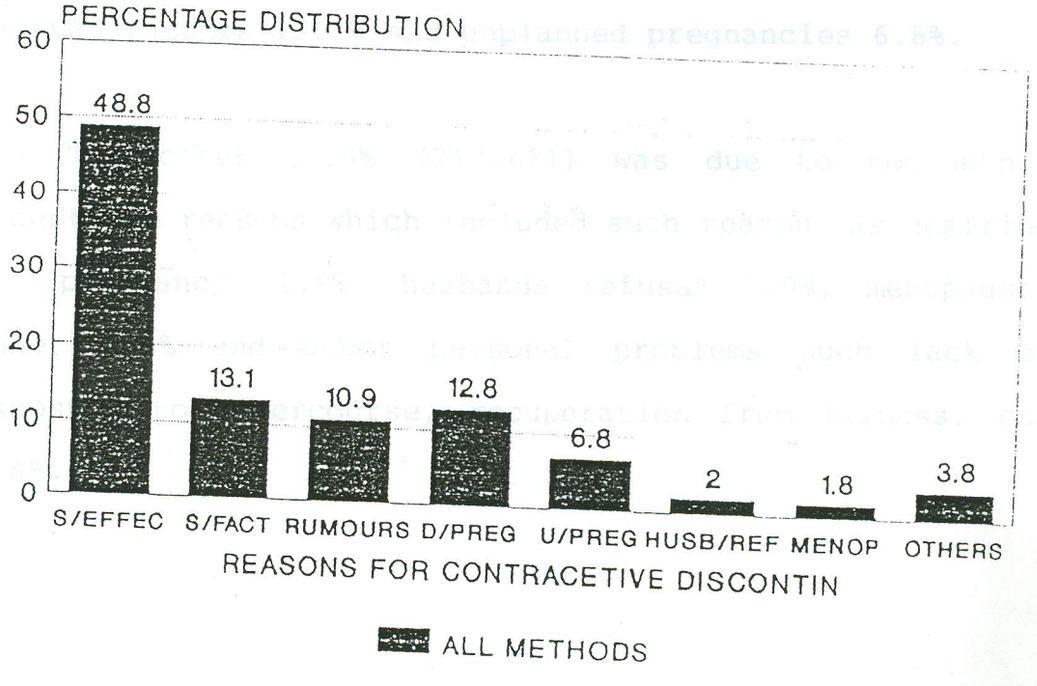
Table 34: Distribution of contraceptive discontinuation by the service provider's action on selected aspects of quality of care about contraceptive methods and services offered at SDPs, among the study population.

SERVICE PROVIDER'S ACTION	Discontinuers		Continuers		Total	
	No	%	No	%	No	%
Explained how method works[1]	164	26.3	460	73.7	624	100.0
Explained benefits/advantages of method[2]	162	32.4	338	67.6	500	100.0
Explained how to use method[3]	283	31.7	609	68.3	892	100.0
Discussed possible side effects[4]	133	24.6	407	75.4	540	100.0
Discussed how to manage side effects[5]	187	30.6	425	69.4	612	100.0
Inquired from clients problems about method used[6]	175	33.3	350	66.7	525	100.0
Mentioned other contraceptive methods[7]	211	33.1	427	66.9	638	100.0

1. $X^2 = 14.88$; df = 1; P=0.0003; OR = 0.6078; 95% CI = 0.4715, 0.7835
2. $X^2 = 83.72$; df = 1; P=0.0000; OR = 0.3033; 95% CI = 0.2338, 0.3934
3. $X^2 = 90.13$; df = 1; P=0.0000; OR = 0.1896; 95% CI = 0.1313, 0.2238
4. $X^2 = 11.47$; df = 1; P=0.0000; OR = 0.6479; 95% CI = 0.5036, 0.8334
5. $X^2 = 7.444$; df = 1; P=0.0004; OR = 0.6972; 95% CI = 0.5377, 0.9039
6. $X^2 = 31.89$; df = 1; P=0.0000; OR = 0.4838; 95% CI = 0.3754, 0.6235
7. $X^2 = 8.580$; df = 1; P=0.0034; OR = 0.6883; 95% CI = 0.5359, 0.8842

Figure 5 shows the frequency distribution of the responses according to reasons for contraceptive discontinuation. The reasons are characterized into eight main categories: Undesirable health side effects, clinical or service related factors, rumours which discourage use (ie. rumours of side effects) of the modern methods of contraception, desiring for a pregnancy, unplanned (accidental) pregnancy, husband refusal, menopause onset and other reasons (such as husband/spouse away, switching to other methods, illness, etc). Each subject responded to one or more of the reasons for discontinuation of the contraceptive methods.

Figure 5: Percentage distribution of contraceptive discontinuers by specific reasons for discontinuing use of all contraceptive methods adopted.



Results show that the most frequently cited reason for the problem of contraceptive discontinuation was due to undesirable health side effects of the contraceptive methods which accounted for about 48.8% of the responses mentioned. The problem of contraceptive discontinuation was also associated with 13.1% service or clinic related factors, 10.9% rumours that discourage the use of contraceptive methods, 12.8% desiring for pregnancy, 6.8% unplanned pregnancy, 2.0% husband refusal, 1.8% menopause onset and 3.8% for other reasons.

Figure 6 shows the distribution of reasons for contraceptive discontinuation. Majority of the reasons are those pertaining to method acceptance (i.e. those related to the method itself and service provision at a family planning health unit). This was about 69.0% (468/681) which comprised of health side-effects 48.8%, clinical/service related factors 13.1% and unplanned pregnancies 6.8%.

The other 31.0% (213/681) was due to non-method acceptance reasons which included such reasons as desiring for pregnancy 12.8%, husbands refusal 2.0%, menopausal onset 1.8% and other personal problems such lack of exposure to intercourse, recuperation from illness, etc 3.8%.

