DETERMINANTS OF CONTINUATION
OF INJECTABLE CONTRACEPTIVES IN NORTHERN VIETNAM

VU THI THANH HUYEN

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
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MASTER OF ARTS
(Population and Family Planning Research)

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DETERMINANTS OF CONTINUATION OF INJECTABLE CONTRACEPTIVES IN NORTHERN VIETNAM

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ABSTRACT

The Family Planning Program needs to provide a variety of reversible methods. The acceptability and continuation of contraceptive methods are influenced by various factors such as intrinsic characteristics of the method, individual and social acceptability, providers' knowledge, skill and attitude, effective communication, appropriate delivery system and cost. Before introducing a new contraceptive in a mass program, various factors and issues which affect contraceptive acceptance and continuation need to be carefully considered.

This thesis analyzes determinants of 12 months continuation of injectable users in Northern Vietnam. Data used in the study (277 cases) are drawn from the Project VIE/88/PO4, "A Prospective Study of the Safety, Efficacy and Acceptability of Injectable Contraceptive Preparations in Vietnamese Women", conducted by the National Institute for the Protection of Mothers and Newborns, Hanoi, from 1993 - 1995.
The findings reveal that psychological factors of the women and side-effects related to the methods are major determinants of continuation of injectable contraceptive use among the women in the sample. Socio-demographic characteristics are of minor importance. Majority of the women chose injectable contraceptive largely because they were unsatisfied with other methods. Discontinuation of the method, on the other hand, is found to be determined largely by dissatisfaction with clinical services, injection schedule and husband disapproval. Those who discontinued did so because of the side-effects related to the method, mainly menstrual disturbance. Results of this study provide useful information for implementation of large-scale program.
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1.1 Rationale and justification

Vietnam is a developing country in South-East Asia with an area of 330,000 square kilometers. According to the Population Census in 1989, the total population of Vietnam was 64.4 million, an increase of nearly 12 million from the population census in 1979 (52.7 million). A recent projection by the Population Division of the United Nations indicates that the population will reach about 81 million by the year 2000. This makes Vietnam the second most populous nation in Southeast Asia and the thirteenth most populous country in the world.

Although population growth rate has fallen in the last two decades, it is still at a high level. In 1989, the crude birth rate was around 31 per 1000 live-births and the crude death rate around 8 per 1000, resulting in a growth rate of 2.2 per cent per annum. The total fertility rate was around 4 children per woman (Vietnam DHS, 1988). The high population growth rate has been the result of high fertility and low mortality. A recent analysis of the Vietnam population shows that the crude birth rate in 1994 was 25.3 per 1000 live births and the total fertility rate was 3.1 children per women (General Statistical Office, 1994).
Many factors worked to bring down fertility from over 6 children per woman in the 1960s to a level of 3.8 in 1989 and 3.1 in 1994. The age at first marriage among women has been increasing; breastfeeding, which dampens fertility, is very common in Vietnam; and, in particular, the Family Planning Program is more strongly promoted by the Government and abortion is legal and widely used.

Since the beginning of the Family Planning Program in Vietnam in the early 1960s, it has been considered one of the most important components of population development. The program has played an important role in slowing down the population growth rate. According to the Intercensal Demographic Survey 1994, the contraceptive prevalence rate (CPR) was 65 per cent, and more than two-thirds among these used a modern method. The contraceptive methods currently available include IUD, oral pills, condoms and male and female sterilization.

It is clear from Table 1.1, where the contraceptive method mix in 1994 is shown, that the injectable is nearly absent from the method mix. Three things seem to be responsible for this: limited availability, unfamiliarity with the method in part of the people, and lack of supporting services. At present provision of injectable is limited to certain service centers, mainly major hospital; it is still in a trial stage.
TABLE 1.1
Method mix (percentage of all users), 1994

<table>
<thead>
<tr>
<th>Methods</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>IUD</td>
<td>51.2</td>
</tr>
<tr>
<td>Female sterilization</td>
<td>6.3</td>
</tr>
<tr>
<td>Condom</td>
<td>6.2</td>
</tr>
<tr>
<td>Pill</td>
<td>3.2</td>
</tr>
<tr>
<td>Male sterilization</td>
<td>0.3</td>
</tr>
<tr>
<td>Rhythm</td>
<td>15.0</td>
</tr>
<tr>
<td>Withdrawal</td>
<td>17.2</td>
</tr>
<tr>
<td>Vaginal Suppositories</td>
<td>0.1</td>
</tr>
<tr>
<td>Injectable</td>
<td>0.3</td>
</tr>
<tr>
<td>Others</td>
<td>0.3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Source: General Statistical Office, 1995

How to increase the contraceptive prevalence rate, especially the rate of use of modern and more effective contraceptive methods without reliance on abortion has been an important research question. Related to this question is how to reduce use of ineffective methods, such as Rhythm and withdrawal, which currently account for about one-thirds of total use. For these reasons, there is a need for the family planning program to investigate the determinants of acceptability of contraception in order to provide appropriate information to policy-makers and planners.
Studies on the injectable contraceptive date back to as early as 1963 (WHO-Bull, 1982). In Vietnam the injectable contraceptive has recently been introduced on a trial basis. A recent study shows that the use rate was very low and there has not been a follow-up to determine discontinuation related to side-effects and general user satisfaction. It is therefore important that there be major efforts to improve service and broaden contraceptive choice by introducing long-acting hormonal methods to the Vietnam Family Planning Program. It is also important to conduct studies on the determinants of continuation of injectable contraceptives in order to find out reasons for continuation/discontinuation, and the effects of socio-demographic and psychological factors on use behavior of Vietnamese women. The findings from such studies will assist planning and introduction of this alternative contraceptive method in Vietnam.

1.2 Research objectives

General objective:

* To gain insight into the acceptance and continuation, and related use problems of the injectable contraceptive in Vietnam and to provide suggestions to contribute to the development of the Vietnamese Family Planning Program.
Specific objectives:

* To determine factors affecting the 12 month continuation of the injectable among users in terms of their social and demographic characteristics and psychological factors.

* To investigate the effects of knowledge of family planning, attitudes toward the injectable, and reasons for choosing injectables, on the 12 month continuation of the injectable.

* To analyze the effects of health conditions and individual reasons on the 12 month continuation of the injectable, and respondents main reasons for discontinuation.
CHAPTER TWO

PREVIOUS STUDIES ON INJECTABLE CONTRACEPTIVES

AND CONCEPTUAL FRAMEWORK

Studies of the determinants of continuation of long acting hormonal contraceptive methods have received a great deal of attention from researchers both in developed and developing countries. This is due mainly to the methods high effectiveness and limited side-effects. This chapter provides a brief overview of important studies of the injectable method.

2.1 Determinants of contraceptive method choice.

Choice of contraceptive method is determined by a number of factors pertaining to the individual, family, social and cultural levels. A study by Chamratrithirong and Stephen (1989), for example, indicate that various factors influence contraceptive method choice; these include socio-economic and demographic factors including age, urban-rural residence, education, and parity. Another study by Ashakul and Richardson (1990) on contraceptive use of women in municipal and non-municipal areas of Thailand revealed that when costs, travel and waiting time increased, the use rate decreased. A study by Bhende (1991) in India found that ethnic variables (religion and mother tongue), number of children, especially of sons and educational level were important determinants of acceptance
and method choice. Husband's occupation did not affect the overall use of contraception, but it did have some influence on method choice. On the other hand, husband's education had a moderate and positive association with the overall use of contraception, but this was entirely due to the strong positive relationship with the use of natural methods. Strikingly, wife's education had a strong positive relationship with the overall use of contraception.

An analysis of 2,586 potential acceptors of Norplant interviewed at 10 family planning clinics in Bangladesh, Haiti, Nepal and Nigeria (Kane et al, 1990) found strong impacts of socio-demographic factors - such as age, parity, desired fertility, education and husband's attitude - on women's interest to accept Norplant. For example, in Bangladesh, the interest in Norplant was significantly associated with having many living children, especially sons. In Haiti, only the age of women was significantly associated with interest in trying the method. In Bangladesh and Nepal, illiterate women were more likely to be interested in trying Norplant than were women with some education, while in Haiti, women with a higher level of education were more interested in the method. Overall, results of this study indicated that where status of women is low, factors related to the husband (such as husband's knowledge and approval of the method) are important determinants of female interest in using contraception.
2.2 Determinants of continuation of the injectable and other contraceptive methods.

Injectables are currently the only widely used long-acting hormonal contraceptive. After more than 20 years since it was first introduced, it is estimated that about 30 million women in more than 90 countries are using this method (Kaunitz, 1994).

In Indonesia, more than 50 percent of currently married women are using modern contraception; of these, 11.7 percent use injection. The pill and injection are more common among younger women aged 15-30 years (Indonesia DHS, 1992). In Thailand, the injectable is currently the second most popular method in the National Family Program with 33.7 percent of total acceptors depending on this method in 1989 (Ministry of Public Health, 1989). In Jamaica the percentage of contraceptors using the injectable was 15 in 1983, and in Mexico, 11 in 1982 (The Johns Hopkins University, 1987).

In general, the determinants of continuation of any methods include a variety of factors. Some of these are related to the socio-demographic characteristics of the women themselves. Others are the factors related to availability, accessibility and quality of service. In addition, some of the factors are a function of a cultural setting within which the method is being introduced.
Keller (1975) in a study in Mexico showed that waiting time in the clinic was an important factor in explaining the relatively high rates of use and method discontinuation. It was found that 40 percent of acceptors left the program within the first year and the majority of these also stopped the method. Of those who stopped, 26 percent complained about waiting time.

Wan Fook Kee (1975) in a study of the oral pill reported 7 categories of reasons for termination of the method given by the majority of discontinued users. The most common reasons among these were planned pregnancy and side-effects (about 21 percent of all termination). Among the side-effects related reasons, the most were menstrual disturbances and weakness, dizziness, changes in skin pigmentation and hair loss.

Krueger et al (1994) reported in an analysis of 1882 Asian acceptors of Norplant, that there were significant differences in mean age between continuers and discontinuers. Women who discontinued were generally younger than women who completed five years of use. Educational attainment of non-completers was slightly higher than for completers, and non-completers had a significantly lower mean number of living children. Desired pregnancy was the most common reason for early discontinuation.

Another study by Petta et al (1994) on the reasons for discontinuing IUD use, found that the most common reason for discontinuation within 12 months was
desired pregnancy (32 percent) and husband or family opinion against IUD use (26 percent). Having no education or living in a rural area were associated with an increased risk of discontinuation. Effective and regular counseling about IUD use, especially among illiterate women, may help prevent IUD discontinuation.

A cross-national study by WHO (1980) in India, Korea, the Philippines and Turkey reveals that women who selected the injectable did so primarily because of its convenience, high effectiveness and ease of changing to other methods. In general there were more women in rural areas choosing DMPA than those in urban areas.

Riley et al (1990) investigated the determinants of first injectable (DMPA) use for 220 rural Bangladeshi women who were first time users. The results were that women with high parity, i.e. having many children, used the method longer than did women of low parity. Those who experienced side-effects had shorter use duration than those who did not experience side-effects, and those who cited heavy bleeding as their main problem discontinued use earliest. Women whose husband approved of family planning had significantly longer use duration than those whose husband disapproved it. Respondents who adopted the injectable because of perceived positive aspects of the method used it longer than those who chose it for other reasons.
Pilot studies on the introduction of injectable (Cyclophem) into family planning programs have been undertaken in Indonesia, Jamaica, Mexico, Thailand and Tunisia (Hall, 1994) with a total sample of 7,927 women. The pilot studies confirmed the high efficiency of this method, with 12-month pregnancy rates ranging from 0 to 0.7 percent. The overall 12-month life table discontinuation rates were high but different in each country, 33.5 percent for Indonesia, 40.4 percent for Jamaica, 58.3 percent for Thailand, 71.4 percent for Mexico, and 71.8 percent for Tunisia. The main medical reasons for discontinuation were bleeding and amenorrhea. For instance, in Tunisia more than 30 percent of the 144 women who discontinued because of bleeding-related reasons did so immediately after the first injection. Discontinuation for this reason was also high in Thailand, but for Indonesia and Jamaica the rates were lower.

Other medical reasons for discontinuation also differed by country. For example, the highest rate were headaches and backaches for Tunisia, but weight gain or headaches for Thailand. On the provider side, inconvenient time and provider bias were important reasons for discontinuation. In Bangkok, family planning services are open between 13:00 and 16:00 on Monday and Wednesday only, although in recent years many women have began to work in factories and they do not want to lose a days pay to attend a clinic.
Despite providers being trained in counselling and in assisting women, Cyclophem users were often subjected to provider bias. For instance, in Thailand in some regional centers designed to act as a training center for IUD and Norplant, providers had a definite bias towards promoting these two methods only, and ignoring other methods. In Tunisia some physicians and nurses themselves opposed using Cyclophem.

A study of acceptability of the injectable among 2,252 Egyptian women from different localities found that the promotion of women who discontinued in the first year was 36.2 percent (Hassan et al, 1994). The most important correlates of discontinuation were young age, large family size, first time contraceptive use, previous experience with menstrual problems, dissatisfaction with clinical services, lack of counselling, lack of social support, as well as the husband's negative attitude toward contraceptive use. Side-effects were frequently reported by discontinuers. However, continuers appeared to have more tolerance to side-effects. The main side-effect cited as a reason for discontinuation was menstrual irregularity, with about 41.9 percent giving this reason, about the same level as that found in the pilot study in the 5 countries cited above. A significantly higher proportion of continuers than discontinuers received counseling prior to injectable use.
2.3 Determinants of injectable contraceptive acceptance in Vietnam

Although injectable contraceptive was first introduced in Vietnam in the 1970s, it was limited to clinical studies in the central and provincial hospital. Most investigators who carried out studies focused mainly on clinical aspects of injectables. A study by Nguyen Thi Xiem and Le Thi Tinh (1982) of 244 women found that after 2 years follow-up, the life table discontinuation rate was 57.4 percent and the main reason for discontinuation was menstrual bleeding problems. Health conditions and sexual feeling were unchanged during use of injectables. Another study by Nguyen Ngoc Toan, Nguyen Thi Xiem and Nguyen Thi Thanh (1984) on 300 women found a life table discontinuation rate of 53 percent after 1 year and 73.3 percent after 2 years. The main reasons for discontinuation were amenorrhea and prolonged bleeding. But for the cases where the health staff explained clearly the possible side-effects before acceptance, these reasons were of minor importance.

To date, clinical studies remain an important focus of injectable contraceptive in Vietnam. Studies aiming at gaining complete understanding of medical and social aspects of accepting and continuing the method are lacking. Thus, there is a felt need for the Vietnam family planning program to have more studies of this type which can be used to modify the implementation of injectable method to the existing situation, in order to increase acceptance of the method.
2.4 Conceptual framework

Based on results from previous studies reviewed above and the current situation in the Northern Vietnam, a framework for the study is conceptualized. It is summarized in the diagram below:

According to the framework, continuation/discontinuation of the injectable methods (DMPA, Cyclofem) is seen as being determined by a set of variables related to socio-demographic and psychological aspects of the women, side-
effects, knowledge of Family Planning and attitude toward the method. Definitions of these variables are provided below:

* Dependent variable:

Continuation of the injectable contraceptive at 12 months.

* Independent variables:

- Socio-demographic variables:
  . Age
  . Residence (living in urban or rural area)
  . Number of living sons
  . Education of husband and wife
  . Occupation of husband and wife
  . Husband’s approval of using injectable

- Psychological variables:
  . Sexual satisfaction
  . Perceived barriers to obtaining services
    (Travel and injection schedule, physician’s explanation)

- Health status:
. The side-effects of injectables.

- Knowledge of family planning, attitude toward injectables and reasons for choosing injectables:

  . Knowledge of Family Planning methods
  . Inconvenience of obtaining injectable
  . Have to go to hospital
  . Have to have injection
  . Effects on health
  . Reasons for choosing injectable
  . Dissatisfaction with other methods
  . Easy to use
  . Doctor's suggestion

2.5 Hypotheses.

1. The likelihood of discontinuation will be higher for women who are young, have a shorter duration of marriage, larger number of living sons and whose husbands disapprove of the method.

2. The likelihood of discontinuation will be lower for women who live in rural areas, have a low education level, and work in the agricultural sector.
3. The likelihood of discontinuation will be higher for women who have more side-effects, more dissatisfaction with sexual feeling, injection schedules and services.

4. The likelihood of discontinuation will be lower for women who have higher knowledge of Family Planning and more positive attitudes toward injectable.

5. The likelihood of discontinuation will be lower for women who choose injectables because of their dissatisfaction with other methods, and because of easy of use of injectables; it will be higher for women who choose injectable because of their physician’s suggestions.

For analytical purposes, discontinuers are defined as the women who discontinue the use of the method for whatever reason, and at whatever time, up until and including the last injection (after 12 months follow-up).