Figure 6: Distribution of reasons for contraceptive discontinuation

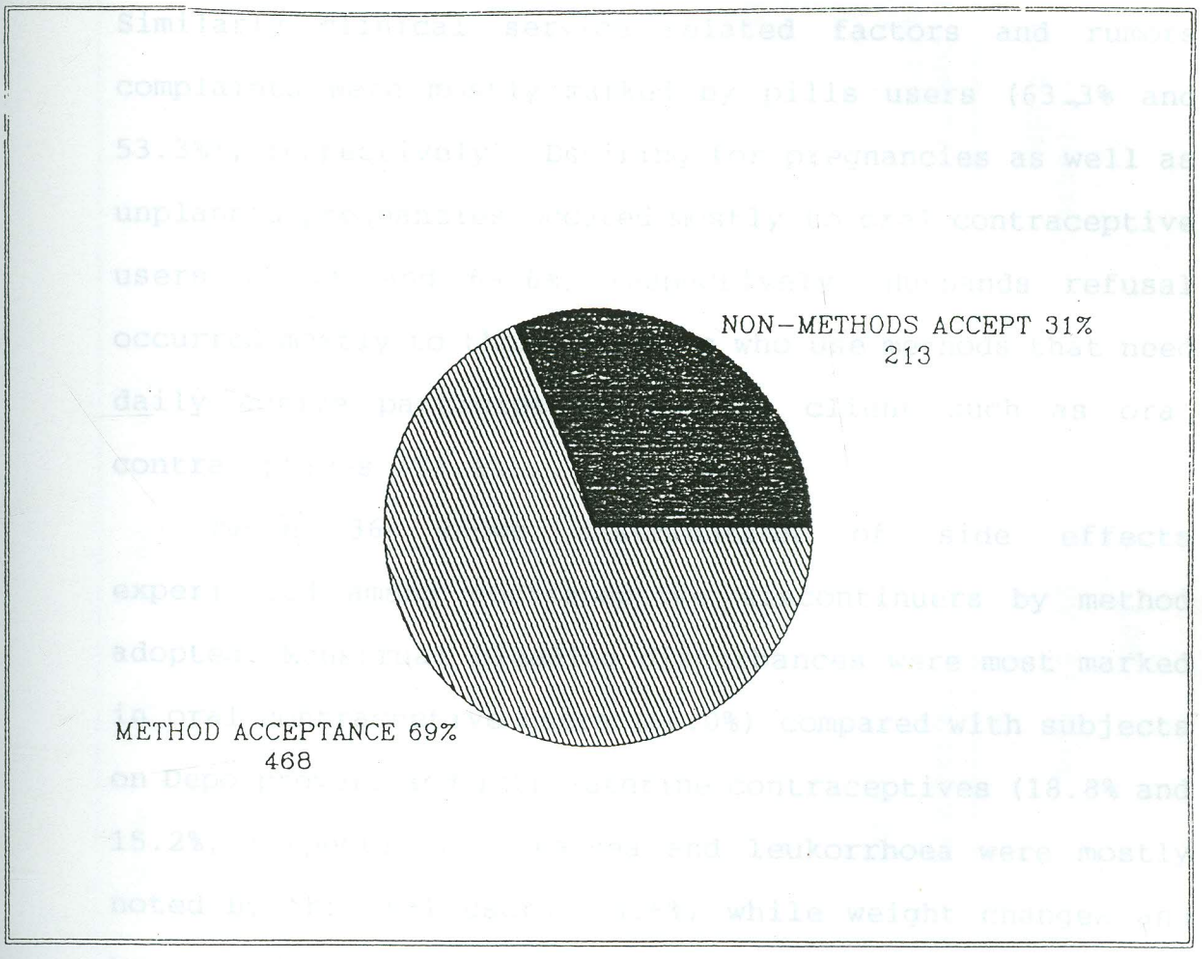


Table 35 and figure 7 show distribution of respondents by reasons for discontinuation by specific methods. Health side effects were most marked in oral contraceptive users (60.4%) and least noted by the IUD wearers (17.6%). Similarly clinical service related factors and rumors complaints were mostly marked by pills users (63.3% and 53.3%), respectively). Desiring for pregnancies as well as unplanned pregnancies occured mostly to oral contraceptive users (46.0% and 69.6%, respectively. Husbands refusal occurred mostly to those subjects who use methods that need daily active participation by the client such as oral contraceptives (71.4%).

Table 36 shows distribution of side effects experienced among contraceptive discontinuers by method adopted. Menstrual bleeding disturbances were most marked in oral contraceptive users (66.0%) compared with subjects on Depo-provera and Intra-uterine contraceptives (18.8% and 15.2%, respectively). Nausea and leukorrhoea were mostly noted by the oral users (64.6%) while weight changes and breast milk reduction were reported by both hormonal users. Mood and sexual changes were observed in all of three method with highest proportions for oral contraceptive users (61.6%). Delay in fertility return was mostly complained by the pills users followed by the injectable users (60.7% and 25.0%, respectively).

Table 35: Distribution of respondents by reasons for discontinuation by specific methods.

Reason for contraceptive discontinuation	CONTRACEPTIVE METHOD							
	Oral contraceptive		Depo-provera		IUD		Total	
	No	%	No	%	No	%		
1. Health side effects	203	60.4	74	22.0	59	17.6	336	100.0
2. Clinical service related factors	57	63.3	19	21.1	14	15.6	90	100.0
3. Rumors	40	53.3	18	24.0	17	22.7	75	100.0
4. Desiring for pregnancy	40	46.0	18	20.7	29	33.3	87	100.0
5. Unplanned pregnancy	32	69.6	4	8.7	10	21.7	46	100.0
6. Husband refusal	10	71.4	1	7.2	3	21.4	14	100.0
7. Menopausal onset	1	8.3	8	66.7	3	35.0	12	100.0
8. Others (eg. lack of exposure to intercourse recuperation from illness, etc.)	13	62.0	4	19.0	4	19.0	21	100.0
Total	396	58.2	146	21.4	139	20.4	139	100.0

Figure 7: Percentage distribution of contraceptive discontinuers by reasons for discontinuing use of contraceptive methods.

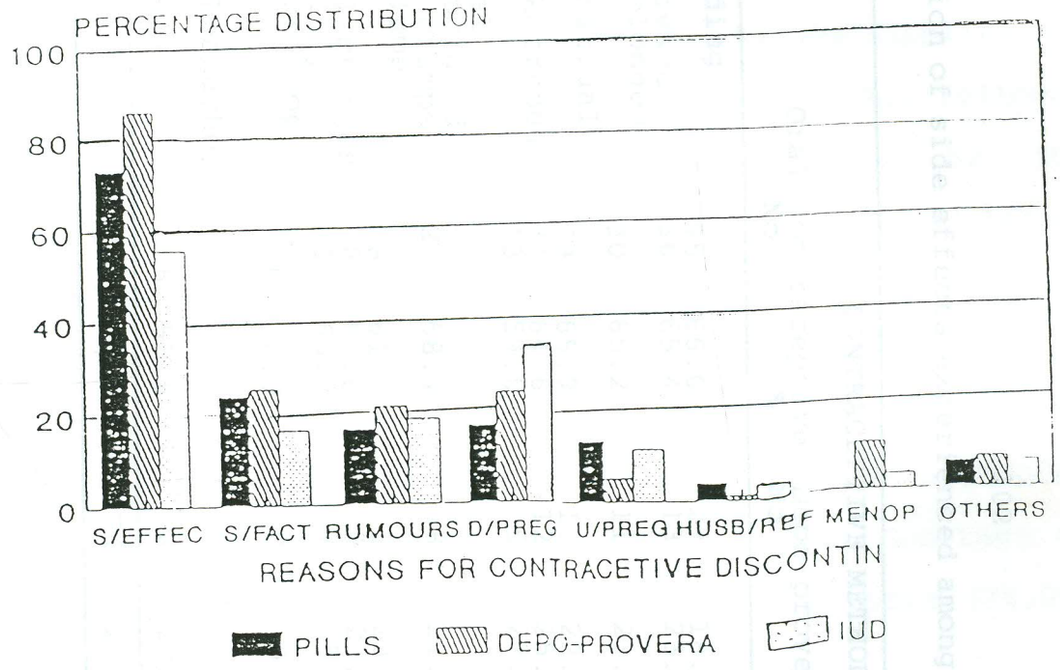


Table 36: Distribution of side effects experienced among contraceptive discontinuers by method adopted.