The reason may be:

- medical reasons (i.e. side-effects),
- any non-medical reasons such as:
  - desire for pregnancy,
lost follow-up (including subjects who fail to return to the clinic and cannot be traced in order to elicit a reason for their discontinuation,

Other

* Women who were late for an injection more than 4 days were automatically regarded as discontinuers.

A continuer is defined as those women who continue to have injectable contraception according to the schedule until the end of the clinical trial (i.e. 12 months after receiving the first injection).
CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Research design and sample

In 1993 the Institute for the Protection of Mothers and Newborns, Hanoi conducted research project on two kinds of injectables, DMPA and Cyclofem. The project, A Prospective Study of the Safety, Efficacy and Acceptability of Injectable Contraceptive Preparations in Vietnamese Women, was supported by UNFPA (VIE/88/PO4) and had two components: a clinical study focusing on safety and efficacy, and a social study focusing on acceptability of the injectable contraceptive in the Vietnamese context. The data used in this study are from the social component of the project only.

The project was conducted in four provincial centers with different social and economic backgrounds: Hanoi representing urban areas in the North, Thaibinh and Habac, representing rural areas in the North, and Cantho representing rural areas in the South. For the present study, the data are drawn from 2 out of 4 centers, Hanoi and Thaibinh.

The sample for both components of the project were 600 women (150 from each participating center) who visited the family planning clinic and were
willing to participate in the study. Prior to participation, the women were provided with information on contraceptive options available in the clinic (IUD, injectable, oral pill, condom and sterilization). They were informed of advantages and disadvantages of each contraceptive methods including injectables. The subjects for the study were selected from those who choose injectable contraceptives only. Since the present study draws data from only two centers, Hanoi and Thaibinh, the complete sample size consists of 277 women, excluding 23 cases who were not found in the follow-up interview.

**Inclusion criteria:**

Women were included in the study only if they met all of the following conditions:

- Healthy, informed female volunteers;
- Age 20-40 years;
- Had at least one living child of her own;
- Willing to rely upon the injectable as a method of fertility regulation;
- Ability to complete a menstrual diary card;
- Willing to abide by the protocol;
- Post-partum or post-abortion women who had only one menstrual cycle since delivery or abortion.
Exclusion criteria:

Women were excluded for any of the following reasons:

- Pregnant;
- Currently breast feeding;
- Hypertensive (BP greater than 140/90 mmHg in sitting position);
- Had diabetes (or suspected);
- Had history of thromboembolism;
- Had cardiovascular disease;
- Had jaundice in the past 12 months or during pregnancy;
- Had abnormal discharge from nipples;
- Papanicolaou smear grades 3, 4 or 5;
- Had or suspected to have any kind of cancer.

The study involved two forms of injectables: the first was a three-monthly injectable (DMPA), and the second was a once-a-month injectable (Cyclofem). The analysis here does not take into account the difference in continuation rate of the two forms of injectable since there is only a small and insignificant difference between the two types. (The continuation rate for DMPA is 68 percent and for Cyclofem is 63 percent at the end of 12 months of clinical trial).
3.2 Questionnaire and data collection

Questionnaire: For the social component of the study, the questionnaire was divided into 7 main parts as follows:

1. Background information on demographic and socio-economic characteristics.
2. Knowledge of family planning
3. Attitudes towards the injectable
4. Information on respondents' husband
5. Health status of respondent
6. Perceived barriers to obtaining services
7. Main reason for discontinuation (This part was for discontinuers only)
   (see appendix B)

Data collection: Throughout the entire study period (12 months) two interviews were conducted. The first interview took place at the third month for acceptors of Cyclofen and at the sixth month for those who accepted DMPA. The second interview for both groups of acceptors was conducted when each of them completed twelve months of injection. Between the first and the second interview, if a woman failed to have her injection for whatever the reason, she was considered to be a discontinuer and was followed up for an interview (using questions for
discontinuers). Those who completed twelve months of injection were considered as continuers; they were interviewed using the questionnaire for continuers.

Interviews were conducted by medical doctors or health staff from the clinical centers involved. All interviewers were trained and supervised by the researchers.

3.3 Data processing and analysis.

Completed questionnaires were checked by supervisors and re-interviews were undertaken where inconsistent or incomplete information was found. The checked questionnaires were coded and the data entered into computer for analysis.

For descriptive analysis, frequencies and crosstabulation were prepared in order to compare continuers and discontinuers in terms of socio-demographic and others characteristics. Statistical tests (t-test and Chi-square) were applied to evaluate whether the difference of means and association between independent and dependent variables were significant according to the conceptual framework and objectives of the study. For several variables the marginal number of cases are very small. Although, this means that significance levels of Chi-square will not be attained, the results are still shown because of their substantive importance.

For multivariate analysis, logistic regression was employed. Since the dependent variable in this study is dichotomous, with the two outcomes being
continuer or discontinuer, logistic regression analysis is an appropriate technique to determine predictors of continuation of injectable contraceptives. Logistic regression was also used by other investigators for similar analysis (see, for example, Hassan et al, 1994).

A logistic regression model was developed with continuation or discontinuation as the dependent variable. The independent variables are women's socio-demographic, psychological characteristics, health status, attitude toward injectable and reasons for choosing the injectable. The equation for the logistic model is as follows:

$$\log \left( \frac{\text{Prob } CON}{\text{Prob } DIS} \right) = B_0 + B_1X_1 + B_2X_2 + \ldots + B_rX_r$$

Where $B_0 = \text{intercept}$

$B_i = \text{coefficient}$

$X_i = \text{independent variable}$.

This equation can be written in term of log odds as follows:

$$\text{Prob } CON/\text{Prob } DIS = e^{B_0 + B_1X_1 + B_2X_2 + \ldots + B_rX_r}$$

If the coefficient has a positive value, $\exp(B)$ will be greater than 1 and the odds ratio will increase. However, if the coefficient has a negative value, $\exp(B)$ will be less than 1 and the odds ratio will be less than 1. If $B=0$, the odds ratio is unchanged, which means that the relative probability of continuation/discontinuation occurring are the same.
3.4 Limitations of the study.

The study is a clinical trial. Women were recruited into the trial with full knowledge of the medical aims of the study. Where discontinuation did occur, therefore, there is a possibility that women will state that they discontinued for medical reasons. This tendency could be reinforced as the interviewers were doctors or other health personnel, and hence respondents might be more likely to provide medical explanations (ie. side-effects) for their discontinuation. Although it is not possible to evaluate the degree to which the data quality might have been affected, this should be kept in mind when interpreting the results.
CHAPTER FOUR

RESULTS

This chapter presents results of the study. The chapter consists of three sections. The first section describes women in the sample in terms of their socio-demographic characteristics. The second section presents results of descriptive analysis and the third section provides findings from multivariate analysis.

4.1 General characteristics of the sample

This research is based on a clinical study in which 277 respondents were interviewed. Of all respondents, 180 cases (65 percent) were continuers and 97 cases (35 percent) were discontinuers.

General characteristics of the sample are shown in Figures 4.1 to 4.3 and Table 4.1. The majority of the sample are in the age group of 30-34 years (37.2 percent) and 35-40 years (32.5 percent). The mean age is 32.1 years and the median is 32. On average, women in the sample had been married for about 10 years at the time of the study. Over 40 percent of all the women had been married for 11 years or more. These are followed by the group who had been in a marital union for 6-10 years and less than 6 years (36.5 and 22.7 percent, respectively) (see Figure 4.1). The average number of living children is 2. Almost all respondents have more than 2 children (71.8 percent). The average number of living sons is 0.89 and the median
is 1. Women who have at least 1 living son are of larger number than those with no son (66.4 and 33.6 percent, respectively). The demographic profile of the sample seem to suggest that women accepting the injectable have, for the most part, attained their desired family size and now wish to stop childbearing.

In this study, the sampled women were selected from two centers, one from Thaibinh province and the other from Hanoi city. The respondents from Thaibinh center represent rural residents, and those from Hanoi center represent urban residents. From the beginning, an equal number of cases from each center was planned to included in the sample, but during interview the interviewers failed to contact 23 discontinuers (1 from Thaibinh province and 22 from Hanoi city). This results in a higher number of respondents from Thaibinh (53.8 percent) compared to those from Hanoi (46.2 percent) (see Table 4.1).

Regarding education, 134 respondents (48.4 percent) have a primary education, 30 percent secondary education and 17 percent higher than secondary, or college level. Only 0.4 percent were illiterate and 4.3 percent could barely read and write. It is noteworthy that the education level of their husbands corresponded well with that of respondents, i.e 46.2 percent having primary education, 23.5 percent and 26.0 percent having secondary education and higher levels, respectively. The percentage of husbands, who were illiterate and could barely read and write was 0.4 percent and 4 percent, respectively (see Figure 4.2).
The sampled women and their husbands are similar in occupation; the largest group of both wives and husbands are in agricultural occupation. The next largest occupational groups are white collar, blue collar and those in other occupational categories (see Figure 4.3).