Side effects	CONTRACEPTIVE METHODS							
	Oral contraceptive		Depo-provera		IUD		Total	
	No	%	No	%	No	%		
1. Menstrual bleeding disturbances	95	66.0	27	18.8	22	15.2	144	100.0
- Scanty and missed	36	65.4	13	23.6	6	11.0	55	100.0
- Heavy and prolonged periods	30	65.2	11	23.9	5	10.9	46	100.0
- Irregular menstrual periods	29	65.9	10	22.7	5	11.4	44	100.0
2. Nausea and leukorrhoea	31	64.6	12	25.0	5	10.4	48	100.0
3. Weight changes	13	59.0	5	22.7	4	18.3	22	100.0
4. Abnormal vaginal discharges associated with abdominal cramps	26	68.4	8	21.0	4	10.6	38	100.0
5. Breast milk volume reduction	8	61.6	3	23.0	2	15.4	13	100.0
6. Mood and sexual changes	8	61.6	3	23.0	2	15.4	13	100.0
7. Delay in fertility	17	60.7	7	25.0	4	14.3	28	100.0
8. Expulsion of the loop (IUD)	0	0.0	0	0.0	20	100.0	20	100.0
9. Others (heart palpitations, headache, loss of libido, skin changes etc)	5	55.6	2	22.2	2	22.2	9	100.0
Total	203	60.4	74	22.0	59	17.6	336	100.0

Table 37 shows distribution of discontinuers by clinical-service related factors mentioned as reasons causing contraceptive discontinuation by method adopted. Lack of privacy (audio and visual) was mostly noted in oral contraceptive users (61.0%) followed by Depo-provera users (21.6%). Lack of availability of contraceptive supplies was mostly noted in oral contraceptive users (53.8%), followed by injectable users (34.7%), and lastly by IUD contraceptive users (11.5%). Uncooperative staff and delays in the availability of services were mostly noted in pill users (57.2%) and equally complained about in both injectable and IUD methods (21.4% each). Accessibility due to long distance of more than 8 kilometers was a problem for the pill (86.7%) and IUD (13.3%) users. Shortage of staff was a bit of a problem to the pills users (75.0%) compared to the IUD clients (25.0%).

Table 38 shows distribution of the discontinuers by rumours of side effects reported as reasons causing contraceptive discontinuation by method adopted. All method users at various proportions were afraid of the method adopted as might cause cancer and expose them to become sterile. Only the oral and IUD contraceptive users considered that pills could pile to form a lump in the abdomen and also that IUDs might migrate to some other parts of the body to make them ill (100.0% and 100.0% respectively). The hormonal contraceptives

(pills and injectables) were being feared by users for becoming fragile and making their bodies weak. 100.% of the IUD users feared of giving birth to babies holding the device (IUD) in their hands - a sign of bad omen.

Table 37: Distribution of discontinuers by clinical service related factors mentioned as reasons causing contraceptive discontinuation by method adopted.

Clinical service related factors	Contraceptive method							
	Oral Contraceptive N=237		Depo-Prover N = 75		IUD N=86		Total N=398	
1. Lack of privacy (audio & visual)	14	61.0	5	21.6	4	17.4	23	100.0
2. Lack of availability of contraceptive supplies	14	53.8	9	34.7	3	11.5	26	100.0
3. Uncooperative staff	8	57.2	3	21.4	4	21.4	14	100.0
4. Delays in the availability of services (waiting for more than 2 hours)	5	62.5	2	2.5	1	12.5	8	100.0
5. Accessibility (distance more than 8 Km)	13	86.7	0	0.0	2	13.3	15	100.0
6. Shortage of staff	3	75.0	0	0.0	1	25.0	4	100.0
Total	57	63.3	19	21.1	14	15.6	90	100.0

Table 38: Distribution of discontinuers by rumours mentioned to cause contraceptive discontinuation by method adopted.

Rumours of side effects	Contraceptive method: Oral Contraceptive		Depo-provera		IUD		Total	
1. Afraid causing cancer	7	50.0	4	28.6	3	21.4	14	100.0
2. Afraid of becoming sterile	6	37.5	8	50.0	2	12.5	16	100.0
3. Considered to pile and form a lump in the abdomen	12	100.0	0	0.0	0	0.0	12	100.0
4. Feared of causing multiple pregnancies	12	100.0	0	0.0	0	0.0	3	100.0
5. Afraid of becoming fragile	3	42.9	4	57.1	0	0.0	7	100.0
6. Causes body weakness	9	75.0	3	25.0	0	0.0	12	100.0
7. Can go round blood in body (can migrate to some other parts of the body and make them ill)	0	0.0	0	0.0	9	100.0	9	100.0
8. Body born holding it in handsign of bad omen.	0	0.0	0	0.0	2	100.0	2	100.0
Total	40	16.5	19	21.3	16	18.6	75	100.0

7.0. DISCUSSION

This study has established that contraceptive discontinuation is a significant problem of Family Planning care in Hai district. Apparently the current study is unique because it is the only one in Tanzania which has tried to combine clinic-based data in conjunction with a home follow-up of the study population in the community to examine women of reproductive age, in an attempt to estimate the magnitude of modern contraceptive discontinuation and its associated factors within a period of twenty four months.

The study has established that contraceptive discontinuation is a significant problem of the family planning care in Hai district. However, these findings do not seem to complement other previous studies in high lighting the magnitude of contraceptive discontinuation in Tanzania. The previous studies had shown that the magnitude of contraceptive discontinuation was very high and varies greatly in different geographical areas of the country ranging from 50 to 70%.[2] These studies, however, were clinic based only, restricted to a small number of women and hence are not comparable to district sample survey such as this one. Furthermore, one of the problems of these clinic-based studies is that over time a considerable proportion of acceptors may fail to return to the clinic. Doubtless, some of the lost clients may have stopped taking contraception because of side effects or for other relevant

reasons, while others among them were still on contraception but obtain supplies from another source. All this may contribute to the lack of accuracy of estimating the magnitude of contraception discontinuation.

Due to resource constraints certain items of information were not obtained more objectively and accurately. For example, the presence of an IUD was not determined by uterus sounding, thereby detecting unnoticed expulsion. Also the presence of certain symptoms were not medically diagnosed and confirmed due to the nature of the study. One had to relay on the acceptors' statements for crucial items like date and reasons of discontinuation in some cases where record keeping was inaccurate and incomplete for cross checking. The date of termination and other information is subject to recall error. There could be problems of willingness and knowledge. A woman who removed an IUD might not admit or report the event. Moreover, spontaneous expulsion of an IUD is more likely to go unnoticed and hence unreported. A woman might exaggerate the seriousness of side effects. These discrepancies should be taken into consideration regarding our findings in this study.

General trend of contraceptive discontinuation rates:

The results of the present study support earlier findings[41] that discontinuation rates vary considerably with time; consequently any reasonable functional expression for hazard should depend on time from

acceptance. Subjects are under observation of contraception use for unequal periods of time as they enter and leave contraception practice at different times for various reasons. The value of the incidence rate has been shown to decrease as the period of contraception use grows longer (Fig. 3). A plausible explanation could be that some of the incoming clients have more risk factors and discontinuation acts as a selection mechanism whereby those with less risk factors survive longer. By comparison of the monthly probability of discontinuation of the three methods (Tables 3, 4, 5, and 6) the study reveals that the patterns of the corresponding monthly rates of discontinuation vary slightly. They are highest during the first three to six months after initial acceptance and thereafter decline to fairly low levels (figure 4). However, during these first six months of contraceptive use, the discontinuation rates for both orals and intrauterine-devices are higher than for injectables. This could reflect that more harmful physical effects and rumours about the orals and intrauterine devices were experienced than for the injectable contraceptives during the very early periods of contraception. Also these undesirable health effects are tolerated as the duration of method use increases.

The other noteworthy feature of our findings, in conformity with other previous studies,[42] is the tendency of the probabilities of the IUD discontinuation rates to fall after 6-12 months of use while those for the oral and

injectable contraceptives remain significantly higher. Such patterns of observation after six months of contraceptive use, possibly may be explained that most of the physical side effects and misconceptions about the IUD method are expected to subside while women who practice oral and injectable contraceptives might continue to experience more side effects due to the systemic nature of these two methods.

The other probable reason for this pattern is that both injectable and oral contraceptives require active participation on the part of the user for their continuation, whereas IUCDs, do not. Indeed, it is the discontinuation of IUCD, which involves actively seeking assistance from a service provider and the method cannot be given up simply by defaulting.

The policy implication for these observations is that clients, especially for those with risk factors that influence contraceptive discontinuation.

Risk factors influencing contraceptive discontinuation:

The current study has indicated that there are a number of factors associated with contraceptive discontinuation among women of the reproductive age in the study area.

The strong influence of some of these attributes must be acknowledged if the women population is to be correctly informed about contraceptive continuation. Also the findings of these factor variations among the women

population can be useful to the family planning programme managers in developing appropriate intervention strategies against contraceptive discontinuation among the eligible women population in Hai district and other parts in the country.

The selected factors include the following:-

Age:

The results of the study showed that the pattern of contraceptive discontinuation by age generally increases as the women advance through their menopausal states with age group of 45-49 years having the highest proportion of contraceptive discontinuers (43.0%) while the lowest proportion were recorded in the age group of 15-19 years (Table 7). This finding was in accord with most of the previous studies reported in some developing countries.[43,44]

A speculative interpretation of these findings might suggest that young women could be less anxious to start their families before they attain their desired level of education. Older women who may have completed their desired family size and passing through a menopausal phase may be more motivated to discontinue use contraceptives than women in the middle reproductive life. Also, other factors to consider in trying to explain this pattern of contraceptive use include the deteriorating or adverse socio-economic conditions currently prevailing which could probably intensify the existing demand for fertility regulation for the young women who have not completed their desired family

size but still fertile.

These speculations support previous researchers on this field who suggested that age may predict the degree of maturity, competence for marital roles, search time for a marriage partner, emotional, educational and economic resources available; all of which are likely to create a favourable climate for fertility regulation.[33,34,35]

Marital status:

Ever married women in the study area were more likely to discontinue contraception use than the never married subjects as analysed in table 9. Olukoya, in Lagos, Nigeria[45] had similar findings. It has also been shown that marriage encourages fertility of having a large family size. This could be due to the influence of some socio-cultural factors in the community designing a certain family size as soon as one gets married.

Age at first marriage:

Regarding the age at first marriage this study has shown that teenage married subjects were more likely to discontinue contraceptive use than were women who got first marriage at 20 years or more (table 10), though the difference was marginally statistically significant.

Married life exposes women more to the risk of pregnancy than the unmarried one.[46] World fertility survey (WFS)[46] findings show that women who marry below age 20 tend to have higher completed family earlier than those who marry after age 25 years. It is more likely that women

marrying earlier than 20 years of age are more inclined to discontinue contraception use for early completion of their desired family size than those who marry later. Moreover, early marriage is likely to expose women to factors such as lack of vocational training, poor education and economic resources which are most likely linked to the tendency of favouring large number of children.[45,46] These factors apparently could further contribute to contraceptive discontinuation.

Parity:

The present study has shown that majority (62.3%) of the respondents who discontinued contraceptive use were para four or less compared with subjects (37.5%) of parity five and above (tables 12).

The trend of these results support earlier findings that high dropouts of modern contraception are experienced by subjects of low parity and also that as parity increases a woman's motivation to avoid additional children may as well increased[47]. It is more likely that women with low parity still need more children while women with high number of parity have completed the family size they desired and realize the importance of spacing their children or limiting their number because of economic instability. It is also likely that majority of women with high parity have attended MCH/FP clinics, in so doing they have a high chance of receiving health education on family planning and the use of contraceptive methods especially

for at risk mothers.

Number of living children:

Regarding the number of living children it was found that the discontinuation rate of contraceptive use was inversely related with the number of living children (Table 12).

These findings of negative association of number of living children with contraceptive discontinuation were in conformity with some studies done elsewhere.[48] It is possible that subjects with small number of children have not attained their desired number of children. It is also likely that the same factors that predispose individuals to low parity, young age, desire for more children may be associated with individuals with four or less number of living children.

Desire for more children:

The study indicates that the desire for more children influences contraceptive practice. The pattern observed for all contraceptive methods was that for women who reported that they wanted additional children were more likely to discontinue contraception practice than those who did not want any more children (Table 14).

This finding may reflect a tendency for those who are pregnant or have recently delivered to say that they want no more children.[49] As the open birth interval increases some of these women may change their minds and decide that they do want to have another child after all. We can only

point out that the need of any pregnancy may not easily be determined and may well vary considerably before, during and after pregnancy. Prospective questions which attempt to ascertain when women want to have their next child, and/or how many children they ultimately want produce major methodological problems with respect to the reliability and validity of the responses.

Research in Thailand and Bangladesh found that women who had reached or exceeded their ideal family size continued to use contraceptives more than women whose families had not yet attained their ideal family size.[50] Also, an analysis based on data from eleven countries participating in the World Fertility Survey([50]) arrived at similar conclusions that fertility preferences are related to contraceptive use and are often as highly correlated with it as such standard variables as educational attainment.

Educational level attainment of women and their husbands:

The results of the study revealed the trend that the lower the educational level of the women the higher the chance of discontinuing contraceptive use (Tables 15 and 16). Similar trend was observed about the influence of the educational level of husbands on the women's contraceptive discontinuation (Table 17). In other words, both women and men who were better educated were more likely to continue contraceptive practice and vice versa.

These findings were in accord with most of the previous studies which have reported that most often there is an inverse relationship with the level of educational attainment and contraceptive discontinuation.[51]

The inverse relationship of education with fertility is one of most clear-cut correlation found in family planning and related literature.[52] However, it has lately been suggested that this inverse relationship between education and fertility is not absolute but, instead, that the direction of association depends on the level of economic development in different societies and cultures.[51,52] Where low levels of socio-economic development prevail, fertility has been shown to increase and accompanied with decrease of fertility regulation.[45]

The other possible explanation for the negative relationship of contraceptive discontinuation and education attainment is that the same factors that predispose individuals to early first marriages may be associated with lower educational attainment with consequence of contraceptive discontinuation. Similarly, general financial and practical assistance in old age are among the most frequently cited reasons for wanting many children. However, parents who obtain a good education can earn a higher income through better employment opportunities. The need for economic support from children is then lowered thereby lowering the desire for many children. Good education is also likely to enlighten parents as to

vigorous childbearing costs, leading to a demand for higher "quality" cost children, rather than higher quantity of them.