The majority of respondents ever used any methods of contraception; only 1.462 percent (4 cases) never used any method. About two-thirds of respondents (67.2 percent) lived within 15 minutes of travel by bicycle to the nearest service center. The rest are 16-30 minutes and more than 30 minutes away from the center where they can receive family planning services (23.7 and 9.1 percent, respectively). Only 1.4 percent reported having financial difficulties in going to the service center. These results suggest that access to contraceptive services is not an important problem for the majority of women in the study (Table 4.1).
Figure 4.1: Percentage Distribution by Age and Duration of Marriage
TABLE 4.1  
Selected Characteristics of the Sample

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Percentage</th>
<th>Number of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>100.0</td>
<td>277</td>
</tr>
<tr>
<td>Number of living children:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have 1 child</td>
<td>28.2</td>
<td>78</td>
</tr>
<tr>
<td>Have 2 children or more</td>
<td>71.8</td>
<td>199</td>
</tr>
<tr>
<td>Mean: 1.95</td>
<td>Median: 2</td>
<td></td>
</tr>
<tr>
<td>Number of living sons:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have no son</td>
<td>33.6</td>
<td>93</td>
</tr>
<tr>
<td>Have at least 1 son</td>
<td>66.4</td>
<td>184</td>
</tr>
<tr>
<td>Mean: 0.89</td>
<td>Median: 1</td>
<td></td>
</tr>
<tr>
<td>Residence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>53.8</td>
<td>149</td>
</tr>
<tr>
<td>Urban</td>
<td>46.2</td>
<td>128</td>
</tr>
<tr>
<td>Experience on FP:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ever used any methods</td>
<td>98.6</td>
<td>273</td>
</tr>
<tr>
<td>Never used</td>
<td>1.4</td>
<td>4</td>
</tr>
<tr>
<td>Travel time to service center*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15 minutes or less</td>
<td>67.2</td>
<td>162</td>
</tr>
<tr>
<td>16 - 30 minutes</td>
<td>23.7</td>
<td>57</td>
</tr>
<tr>
<td>Greater than 30 minutes</td>
<td>9.1</td>
<td>22</td>
</tr>
<tr>
<td>Financial difficulty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>1.4</td>
<td>4</td>
</tr>
<tr>
<td>No</td>
<td>98.6</td>
<td>273</td>
</tr>
</tbody>
</table>

* Excluded 36 missing cases.
Figure 4.2: Percentage Distribution by Wife's and Husband's Education
Figure 4.3: Percentage Distribution by Wife's and Husband's Occupation
4.2. Descriptive Analysis of Continuation by Socio-economic Characteristics.

4.2.1. Analysis of means.

Table 4.2 shows the results of analysis of means of the two groups, continuers and discontinuers, by socio-demographic characteristics. Continuers and discontinuers are very similar with regards to most socio-demographic characteristics. On average, women in both groups have been married for about 10 years, have about 2 living children and about 1 living son.

**TABLE 4.2**

Mean values of selected Socio-demographic Characteristics by two groups

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Continuers Mean</th>
<th>Continuers SD</th>
<th>Discontinuers Mean</th>
<th>Discontinuers SD</th>
<th>Signif. difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td>32.36</td>
<td>4.79</td>
<td>31.70</td>
<td>4.83</td>
<td>NS</td>
</tr>
<tr>
<td>Duration of marriage</td>
<td>9.80</td>
<td>4.86</td>
<td>9.60</td>
<td>4.83</td>
<td>NS</td>
</tr>
<tr>
<td>Number of living children</td>
<td>1.97</td>
<td>0.77</td>
<td>1.90</td>
<td>0.77</td>
<td>NS</td>
</tr>
<tr>
<td>No of living sons</td>
<td>0.86</td>
<td>0.74</td>
<td>0.95</td>
<td>0.85</td>
<td>NS</td>
</tr>
<tr>
<td>Travel time</td>
<td>16.24</td>
<td>16.40</td>
<td>19.10</td>
<td>19.80</td>
<td>NS</td>
</tr>
<tr>
<td>Number of cases</td>
<td>180</td>
<td></td>
<td>97</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NS : Not significant at 0.05 level
A small difference between the two groups is observed in values of the mean age (continuers are about 1 year older) and mean travel time to the center (continuers are closer to the center), but these differences are not statistically significant.

4.2.2 Continuation by Selected Socio-demographic Characteristics.

Table 4.3 presents the results of crosstabulation analysis of continuation by socio-demographic characteristics. First, it will be noticed that the proportions of continuers are much greater than those of discontinuers across all socio-demographic characteristics. Within each characteristic, however, some significant differences are observed. They will be summarized below. Note that the description here focuses on the continuers group only.

The data in Table 4.3 indicate that the women who are more likely to continue using the injectable contraceptive have the following characteristics: They are of older age (30 years or older), have been married for a longer duration (10 years or more), live in rural areas, have a lower level of education, have husbands with a lower level of education, and are more likely to work in agricultural occupations. There is no significant difference in terms of the number of living sons. Of all these variables, the differences in terms of residence, education (of wife and husband) and wife’s occupation are statistically significant.
TABLE 4.3  
Percentage distribution of Socio-demographic Characteristics by two groups (Continuers and Discontinuers).

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Continuers Percent</th>
<th>Discontinuers Percent</th>
<th>Total Percent</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less or equal 30 yrs</td>
<td>64.4</td>
<td>35.6</td>
<td>100</td>
<td>101</td>
</tr>
<tr>
<td>Greater than 30 yrs</td>
<td>65.3</td>
<td>34.7</td>
<td>100</td>
<td>176</td>
</tr>
<tr>
<td>Duration of marriage</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-5 years</td>
<td>63.5</td>
<td>36.5</td>
<td>100</td>
<td>63</td>
</tr>
<tr>
<td>6-10 years</td>
<td>62.4</td>
<td>37.6</td>
<td>100</td>
<td>101</td>
</tr>
<tr>
<td>Greater than 10 yrs</td>
<td>68.1</td>
<td>31.9</td>
<td>100</td>
<td>113</td>
</tr>
<tr>
<td>Number of living son</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have no son</td>
<td>65.6</td>
<td>34.4</td>
<td>100</td>
<td>93</td>
</tr>
<tr>
<td>Have at least 1 son</td>
<td>64.7</td>
<td>35.3</td>
<td>100</td>
<td>184</td>
</tr>
<tr>
<td>Residence **</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>70.5</td>
<td>29.5</td>
<td>100</td>
<td>149</td>
</tr>
<tr>
<td>Urban</td>
<td>58.6</td>
<td>41.4</td>
<td>100</td>
<td>128</td>
</tr>
<tr>
<td>Education of wife **</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower and equal primary</td>
<td>70.1</td>
<td>29.9</td>
<td>100</td>
<td>147</td>
</tr>
<tr>
<td>Secondary and higher</td>
<td>59.2</td>
<td>40.8</td>
<td>100</td>
<td>130</td>
</tr>
<tr>
<td>Education of husband ***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower and equal primary</td>
<td>74.3</td>
<td>25.7</td>
<td>100</td>
<td>140</td>
</tr>
<tr>
<td>Secondary and higher</td>
<td>55.5</td>
<td>44.5</td>
<td>100</td>
<td>137</td>
</tr>
<tr>
<td>Occupation of wife **</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td>71.0</td>
<td>29.0</td>
<td>100</td>
<td>131</td>
</tr>
<tr>
<td>Non agriculture</td>
<td>59.6</td>
<td>40.4</td>
<td>100</td>
<td>146</td>
</tr>
<tr>
<td>Occupation of husband</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td>71.4</td>
<td>28.6</td>
<td>100</td>
<td>105</td>
</tr>
<tr>
<td>Non agriculture</td>
<td>61.0</td>
<td>39.0</td>
<td>100</td>
<td>172</td>
</tr>
</tbody>
</table>

*Significant coefficient at the level: ** P<0.05, *** P<0.01*
4.3 Continuation by Individual Level Factors

Table 4.4 presents the results of individual factors related to the use of injectable contraceptive. It is clear from the data in this Table that, among all continuers, those who know more Family Planning methods are more likely to continue than those who know fewer. The likelihood of continuing is found to be greater among those who never used any contraceptives. However, since the number of never users is very small (4 cases), the difference here may not reflect a real effect on continuation.

In terms of the reason for choosing the injectable, the results show that the likelihood of continuing the method is highest when women chose the injectable because they were dissatisfied with other methods. Doctor’s suggestion does not seem to play an important role in choice, as the women who reported that the doctor’s suggestion was not important for their decision to use the method are more likely to continue using it (87.5 percent). The rates of continuation are also higher among the women who reported that they chose the injectable because it was easy to use (77.4 percent), or because some side-effect of the method was not an important reason. There is little or no difference among those who chose the method because of other reasons.
TABLE 4.4
Percentage Distribution of Knowledge on Family Planning, Reasons for Choosing and Attitude Toward Injectable by Continuation or Non-Continuation

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Continuers Percent</th>
<th>Discontinuers Percent</th>
<th>Total Percent</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge on FP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know &lt;5/8 method</td>
<td>55.8</td>
<td>44.2</td>
<td>100</td>
<td>43</td>
</tr>
<tr>
<td>Know 5/8 methods and more</td>
<td>66.7</td>
<td>33.3</td>
<td>100</td>
<td>234</td>
</tr>
<tr>
<td>Ever used contraceptive methods</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>64.5</td>
<td>35.5</td>
<td>100</td>
<td>273</td>
</tr>
<tr>
<td>No</td>
<td>100.0</td>
<td>0.0</td>
<td>100</td>
<td>4</td>
</tr>
<tr>
<td>Reason for choosing injectable:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not satisfied with other methods.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very important</td>
<td>72.0</td>
<td>28.0</td>
<td>100</td>
<td>75</td>
</tr>
<tr>
<td>Moderately important</td>
<td>64.9</td>
<td>35.1</td>
<td>100</td>
<td>131</td>
</tr>
<tr>
<td>Not important</td>
<td>57.7</td>
<td>42.3</td>
<td>100</td>
<td>71</td>
</tr>
<tr>
<td>Doctor suggestion: **</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very important</td>
<td>64.3</td>
<td>35.7</td>
<td>100</td>
<td>140</td>
</tr>
<tr>
<td>Moderately important</td>
<td>61.1</td>
<td>38.9</td>
<td>100</td>
<td>113</td>
</tr>
<tr>
<td>Not important</td>
<td>87.5</td>
<td>12.5</td>
<td>100</td>
<td>24</td>
</tr>
<tr>
<td>Easy to use: ***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very important</td>
<td>77.4</td>
<td>22.6</td>
<td>100</td>
<td>84</td>
</tr>
<tr>
<td>Not so important</td>
<td>59.6</td>
<td>40.4</td>
<td>100</td>
<td>193</td>
</tr>
<tr>
<td>Fewer side-effect **</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Important</td>
<td>60.7</td>
<td>39.3</td>
<td>100</td>
<td>178</td>
</tr>
<tr>
<td>Not important</td>
<td>72.7</td>
<td>27.3</td>
<td>100</td>
<td>99</td>
</tr>
<tr>
<td>Other reasons</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Important</td>
<td>62.5</td>
<td>37.5</td>
<td>100</td>
<td>16</td>
</tr>
<tr>
<td>Not important</td>
<td>65.1</td>
<td>34.9</td>
<td>100</td>
<td>261</td>
</tr>
</tbody>
</table>

Significant coefficient at the level: ** P<0.05, *** P<0.01
### TABLE 4.4 (continued)
Percentage Distribution of Knowledge on Family Planning, Reasons for Choosing and Attitude Toward Injectable by Continuation or Non-Continuation

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Continuers</th>
<th>Discontinuers</th>
<th>Total</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inconvenience of level of use of injectable:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Must go to hospital</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Important</td>
<td>52.6</td>
<td>47.4</td>
<td>100</td>
<td>38</td>
</tr>
<tr>
<td>Not important</td>
<td>66.9</td>
<td>33.1</td>
<td>100</td>
<td>239</td>
</tr>
<tr>
<td>Must have injection</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Important</td>
<td>59.8</td>
<td>40.2</td>
<td>100</td>
<td>102</td>
</tr>
<tr>
<td>Not important</td>
<td>68.0</td>
<td>32.0</td>
<td>100</td>
<td>175</td>
</tr>
<tr>
<td>Side - effects ***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Important</td>
<td>54.6</td>
<td>45.4</td>
<td>100</td>
<td>108</td>
</tr>
<tr>
<td>Moderately important</td>
<td>65.1</td>
<td>34.9</td>
<td>100</td>
<td>109</td>
</tr>
<tr>
<td>Not important</td>
<td>83.3</td>
<td>16.7</td>
<td>100</td>
<td>60</td>
</tr>
<tr>
<td>Husband's acceptance of use of injectable **(#)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>67.4</td>
<td>32.6</td>
<td>100</td>
<td>230</td>
</tr>
<tr>
<td>No</td>
<td>36.8</td>
<td>63.2</td>
<td>100</td>
<td>19</td>
</tr>
</tbody>
</table>

*Significant coefficient at the level :** P<0.05, *** P<0.01*

((#) Included only 249 women who have husband's influence on injectable use)

With regards to the level of inconvenience associated with the method, the analysis reveals that the continuation rate is higher when the women did not consider the importance of the fact that they have to go to the hospital for service,
or the method involves having an injection. Side-effects of the method contribute to a significant distinction: When the women disregard the importance of side-effects, the rate of continuation appears to be highest (83.3 percent). Another significant difference is observed when husbands acceptance of the method was taken into account in making a choice. Women who chose the method with the approval of their husbands are more likely to continue using it than otherwise.

It is important to note that differences of continuation rates in terms of various reasons for choosing the method (doctor’s suggestion, ease of use, side-effects, husband’s approval) are found to be statistically significant.

4.4 Effect of Health Conditions on Continuation

Table 4.5 presents the percentage distribution of the effect of health conditions on injectable use. Women who feel that the effect of the injectable is bad for their health are significantly more likely to discontinue than those who consider that injectable use has no effect, or even improves, their health status (79.6 percent compared to 28.5 and 11.9 percent respectively).
TABLE 4.5  
Percentage Distribution of Effect of Health Condition on Injectable use.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Continuers Percent</th>
<th>Discontinuers Percent</th>
<th>Total Percent</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeling the effect of injectable to health condition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>88.1</td>
<td>11.9</td>
<td>100</td>
<td>42</td>
</tr>
<tr>
<td>No influence</td>
<td>71.5</td>
<td>28.5</td>
<td>100</td>
<td>186</td>
</tr>
<tr>
<td>Bad</td>
<td>20.4</td>
<td>79.6</td>
<td>100</td>
<td>49</td>
</tr>
<tr>
<td>Feeling according to symptoms:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lost weight ***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severe or tolerable</td>
<td>53.8</td>
<td>46.2</td>
<td>100</td>
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<tr>
<td>Little or none</td>
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<td>100</td>
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<td>Headache</td>
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<td>Severe or tolerable</td>
<td>59.5</td>
<td>40.5</td>
<td>100</td>
<td>121</td>
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<tr>
<td>Little or none</td>
<td>69.2</td>
<td>30.8</td>
<td>100</td>
<td>156</td>
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<tr>
<td>Sleeplessness ***</td>
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<tr>
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<td>54.5</td>
<td>100</td>
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</tr>
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<td>31.3</td>
<td>100</td>
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<tr>
<td>Vaginal dryness</td>
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<td></td>
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<td></td>
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<td>100</td>
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<td>31.0</td>
<td>100</td>
<td>174</td>
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<td>Menstrual problem ***</td>
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<td></td>
</tr>
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<td>Severe</td>
<td>15.0</td>
<td>85.0</td>
<td>100</td>
<td>40</td>
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<tr>
<td>Tolerable</td>
<td>75.3</td>
<td>24.7</td>
<td>100</td>
<td>198</td>
</tr>
<tr>
<td>Little or none</td>
<td>64.1</td>
<td>35.9</td>
<td>100</td>
<td>39</td>
</tr>
<tr>
<td>Others ***</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Severe or tolerable</td>
<td>34.5</td>
<td>65.5</td>
<td>100</td>
<td>29</td>
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<tr>
<td>Little or none</td>
<td>68.5</td>
<td>31.5</td>
<td>100</td>
<td>248</td>
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Significant coefficient at the level: ** P<0.05, *** P<0.01
TABLE 4.5 (continued)
Percentage Distribution of Effect of Health Condition on Injectable use.