Religion:

From results of this study Roman Catholics and Traditional Religion followers (Animists) had strong tendency of discontinuing use of the modern contraceptives as opposed to Protestants, Moslems and other religious affiliations (Table 18).

The Catholic Church doctrine maintains that any limitation of fertility is morally wrong. Ordinarily, however, the disagreement concerns the choice of man-made versus natural methods of contraception, especially abstinence and rhythm methods. The methods forbidden by church doctrine are commonly referred to as "artificial birth control" which include any method involving the use of a chemical or mechanical agent as well as coitus interruptus.[53] Hence, catholic family planning acceptors are less likely to continue with contraception than other women.

While Animists (traditional religious) tend to disapprove the use of any method for fertility limitation, most of the major protestant denominations have encouraged the use of whatever contraceptive techniques. Usually the Animists need to have as many children as possible.

Occupational status:

When women were classified on the basis of the occupational status (Table 19) it was found that there was a strong relationship between the woman's work experience and contraceptive practice.

Significant findings of this study support the results of previous research reported by Michieluttet et al (1973),[54] in Costa Rica, where it was shown that there was inverse relationship between employment status and contraceptive discontinuation. Unemployed women tended to discontinue more than were the employed subjects. In most cases it is likely that employed women were educated enough to understand the importance of continuing contraception practice than were unemployed women.

Source of information before contraception acceptance:

As shown in table 21, informal interpersonal communications emerged as the most important source of information about contraception: the majority (52.5%) named relatives and friends as the primary sources, while traditional birth attendants were the second most important sources of information (35.6%). However, discontinuation rate was lower for subjects whose source of information was through clinic-based personnel than was for other sources (38.5%). The difference was not significant (table 22).

Probably the discontinuers when they had first began to use their contraceptive methods they clearly had received very little information about the methods, such as

how the methods work and the side effects the users might experience. Perhaps, in part, because of this lack of information they had a long list of complaints and fear about harmful consequences of the contraceptive methods. Some studies have shown that women who are well-informed about and satisfied with modern contraception are important referral sources for future acceptors and are essential for the continued use of the contraceptive methods accepted.[55] This shows how counselling by the service providers can be an important step in facilitating personal decision-making.

Source of influence in the decision to choose a contraceptive method:

Analysis of the study has shown that in situations where the most influential person in the decision to choose a method was a service provider alone, the discontinuation of the method selected was 61.1% compared with 30% and 24%, in cases where the decision was made by the service provider jointly with the acceptor and the individual herself after a free, informed choice, respectively. The difference was strongly statistically significant, (tables 23 and 24). The study is in conformity with one operational study of choice and continuation of oral contraceptives, injectable (Depo-provera) and IUDs offered after a balanced presentation of information in several countries (India, the Philippines, South Korea and Turkey).[56,57] In that study there was significant decrease in contraceptive discontinuations compared with previous patterns of

contraceptive use without a balanced presentation of information of the methods, suggesting the value of permitting a free, informed choice of contraceptive methods.

Purpose of Using Contraception: Spacing Versus Limiting births:

Analysis shows that women's personal motivation based on the likelihood of practicing contraception to fulfil spacing and limiting desires varies greatly between the two groups (table 25).

Similar findings were obtained by Huezo et al. 1993[56,57] who demonstrated that potential birth-limiters were much more likely to continue practicing contraception than were birth-spacers.

The analysis suggests that the family planning programme should ensure that the spacing group are encouraged to space their births at least two years apart for safer childbearing before they discontinue contraception use.

Changing Source of Contraceptive Supplies and Services:

Analysis has shown that those women who subsequently obtain contraceptive supplies and services from another source were significantly more likely to discontinue contraception than those who did not change the source.

The current study is in conformity with other previous studies[57] which have shown that the major reasons most often given by the users who change their sources of

supplies and services are essentially the same reasons as for method switching or discontinuation. These unfavourable clinic experiences by the users include: prolonged waiting times, shortage of method supplies, lack of privacy, uncooperative staff, shortage of staff and medical complaints of the contraceptive methods.

Thus manipulation of the clinic variables would decrease user dissatisfaction among clients who experience side effects or who are not settling down to a particular method.

Location for Family Planning service Delivery Sites:

The findings show that the sources of family planning supplies and services located 5 or more kilometres is a major problem to the discontinuers compared to those who live less than 5 kilometres from the sources. The difference was highly significate as shown in table 27.

As might be expected women living 5 kilometres or more must travel longer than those who live 5 kilometres or less to get contraceptives. Probably the discontinuers perceive the amount of time and cost needed to travel to the nearest source of contraceptive supplies and services to be much more compared to those who live closer to the sources.[58] Some differentials by method in access to contraceptives existed, mainly for the IUD due to shortage staff trained for IUD application. This method was offered only in selected service delivery points (SDPs) compared with the oral or injectable contraceptive methods which were

delivered in every SDP in the study area. This finding suggests that some IUD acceptors Perceived transport and travel time to be obstacles to getting access to a family planning outlet.

The convenient location of service delivery sites facilitates access to services. Easy access to continuous supplies of contraceptives and counselling will increase contraceptive use since clients will be less likely to run out of supplies and will help clients to cope better with any concerns, or doubts about the method used. Therefore, the availability of a range of service delivery approaches is also important. These include, not only from clinical facilities, but also from community-based services, pharmacies, or other non-clinic based outlets depending upon the type of method and staff available.

Follow-up visits:

Results from table 28 shows that clients are more likely to stop family planning methods usage when they have less contacts with service providers after not being regularly remainded of their routine return visits to the clinics by the service providers. It is possible that at regular check-ups providers can detect early signs of problems that clients may not have noticed such as lost IUD on early pregnancy. Also clients using oral contraceptives, injectables and IUDs, often have minor side effects during the first three to six months. At regular follow-up visits, the service providers can reassure them

that these symptoms are not serious and will probably stop.

It is therefore important for the family planning program to look for systematic remainder and follow-up mechanisms which can encourage continuity use of contraception in all of the family planning clinics. There should be written guidelines that specify follow-up schedules within the first three to six months after clients start using these methods as this is the time when clients on these methods are most likely to discontinue using them because of side effects if no proper counselling has not been instituted to the clients. Using clients' records, service providers must be able to identify clients with missed appointments and conduct home visits for follow-up work.

Once a woman has become a client in a family planning clinic, the major role of the formal communication effort is to encourage for enrolled in the program as an effective user of a good contraceptive method[59]
The reasons for not coming back to a clinic will influence the extent to which follow-up might be expected to work. If the causes make the clients unavailable for services e.g moved, planned pregnancy or birth control no longer needed, then follow up can have no results.

Contraceptive Method Switching:

According to the study the overall pattern (Table 29) shows that more than half (52.2%) of the method switchers in the study sample had discontinued contraception. Also

the findings indicate that switchers were twice more likely to discontinue use than were subjects who did not change methods.

The problem of changing a contraceptive may be symptomatic of dissatisfaction with the method. Of the 107 method switchers who discontinued 86.0% of them gave various reasons for dissatisfaction with the methods initially accepted. Undesirable side-effects of the methods accounted for about 85.0% of these reasons of which oral and intrauterine contraceptives contributed 32.8% and 73.0%, respectively. The injectables accounted for 15.2% of the reasons.

Ballweg et al. (1974)[60,61] with similar studies in Srilanka concluded that the motivation to practice contraception effectively often changes as a woman progresses through her reproductive years. During this period her changing needs, preferences and experiences may cause her to switch methods. Thus switching between various types of methods or from one method to another appears in part to be a function of continued need for a convenient contraceptive method after some problems such as side-effects with the previous method. Hence with method changes we may suggest that better support and information is needed by the user and efforts to maintain on an alternative method may be necessary. The length of time a user tries a method before stopping maybe especially significant. Family planning service providers should be

aware that the incidence of physical-related and non-physical complaints, the sequence of different methods and gaps, the availability of options and services are all likely to be important to the method switchers.

A key implication of the results, therefore, is that a woman who is dissatisfied with the method accepted at the clinic will follow one of two courses of action depending upon the strength of her motivation to participate in the family planning; one, if sufficiently motivated, she may change to another technique, or two, if motivation is weaker, she is likely to drop out of the program.

Clients satisfaction with the quality care at the health units:

Apparently, there is a great deal of dissatisfaction with contraceptive methods and services made available to the clients. This was expressed by 83.7% of the discontinuers (Tables 32 and 33). The findings as described earlier that 52.2% of the women changed methods, 44.4% changed source of contraceptive supplies and services, and that 37.7% abandoned family planning program is evidence that program effectiveness is limited.

Considering that a woman must have had a degree of motivation for joining the program, the concern of a program personnel is to insure that this motivation does not diminish. However, the clinic personnel are limited by the necessary information, counselling techniques and other resources at their disposal to assure quality of the

service. Fore example, from this study it is evident that less than 34.0% of the discontinuers were provided with the information on a number of specific aspects about methods accepted which included discussion on possible side effects, how to manage the side-effects, how method works, advantages of using the methods and inquiry from the clients about problems of the method used (table 34).

Also, of 398 discontinuers only 24.6% were told about possible side-effects and only 30.6% were told about how to manage the side-effects and cope with the problems of the methods used, while only 32.4% were explained about the benefits of the methods accepted. In general, motivated and satisfied clients are more likely to use contraception consistently and correctly.

Reasons for contraceptive discontinuation:

The program discontinuers were encouraged to list in order of importance as many reasons for their dropping out of the program as they could remember. Each woman could give various reasons.

Results of the analysis show that the most common concern was side effects, cited by 48.8% of all the discontinuers interviewed. The second most concern was related to insufficient services offered at the clinics, mentioned by 13.1% of users, followed by desire for pregnancy concerns which were expressed by 12.8% of the discontinuers. Rumours of side effects and unplanned pregnancies were also important elements in contraception

discontinuation, being mentioned by 10.9% and 6.8% of the users, respectively. Husbands refusal and menopause onset were each mentioned by about 2.0% of the discontinuers (figure 5).

Apparently, for the purpose of family planning program management, these reasons can be conveniently grouped into two main categories: first, reasons that are relevant to the acceptability of the method (i.e. pertaining to the method itself and clinic services offered) which include in this case the health side effects of the method, service-related factors and unplanned pregnancies due to method failure. The second category consists of non-relevant reasons with method acceptability which include such reasons as desiring for pregnancies, rumours, husband refusal, menopausal onset and other personal reasons which made the client difficult but not impossible to continue with contraception (Figure 6).

It is also apparent from these results that contraceptive discontinuation should not be regarded always as an undesirable phenomenon but as a regular and foreseeable feature of a family planning program. Some of the discontinuing clients are doing exactly what family planning wants them to do. For example, in this study (Figure 7), results show that desire for pregnancy of a planned child was reported in about 13% of the respondents as reasons for discontinuing contraception.

The responses among the reasons related to acceptability of the method (68.7%) differed significantly by individual contraceptive method in several areas. For example, it would appear from table 35 that clients on oral and injectable contraceptives were somewhat more profoundly prone to experience various types of side effects than were IUD clients (60.4%, 22.0% and 17.6%, respectively). A previous study also found out that users of injectable and oral contraceptives terminated those methods because of side effects more frequently than did users of the IUD method.[62] Given the systematic nature of these two methods it is not surprising that women who use them might experience more side effects than with the IUD clients.

Side effects were predominantly menstrual bleeding disturbances which accounted 66.0%, 18.8% and 15.2% for oral, injectable and IUD contraceptives, respectively (Table 36). Menstrual irregularities which are observed in all methods at various proportions with the pills recording the highest percentage (65.2%) included: scanty and missed periods, heavy, prolonged and irregular periods. Regular and normal menstruation is almost universally important to women, since it is widely regarded as a process of ridding the "bad blood", and as sign of continuing youth, health and fertility.[63] Possibly in this study reduced or absent menstruation could give rise to fears of loss of fertility or of ageing in some women, while in others it produced anxiety. Also prolonged, heavy bleeding might have been

seen as harmful and weakening, a fear that has some basis in fact in those areas like the study area, where iron-deficiency anaemia is a common problem in women of child-bearing age.[64] Thus it is likely that women who felt their health and well-being was threatened by the bodily changes and regarded them unfavorably had high discontinuation rates.

These data show that health education programs need to incorporate better information on bodily changes, specifically about menstrual changes, that are induced by contraceptives. This information needs to be given to potential and current contraceptive users by family planning personnel in order to decrease the discontinuation rates.

From table 37, it is noteworthy that a significant proportion of the discontinuers complained about the availability of a reliable supply of contraceptives especially for the IUDs (11.5%) and injectable (34.7%) in some clinics probably due to lack of staff with the necessary technical skills for the proper provision of the methods.

Also, lack of privacy (audio and visual) contributed to a great deal of the discontinuers complaining about the reasons for contraception discontinuation. Uncooperative service providers, delays in the availability of service and accessibility to services due to long distances to the clinics were other significant reasons for dissatisfaction

with the service made available to the client.

From these findings it is suggested that motivation of the clients and their knowledge about different aspects of the contraceptive methods accepted are very important. Service providers, including counsellors, should be able to assist clients to choose a contraceptive method which they can use safely and effectively. They should also ensure that clients have sufficient knowledge of the method chosen and have understood the instructions for using it. The family planning program should have a logistic system which maintains a sufficient stock of supplies at service delivery points so that clients will not be left unprotected.

Rumours:

Rumours are distorted facts communicated from one person to another. Rumours have sources, some of whom are credible and influential. From the current study, rumors were the third among the most important factors associated with contraceptive discontinuation, after method side effects and service-related factors, respectively. Some studies in Tanzania have identified rumors as being important element in the high drop out rates in family planning clients.[6] For example, about 19% of the reasons for contraceptive discontinuation in a study done in Songea, Tanzania, it was found that the drop-out rate as high as 63% within 8 weeks of starting a contraceptive method were due to rumors. Such substantial variation from

our study may be due to the use of different research methodologies, differences in the research design and studies in different populations.