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<tr>
<th>Characteristics</th>
<th>Continuers</th>
<th>Discontinuers</th>
<th>Total</th>
<th>N</th>
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<tr>
<td></td>
<td>Percent</td>
<td>Percent</td>
<td>Percent</td>
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<tr>
<td>Amenorrhoea</td>
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<tr>
<td>Yes</td>
<td>56.4</td>
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<td>No</td>
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<td>32.2</td>
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<td>Longer menstrual period</td>
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<td>Yes</td>
<td>76.6</td>
<td>23.4</td>
<td>100</td>
<td>47</td>
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<td>No</td>
<td>62.3</td>
<td>37.7</td>
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<td>191</td>
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<tr>
<td>Shorter menstrual period</td>
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<td></td>
</tr>
<tr>
<td>Yes</td>
<td>74.2</td>
<td>25.8</td>
<td>100</td>
<td>31</td>
</tr>
<tr>
<td>No</td>
<td>63.8</td>
<td>36.2</td>
<td>100</td>
<td>207</td>
</tr>
<tr>
<td>Spotting ***</td>
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<td></td>
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<td>Yes</td>
<td>58.3</td>
<td>41.7</td>
<td>100</td>
<td>132</td>
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<td>No</td>
<td>73.6</td>
<td>26.4</td>
<td>100</td>
<td>106</td>
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<td>Prolonged bleeding</td>
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<td></td>
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<td>Yes</td>
<td>65.7</td>
<td>34.3</td>
<td>100</td>
<td>102</td>
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<tr>
<td>No</td>
<td>64.7</td>
<td>35.3</td>
<td>100</td>
<td>136</td>
</tr>
<tr>
<td>Heavy bleeding **</td>
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<tr>
<td>Yes</td>
<td>51.2</td>
<td>48.8</td>
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<td>No</td>
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<td>197</td>
</tr>
<tr>
<td>Light bleeding **</td>
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<td></td>
</tr>
<tr>
<td>Yes</td>
<td>71.7</td>
<td>28.3</td>
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<td>113</td>
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<td>No</td>
<td>59.2</td>
<td>40.8</td>
<td>100</td>
<td>125</td>
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<td>Menstrual pain</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>57.7</td>
<td>42.3</td>
<td>100</td>
<td>26</td>
</tr>
<tr>
<td>No</td>
<td>66.0</td>
<td>34.0</td>
<td>100</td>
<td>212</td>
</tr>
<tr>
<td>Injectable affects sexual desire</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increase or unchanged</td>
<td>68.1</td>
<td>31.9</td>
<td>100</td>
<td>207</td>
</tr>
<tr>
<td>Decrease</td>
<td>55.7</td>
<td>44.3</td>
<td>100</td>
<td>70</td>
</tr>
<tr>
<td>Feeling of sexual intercourse ***</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More satisfied</td>
<td>97.9</td>
<td>2.1</td>
<td>100</td>
<td>48</td>
</tr>
<tr>
<td>Unchanged</td>
<td>57.6</td>
<td>42.4</td>
<td>100</td>
<td>172</td>
</tr>
<tr>
<td>Unsatisfied</td>
<td>59.6</td>
<td>40.4</td>
<td>100</td>
<td>57</td>
</tr>
</tbody>
</table>

Significant coefficient at the level: ** P<0.05, *** P<0.01

(#) Included only 238 women who have severe and moderate menstrual problem.
For specific symptoms such as weight loss, headaches, sleeplessness and vaginal dryness, women who lost weight during injectable use are more likely to be discontinuers than those whose weight did not change (46.2 and 30.7 percent, respectively). Similarly, women who felt uncomfortable with other symptoms such as headaches, sleeplessness, vaginal dryness and other problems were more likely to be discontinuers than those who felt little or no influence on their health status during injectable use.

A set of eight symptoms of menstrual problems caused by injectable use are presented in Table 4.5. These include heavy bleeding, and both prolonged and shorter periods or amenorrhoea. The results suggest that this set of independent variables surrounding the menstrual problem have the greatest effect on continuation of injectable use. The effect, however, varies with level of the problem; those who feel that they have severe menstrual problem are most likely to discontinue the method (85 percent). Women who feel that they have little or no problem, or their problems are tolerable, are most likely to continue using.

When specific symptoms of the problem are considered, the results are in support of the general findings described above. Women who experienced no amenorrhoea, no spotting, no heavy bleeding and no menstrual pain are more likely to continue when compared to those who experienced these symptoms. On the other hand, those who experienced light bleeding tended to continue more than those who did not (71.7 percent versus 59.2 percent). Duration of menstrual period, however,
does not seem to show a difference; whether the menstrual period is longer or shorter, the tendency is toward a higher rate of continuation.

Results in Table 4.5 also reveal that effect of injectable on sexual desire and satisfaction is important. Women whose sexual desire increases, or is unchanged are more likely to continue using the method. Similarly, those who are more satisfied with sexual intercourse have a higher continuation rate (98 percent) when compared with those whose sexual feeling is unchanged or unsatisfactory (57.6 percent and 59.6 percent respectively)

4.5 Quality of Family Planning Service and Continuation

Table 4.6 presents the relationship between availability of services and continuation. There is a significant difference in continuation between respondents who feel transportation is convenient (70 percent), normal (54 percent) and inconvenient (36.4 percent). For the effect of the injection schedule on work, the greater the effect of the injection schedule on work, the higher the proportion discontinuing (75 percent comparing to 40 percent and 30 percent).

As for the effect of attitudes of health staff; if the approach of health staff was kind, the proportion continuing is higher than otherwise (65.3 percent versus 33.3 percent). Here, almost all respondents answered that the doctor and midwives were very kind to them (274 among 277 respondents). Also when the
TABLE 4.6
Percentage Distribution of Accessibility of Service Satisfaction Variables by Two Groups

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Continuers Percent</th>
<th>Discontinuers Percent</th>
<th>Total Percent</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation ***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Convenient</td>
<td>70.0</td>
<td>30.0</td>
<td>100</td>
<td>203</td>
</tr>
<tr>
<td>Normal</td>
<td>54.0</td>
<td>46.0</td>
<td>100</td>
<td>63</td>
</tr>
<tr>
<td>Inconvenient</td>
<td>36.4</td>
<td>63.6</td>
<td>100</td>
<td>11</td>
</tr>
<tr>
<td>Effect of injection schedule ***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Much</td>
<td>25.0</td>
<td>75.0</td>
<td>100</td>
<td>12</td>
</tr>
<tr>
<td>Normal</td>
<td>60.0</td>
<td>40.0</td>
<td>100</td>
<td>85</td>
</tr>
<tr>
<td>Little or no</td>
<td>70.0</td>
<td>30.0</td>
<td>100</td>
<td>180</td>
</tr>
<tr>
<td>Were doctors &amp; midwives very kind</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>65.3</td>
<td>34.7</td>
<td>100</td>
<td>274</td>
</tr>
<tr>
<td>No</td>
<td>33.3</td>
<td>66.7</td>
<td>100</td>
<td>3</td>
</tr>
<tr>
<td>Doctor explain about advantages</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clearly</td>
<td>65.4</td>
<td>34.6</td>
<td>100</td>
<td>269</td>
</tr>
<tr>
<td>Unclear</td>
<td>50.0</td>
<td>50.0</td>
<td>100</td>
<td>8</td>
</tr>
<tr>
<td>Doctor explain about disadvantages **</td>
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</tr>
<tr>
<td>Clearly</td>
<td>68.6</td>
<td>31.4</td>
<td>100</td>
<td>223</td>
</tr>
<tr>
<td>Unclear</td>
<td>50.0</td>
<td>50.0</td>
<td>100</td>
<td>54</td>
</tr>
<tr>
<td>Doctor explain about solving side effect ***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clearly</td>
<td>69.9</td>
<td>30.1</td>
<td>100</td>
<td>236</td>
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<tr>
<td>Unclear</td>
<td>36.6</td>
<td>63.4</td>
<td>100</td>
<td>41</td>
</tr>
</tbody>
</table>

Significant coefficient at the level: ** P < 0.05, *** P < 0.01
doctor explains more clearly about the advantages and disadvantages of injectables, scheduled time for next injection, and how to solve side-effect problems, continuation tends to be higher. For example, for respondents who thought the doctor's explanation on side-effects was clear, their continuation rate (69.9 percent) is significantly higher than those who thought the doctor's explanation was unclear (36.6 percent). Out of all 5 independent variables on the attitude of health staff, two variables show significant differences: doctor's explanation about disadvantages and about how to solve side-effects resulting from injectable use.

4.6 Reasons for discontinuation

Figure 4.4 shows the main reasons for discontinuation of the method. Among the women who discontinued, the main (important) reasons reported are menstrual problems (86.6 percent), side-effects (78.4 percent), dislike injection (39.2 percent), husband disapproval (34 percent) and fear of painful injection (29.9 percent). The remaining reasons, most of which are service-related, such as: not enough staff in the health center, travel problem, desire for pregnancy, dissatisfied with service, long waiting time, injection schedule, appear to be less important reasons for the majority of discontinuers (proportions reporting range from 5.2 percent to 14.4 percent).
Figure 4.4: Main Reason for Discontinuation

Bar graph showing the main reasons for discontinuation of contraceptive methods. The reasons include:

- Menstrual problem: 86.6%
- Side-effects: 78.4%
- Dislike injection: 46.0%
- Injection painful: 39.2%
- Lack of staff: 34.0%
- Too far from center: 29.9%
- Others: 14.4%
- Unhappy with service: 14.4%
- Desired pregnancy: 11.3%
- Long waiting time: 8.3%
- Forget schedule: 8.2%
4.7 Determinants of Continuation and Discontinuation: Results of Logistic Regression Analysis.

4.7.1 The model

A backward stepwise method for logistic regression was applied for automated model building from a set of sixteen independent variables (see Appendix B). At the initial step, the method includes all relevant variables in the model. Variables that do not significantly contribute to a reduction in the Log-Likelihood are then removed one by one. The final model includes only those variables which contribute significantly to explaining variation in the dependent variable.

Table 4.7 displays the logistic regression coefficients for two models, model 1 is the initial model with 16 independent variables, model 2 is the best fitting model which is derived from the final step of selection. Determining factors of continuation of injectable use are those predictors (independent variables) that are significant at the 0.05 level. The odds ratios estimate the relative odds of continuation/discontinuation among categories of each variable.
4.7.2 Assessing the Goodness of fit of the model.

There are several ways to test the Goodness of Fit of the model. Use of the percentage of responses correctly predicted from model 2 of the logistic regression, indicates that 83.94 percent of responses were correctly predicted from the included variables. Therefore, we can conclude that the model fits the data moderately well. The correct prediction is higher for continuers (90.12 percent) than for discontinuers (72.41 percent).

4.7.3 Interpretation for Exp (B).

Table 4.7 also presents the exponential value of each independent variable. This value is used in analyzing each determinant in this section.

Concerning residence, comparing respondents from rural and urban areas (values of 0 and 1, respectively), the odds ratio is 7.6. This means that urban respondents are 7.6 times more likely to be continuers than rural respondents. This result is a reversal of that described in the bivariate analysis. This may be a result of the confounding effect of other variables and will be discussed in more detail later. As for occupation of respondent, comparing non-agricultural to agricultural occupations, women in agriculture were 4.9 times more likely to be continuers than those in non-agricultural occupations.
Women, who said that not being satisfied with other methods was a very important reason for choosing the injectable, were 10 times more likely to be continuers compared to women who said this reason had no influence (the reference group). The comparison between the reference group and those women who said that dissatisfaction with other methods is "moderately important" reason for choosing injectable indicates that their odds of continuation is 3.4 times higher than that of the reference group. Therefore "not satisfied with other methods" - a reason for choosing injectable - has a strong effect on continuation of injectable use.

The women who considered advice of physician on injectable usage as having no influence on their decision was coded as the reference group. When the physicians advice was "very important", the probability of continuation of injectable was 98 percent less than that of the reference group, and 97 percent less than for the reference group when they stated "moderately important". These results are rather surprising in some ways; or they suggest that when doctors advice had a strong influence of acceptance, the probability of discontinuation was higher. However, it is likely that women whose doctors suggestion was most important are more likely to have medical conditions leading to discontinuation.

With regard to ease of use of the injectable, the "not so important effect" on injectable choice was coded as the reference group. When comparing the reference group to the "very important" group, the probability of continuation is 2.9 times
higher than that of the reference group. The ease of use is an important explanatory factor contributing to continuation.

The effect of "side-effects" on choice of injectable was also important. The group "not important" was coded as the reference group. The "important " group had a probability of continuation of injectable use 89 percent lower than that of the reference group. It is 29 percent lower than the reference group in the case of the "moderately important" group. So when respondents state that the side-effects are important for injectable choice, they may be afraid that side-effects will occur during their injectable use, so they will not be as likely to continue using the injectable.

Wives of husband who agree with their use of injectables are 6.2 times more likely to continue their use of injectables compared to wives of husbands who disagree with their wife's use of contraception. This result reinforces other findings from Vietnam which indicate the strong influence that husbands play in decision making in all areas of life affecting women, including contraceptive decisions. While efforts should be made to increase equality between husband and wife in contraceptive decision making, this is a change that will take a long time to occur. More immediate changes in injectable use could be obtained by education programs aimed at men in which the benefits of injectable use could be explained.
**TABLE 4.7**

Logistics regression coefficients for important variables related to continuation/discontinuation of use injectable contraceptives

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Exp(B)</th>
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</thead>
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<td></td>
<td>B</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>Urban resident or not</td>
<td>2.0673</td>
<td>2.0307*</td>
<td>7.6192</td>
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<td>Occupation of wife</td>
<td>1.3924</td>
<td>1.5896*</td>
<td>4.9016</td>
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<tr>
<td>Not satisfy with other method</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Very important</td>
<td>2.2979</td>
<td>2.3001*</td>
<td>9.9753</td>
</tr>
<tr>
<td>Moderate important</td>
<td>1.2456</td>
<td>1.2349*</td>
<td>3.4381</td>
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<tr>
<td>Advice of physician</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Very important</td>
<td>-4.0107*</td>
<td>-4.0415*</td>
<td>.0176</td>
</tr>
<tr>
<td>Moderate important</td>
<td>-3.4556*</td>
<td>-3.5239*</td>
<td>.0295</td>
</tr>
<tr>
<td>Easy to use</td>
<td>.9391</td>
<td>1.0691*</td>
<td>2.9126</td>
</tr>
<tr>
<td>Inconvenient of side-effects</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Very important</td>
<td>-2.1113*</td>
<td>-2.1340*</td>
<td>.1184</td>
</tr>
<tr>
<td>Moderate important</td>
<td>-0.4611</td>
<td>-.3375</td>
<td>.7135</td>
</tr>
<tr>
<td>Husband's approval</td>
<td>1.9163</td>
<td>1.8218*</td>
<td>6.1833</td>
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<tr>
<td>Affects to health</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>3.7674</td>
<td>3.8495*</td>
<td>46.9688</td>
</tr>
<tr>
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<td>3.1369</td>
<td>3.0737*</td>
<td>21.6215</td>
</tr>
<tr>
<td>Affect to sexual satisfaction</td>
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<td></td>
<td></td>
</tr>
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<td>3.1177</td>
<td>3.4564*</td>
<td>31.7015</td>
</tr>
<tr>
<td>Unchange</td>
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<td>-1.0275</td>
<td>.3579</td>
</tr>
<tr>
<td>Menstrual disturbances</td>
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<td></td>
</tr>
<tr>
<td>Severe</td>
<td>-1.9156</td>
<td>-1.8807*</td>
<td>.1525</td>
</tr>
<tr>
<td>Tolerable</td>
<td>.9753</td>
<td>.9949</td>
<td>2.7045</td>
</tr>
<tr>
<td>Injection schedule interfere</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significantly</td>
<td>-3.3735</td>
<td>-3.5237*</td>
<td>.0295</td>
</tr>
<tr>
<td>Moderately</td>
<td>-.6330</td>
<td>-.6973</td>
<td>.4979</td>
</tr>
<tr>
<td>Disadvantage explanation</td>
<td>1.8302</td>
<td>1.7395*</td>
<td>5.6947</td>
</tr>
<tr>
<td>Education of wife</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Education of husband</td>
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</tr>
<tr>
<td>Occupation of husband</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Transport convenient or not</td>
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</tr>
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<td>Very convenient</td>
<td>.3795</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate convenient</td>
<td>.7087</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>-3.0335</td>
<td></td>
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</tbody>
</table>

* Significant coefficient at 0.05

### Model 2 is best fitting model which was obtained by Backward selection.
The women who stated the effect of injectable use was bad for their health was coded as the reference group. Compared to the reference group, for women who reported "unchanged health status" the odds of continuation of injectable use increases 21.6 times. It was 46.9 times higher than those of the reference group for those who were in the "increased health status" group.

Women who reported "none or little effect on menstruation" were coded as the reference category and when compared to women who reported a "severe effect on menstruation", the probability of continuation of injectable use was 85 percent lower than that of the reference group. There is no significant difference between probability of continuation of the reference group and women who reported a tolerable effect on menstruation.