Many rumours, mistrusts and worries beset on Family Planning reflect to a certain extent the lack of knowledge of not only the benefits but also the side effects, actions, reversibility, safety and social changes that may be associated with Family Planning use.[54, 61]

The information provided to prospective contraceptive users, whether it comes through educational media or the community, must dispel misperceptions about modern contraceptives. Examples from our study include the following from table 38: the widely held perception that pills pile up in the stomach and form a hard lump, when pills actually are like any other tablets that you may use as medicine. They are dissolved by the body and disappear; also that women who use injectables do not get pregnant again even when they stop the family planning injectables, while in fact women who have stopped injectables usually get pregnant within about 3 months after the last injections, some women might take 6 to 9 months before they become pregnant.[57,65] However, the average interval between discontinuation of contraceptive use and conception is prolonged in medroxyprogesterone acetate (DMPA) when compared with intrauterine contraceptive devices (IUCD) and combined oral contraceptive (COC) users, but by 24 months after discontinuation the proportion of women who have

failed to conceive is the same for all the three methods.[57,65] Also perception that the loop can go around in the blood, when in fact the clients should be informed that the loop is put in the womb. Blood vessels going to the womb are very small. The coil is too big to move into these vessels. It cannot, therefore, get into the blood and move around it. To combat rumors, Family Planning Service providers and counsellors, thus, have to be equipped with relevant information, expert knowledge and good interpersonal communication skills.

Desiring for pregnancy:

It was established in the current study that 12.8% of the past users abandoned contraception because they wanted a child. This implies that if family planning is used for birth spacing rather than limiting the number of children, then a natural drop-out of a certain proportion of users can be expected at any desired birth interval.

Spacing births is one of the health rationale for promoting family planning. Using suitable family planning methods correctly promotes the health of the mothers and reduces health risks to their children. However, to achieve this rationale, the spacing group should be encouraged to space their births at least two years apart for the safer childbearing.[67]

With regard to unplanned or unwanted pregnancies the proportion of discontinuers was significantly higher for the orals (69.6%) than for the other two, IUDs (21.7%) and

injectables (8.7%).

It has been observed that unplanned pregnancies may be due to factors in the provision of services in addition to incorrect use of the method by clients.[66] Also that, methods which depend on the consistent and proper use (active participation) by clients for effectiveness, such as Oral Contraceptives, have a relatively high rates of failure compared with methods such as Injectable and IUD which depend less on consistent and proper usage by clients. In the current study, the high proportion of unwanted pregnancies for the oral contraceptives may be due to weak motivation of the clients which depends on a number of factors including lack of free informed method choice, inadequate knowledge on the proper use of the method and lack of continuity of supplies. Despite the fact that IUD is one of the methods that depends less on active participation by the clients, our study shows that the proportion of clients discontinuing its use was about 22.0%. This could be due to spontaneous expulsion of the IUD without the knowledge of the clients. This may reflect lack of the necessary technical skills for the proper provision of method by the service providers. The other failure may be attributable to the method itself which is expected to be 2 to 3% depending upon the size and shape of the device.[42,56]

Late in obtaining a repeat injection without a back-up method may contribute to the significant proportion of

unwanted pregnancies (8.7%) pertaining to the injectable users. This may be due to the difficulties of the user's access to the supplies.

Husbands refusal:

Couples in Hai district, like in most other societies in Tanzania are still operating in patriarchal relation when it comes to decision making at household level.[68] As such a patriarchal relation dominates in many of the social relations at household including the control and management of female fertility. Women may like or decide to have family planning services offered to them but their men refuse. In our study 2.0% of the discontinuers stopped contraception use because of husbands refusal (Figure 7). This may have several implications. In the first place, any innovation on modern family planning methods at community level will be blocked by men since they are the ones who control decision making process not only at household level but at the community level as well. Secondly, women have no freedom to adopt any modern method in fertility control and management.[69] In this case one may find some women using the modern contraception secretly without the knowledge of their husbands and this is a frustrating exercise to many women who adopt it. It was cited above that about 6.0% of the discontinuers complained about lack of confidentiality and privacy both audio and visual during service delivery at the health units as one of the reasons for discontinuing contraception use and/or changing of source of supply

(Table 37). This could suggest that some of these women were not ready to let their husbands and families, who disapprove of contraceptive, know that they are using a form of modern contraception. All this suggests that male involvement in family planning activities is a necessity for the program to make meaningful impact. Before this, there is need to make a study among males to find out reasons for refusing to let their wives to use modern contraception in relation to fertility control and management.

SUMMARY

During the period October 1991 to September 1993 (24 months) a retrospective study of women 15 - 49 years of age who accepted orals, injectables and intra-uterine device (IUD) contraception for their first time at service delivery points (SDPs) in Hai district was conducted between December 1993 and March 1994. The aim of the study was to determine the incidence and factors associated with contraceptive discontinuation.

A total of 1055 subjects were identified and interviewed. The coverage was about 97% of the expected 1085 respondents. Out of 1055 subjects interviewed, 398 (37.8%) discontinued a contraceptive method initially accepted.

The study revealed that the patterns of the corresponding discontinuation rates for the three methods varied slightly. The average monthly discontinuation rates for all methods in the women varied from 1 to 333 per 1,000 person-months exposure at risk of discontinuation. The highest discontinuation rates being observed in the first three to six months with a steady decline thereafter, reaching the lowest level at the end of twelve months and throughout the next ten to twelve months of contraception use. However, during the first six months of contraceptive use the discontinuation rates for both orals and IUDS varied more markedly than were for the injectables in relation to the interval of the method use. But after

twelve months of contraceptive use the situation changed in the sense that the oral and injectable clients were somewhat more prone than were the IUD subjects to discontinue contraception.

Significant differences in the variations of multiple factors within and between the contraceptive continuers and discontinuers were noted and discussed. Important risk factors found to influence more contraceptive discontinuation among women of the study population included: the middle reproductive age (25 - 34 years), early years of marriage (< 20 years), ever married, low parity (4 or less), having no or low number of living children (4 or less), low educational status of woman and/or husband (nil or less than primary level), desiring for more children, being a Roman Catholic or no religion and not being gainfully employed. Other significant factors were: women using contraception for purposes of spacing pregnancies rather than limiting family size, informal interpersonal communications before contraception acceptance, lack of self-involvement in decision making to choose a contraceptive method before acceptance, method switching, changing sources of contraceptive supplies and services and dissatisfaction with various aspects of quality of care at the SDPs.

Dissatisfaction with the contraceptive methods and provision of the family planning services made available to the clients was expressed by 77.6% of the discontinuers.

52.2% of the women changed a method at least once while 44.4% changed their sources of supplies and services. Majority of the reasons reported by the clients for contraception discontinuation were related to the acceptability of the method and service provision (68.7%) which included: health side effects 48.8%, inadequate service provision 68.7%, and unplanned pregnancies 6.8%. Reasons not related with method acceptability accounted for 31.3% of the reasons voiced by the clients for discontinuing use of the methods accepted. These included: desire for pregnancies 12.8%, fear of rumours about side effects of the methods 10.9%, husbands refusal 2.0%, menopause onset and personal reasons which made the client difficult but not impossible to continue with contraception such as being no longer exposed to sexual intercourse, recuperation from illness, etc.

Some other concerns and problems that were not taken into account by the service providers at the SDPs as pointed out by the contraceptive discontinuers (drop-outs) included: delays in the availability of services (i.e. waiting time exceeding 2 hours), lack of privacy (audio and visual), lack of availability of a reliable supply of contraceptives especially for IUDs and injectable in a few clinics, uncooperative staff (poor counselling) inaccessibility to family planning services due to long distances (more than 8 kilometers) and clients not being regularly reminded of their return visits to their

respective clinics.

Side effects, predominantly menstrual disturbances, varied considerably from method to another and from one woman to another. For example, among the individual methods, side effects were the major reasons for discontinuation cited by former users of injectable and pills (60.4% and 22.0% respectively), while they were less important as reasons for discontinuation of the IUD method (53.8%), especially six months of use after its insertion. These side effects typically occurred early in their clinical histories and cause the clients to leave the program before they had time to adapt themselves (or to be bothered by other troublesome aspects of contraceptive use).

It was also observed that a method which depends on consistent and proper use by the clients for effectiveness such as oral contraceptives, had relatively a wider range of discontinuation compared with methods which depend less on consistent and proper usage by clients, such as IUDS.

CONCLUSIONS AND RECOMMENDATIONS

The study has revealed that contraceptive discontinuation is a serious common problem of family planning programme in Hai district which must be given priority. Factors which influence the discontinuation include widespread dissatisfaction with the methods themselves, especially in connection with physical discomforts, the differences between users, family planning services and societies to which the discontinuers belong.

A working solution to the discontinuation problem in any case will have to cope with the factors identified. There is no single solution to the problem but, only when combined approaches are carried out that the desired effects will have an appreciable impact. Down here follows some important recommendations for a reduction of the contraceptive discontinuation rates and promotion of family planning services in the study area and other parts of the country in general.

Measures to encourage the postponement of first pregnancy at least until the age of twenty years should be a high priority for health and family planning program in the study area and other parts of the country. Rising age at first marriage means that women spend less time regularly exposed to the risk of becoming pregnant. Where early marriage is common, a major educational effort must be mounted to help communities understand the health risks involved in pregnancy and child birth at an early age.

Child marriage should be discouraged through community based education, advocacy and female literacy.

Deficiencies in the provision of information and counselling indicate that there is a gap in staff training. There is need to improve service providers inter-personal communication skills effectively with their clients. That is, developing counselling skills such as listening and asking questions, giving clear instructions and helping clients who have problems or questions so that they can make their own informed choices correctly. Such information on a method of contraception should include discussion of its benefits and risks, how it works, its effectiveness, possible side effects and how to manage/cope with them, relevant medical contraindications and instructions on how to use the method.

Men also have a particular role to play in women's contraceptive use because in many societies they are the decision-makers and they control access to the resources needed for the health care e.g. transport, drugs and treatment. Thus male involvement and sharing responsibilities in relation to fertility regulation and management must be encouraged. There is also need to conduct a study to find out information about men's perceptions and attitudes about modern family planning methods including the reasons for refusing to let their wives use modern contraception in relation to fertility regulation.

The availability of a reliable supply of contraceptives can be crucial for the continued and effective use of contraception. Unreliable supplies of contraceptives will have a negative effect on clients' motivation for practising family planning and their confidence in the service delivery system will diminish. Where such supplies cannot be guaranteed, inconsistent use will expose the clients to unwanted pregnancies. Hence, the program manager should ensure that the family planning program has a logistic system which maintains a sufficient stock of supplies at service delivery points so that clients will not be left unprotected.

The quality of family planning services have a major influence on the contraceptive continuation, since it is well established that contraceptive efficacy is related to actions taken not only by clients, but also by providers and managers of family planning services. In one way or another all aspects of the quality of care provided have a major impact on contraceptive discontinuation, including the quality of information and counselling given, the acceptability to services, the technical competence of the service providers, the quality and contraceptives available, continuity of services and any other aspect of quality of care which may influence client motivation and satisfaction. Motivated and satisfied clients are more likely to use contraception consistently and correctly.

Access to a reliable source of contraceptives and

ongoing advice to clients influence the efficacy of contraceptive use. Easy access to continuous supplies will be less likely to run out of supplies. Similarly access to counselling during the use of the method will help clients to cope better with any concerns or doubts about the method used. This is very important since worries or concerns which are not properly clarified may lead to inconsistent or inappropriate use of the method or discontinue altogether.

It is necessary to plan for convenient follow-up contacts with the clients and encourage them to approach the service providers or counsellors any time they need to discuss fears or problems they may have. Follow-up visits are a good opportunity for continuing education and to discuss other reproductive issues that were not dealt with in the first visit. They also provide the opportunity to discuss alternative choices if the client is not satisfied with the method which is being used.

The prevailing rumors and misinformation about family planning must be dispelled/countered. To combat rumors, the family planning providers and counsellors have to be equipped with relevant technical information currently available, expert of knowledge and good interpersonal communication skills.

The environment in which family planning counselling and services take place should assure privacy and confidentiality to enhance the confidency communication and

understanding of the clients.

Since clients have different needs and different levels of knowledge, counselling should be tailored according to clients characteristics and needs. Priority should be given to any particular issue the client wishes to discuss. Instructions should be given in a way that the client can easily understand.

To improve continued contraceptive use extra efforts should be spent for the newly recruited clients especially for those with risk factors that influence contraceptive discontinuation. This should be done in the early stressful periods to reassure the acceptors. This is usually during the first three to six months of contraceptive use when incidence rates of contraceptive discontinuation are very high in most of the methods accepted.

Apparently, there is a great deal of dissatisfaction with contraceptive methods and services made available to the clients. A woman who is dissatisfied with the contraceptive method and services offered at the clinic will follow one of two courses of action, depending upon the strength of her motivation to participate in family planning:

1. If sufficiently motivated, she may change to another technique and source of supplies or
2. If motivation is weaker, she is likely to drop out of the program.

Considering that she must have had a degree of

motivation for joining the program, the concern of program personnel is to ensure that this motivation does not diminish and that the effective user of a good and consistent supply of contraceptive method.

The most common concern cited by most of the discontinuers interviewed was due to side effects of the contraceptive methods accepted. These side effects, however, were predominantly menstrual bleeding disturbances which were observed in all of the methods used at various proportions. These data suggest that health education programs need to incorporate better information on bodily changes, specifically about menstrual changes, that are induced by contraceptives. This information needs to be given to potential and current contraceptive users by family planning personnel in order to make better decisions about the costs and benefits of contraception and to better cope with changes. Also better counselling on choice of a contraceptive method is imperative. By so doing we shall be able to increase client compliance and decrease discontinuation rate. Apparently other cited non-method and service related reasons for contraception discontinuation are also amenable to changes (i.e. they may be preventable). These include rumors, husbands refusal and unwanted pregnancies due to user or method failures.

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