As for the effect of injectable use on sexual satisfaction, women who reported "decreased sexual satisfaction" were coded as the reference category. When compared to those women who reported "increased sexual satisfaction" the odds of continuation of injectable use was 31.7 times higher than that of reference group. So the effect of sexual satisfaction to continuation injectable using is very important.

With regard the effect of the appointment interfering with work, the group of "little or no effect" was coded as the reference group. When compared to the group "significant effect" the probability of continuation of use of the injectable was 97 percent less than that of the reference group.
When doctors provide clear explanations, the odds of continuation of injectable use is 5.6 times higher compared to when there is "unclear explanation." So the explanation of doctors on injectables is very important. The explanations can alert users to potential problems during injectable use, so the respondents are aware and will be less concerned if the problems occur.
CHAPTER FIVE
DISCUSSION AND CONCLUSION

5.1 Discussion

The study included 277 women from 2 family planning centers in the North of Vietnam, recruited in the clinical trial of two kinds of injectable (monthly and three-monthly injectable - Cyclofem and DMPA). The acceptability of injectable contraceptives was relatively high, with a continuation rate of 73% at one year for 4 centers and around 60% for two center in this study (Duong Thi Cuong - 1995). This rate is comparable with that found in other research in other countries (Egypt, Thailand). The result of analysis in the previous chapter indicate that socio-demographic characteristics play little role in continuation. These variables included age, duration of marriage, number of living sons, and travel time to family planning center. There were no significant difference between continuers and discontinuers in terms of socio-demographic characteristics (except for the three variables of residence, occupation and husband’s approval of injectable use).

Although the bivariate results indicate that levels of discontinuation are much higher for urban residents than for rural residents (see Table 4.3), the results of the logistic regression analysis show the opposite; urban residents are 7.6 times more likely to be continuers than are rural residents. The explanation for this switch from the bivariate to multivariate results can be found in the occupational structure
of urban and rural residents. Persons working in agriculture are 4.9 times more likely to be continuers than persons working in other occupations. Because rural areas are predominantly agricultural, while there are few agriculturalists in urban areas, the occupational structure of rural areas contributes to high levels of continuation in rural areas. However, net of the effect of occupational structure (ie. when we control for occupation), the urban context is more conducive to continuation than is the rural context. This might be because of the higher quality of services provided in urban areas compared to rural areas.

The results from this part of the logistic regression point to two areas where research is required. One, what are the factors that contribute to high levels of continuation among women working in agriculture and, two, what are the specific components of the urban environment that contribute to high levels of continuation.

The findings for husband's attitude toward injectable use are similar to those from other studies (Riley, 1994 & Hassan, 1994). Women whose husbands approved of injectable use are more likely to continue use than women whose husbands disapproved of use. At present in Vietnam, all legislation advocates full equality between males and females but the country still suffers from the heavy effect of male-dominant norms, where males have more power in decision making both in public and family, while females only have power in decision making when they have high educational levels. So if the husband agrees, women will be more likely to continue injectable use.
Psychological factors were found in this study to be important determinants of injectable continuation. The feeling of sexual satisfaction is an important factor affecting injectable continuation. Previous research indicates that the injectable contraceptive does not have much effect on sexual feeling (the majority of respondents answered their sexual satisfaction was unchanged) but if there was dissatisfaction it was a significant factor contributing to a high risk of discontinuation. This dissatisfaction may be caused by menstrual disturbances or other side-effects, for example, being tired or lacking sexual desire. Sometimes the high effectiveness of injectables contribute to women having more sexual satisfaction as they are not afraid of unwanted pregnancy.

On the accessibility of injectable services, travel time to the family planning center is not an important determinant of injectable continuation (see table 6), because the women in this study lived in Hanoi and in the Red River delta area, where population density is high, no traffic jams, and is so easy to go the family planning center even on foot or by bicycle. However, for the people who live far away from the center where transportation is poorer, travel time may be a problem for them.

Waiting time in this study was also not a determinant of injectable continuation. It may be true in this trial project, where all health staff were trained and received some cash incentives, that they were more attentive when serving clients. But in the case of not being a trial project the waiting time may be longer
and becomes a problem for women because of their low salary and lack of staff incentives.

It is compulsory to go to clinic on time to receive injections and this was an important determinant of injectable discontinuation. The women in this study have different occupations and they have much work to do, both in society and in the family (more than 70 percent of females of working age in Vietnam participate in the labor force), so regularly attending a family planning center for injectables is difficult to fit into work schedules, so they may discontinue and shift to other contraceptive methods. Regular attendance at a family planning center to receive an injection is unavoidable for injectable use, however it is more convenient if injectable use is scheduled at a time appropriate for each group of working women.

A doctor's explanation, especially the explanation for injectable disadvantages, is important for sustaining levels of use. If women know about the disadvantages of a contraceptive method they may still choose it because of convenience. Thereafter, if side-effects occur, they will be less likely to discontinue because they were prepared for the effects. This finding is similar to the finding from previous research in Egypt, where women who had inadequate counselling had a higher risk of injectable discontinuation.

The effects on health status was found to be one of the main reasons for discontinuation. Women who answered that injectable effects their health was "good" or "unchange", were more likely to continue than those who answered "bad". In
general, one of the main reasons for not using contraceptive methods is fear of the bad effect on health. If something happens to their health condition, women are likely to stop using or shift to other methods. One contraceptive method may be appropriate to some women but inappropriate for others, so women try to look for a suitable contraceptive method for their health.

Regarding symptoms of side-effects, findings from this study are similar to previous research in Bangladesh (Riley, 1994). Women perceived spotting, heavy bleeding and light bleeding as important determinants of discontinuation, while amenorrhea was virtually never considered with injectable use. However, this finding contrasts with other studies of injectable use that show that amenorrhea is a major reason for discontinuation in Thailand (Koetsawang, 1994).

In general, menstrual disturbances were more often reported in both continuers and discontinuers, but it may be that for continuers, good counselling may help them overcome these disturbances. But in the group who considered this kind of side-effects as very uncomfortable, the continuation probability was less than those of the group who said "no influence". However there was no significant difference on continuation probability compared with the group who considered the disturbances "tolerable" when compared to the group who said "no influence" in menstrual disturbances. If there is good doctor's counselling on injectable use (including advantages) women will be ready to cope with potential problems and this may lead to greater levels of use of the methods.
When evaluated in terms of inconvenience levels of side-effects, women who considered that side-effects were important in making their choices likely to discontinue than those who thought that is not important. When the choice of injectable is without strong persuasion, continuation will be higher than discontinuation. A study of Bangladeshi women also came to the same conclusion. Women who accept the injectable after strong persuasion are less likely to continue using the method than are other women, and may be less willing to seek help for problems when they occur. Being an effective method that is easy to use, and that provides more satisfaction than other methods were the most important advantages reported by the users.

Finally, this study also examined knowledge of family planning. Knowledge of family planning did not effect the discontinuation of injectable. The Family Planning Program in Vietnam was introduced a long time ago and has received a strong political commitment from the Government, the information and education and communication program (IEC) has played an important role in the successful implementation of the family planning program. Thaibinh (a province in this study) is not far from Hanoi and all respondents in this study easily received information on family planning from all information sources. So that there are no differences in knowledge of family planning between continuers and discontinuers.
5.2 Conclusion.

Analysis of determinants of continuation/ discontinuation among injectable users in two family planning center in the Northern Vietnam after a 12 months follow-up shows that the most important determinants are a set of variable which have effect on health status mainly menstrual disturbances. The effect of psychological variables is the second most important determinant of discontinuation. This group of variables include the effect on sexual satisfaction and scheduled time of injectable. Reasons for choosing the injectable also played an important role in continuation. Other variables such as socio-demographic factors are a weaker determinant of discontinuation. Women working in the agricultural sector are more likely to be continuers than those in the non-agricultural sector. Women who had their husband’s support for using the injectable are more likely to continue than those who did not have that support. In general, the acceptability of injectable contraceptives in Vietnam is relatively high among users, so that it should be able to be introduced more widely in the whole country.

5.3 Recommendations

Injectable use has many advantages, but also has health side-effects (especially menstrual disturbances), and the main reasons for discontinuation are health reasons. But a doctor’s explanation on the advantages and disadvantages of injectable use, as well as resolving the side-effects of injectable have strong effects
on injectable continuation. To promote injectable use women need more detailed information from providers on side-effects and how to solve these effects.

The Family Planning Program needs more IEC not only for women, but also for their husbands, in order to ensure their knowledge and positive attitudes toward contraceptive methods as well as ensuring needed social support. The importance of a favorable attitude of husbands for continuation of injectables is clearly shown in the results of this study. It is suggested that the Family Planning program stress the advantages of injectables to husbands. A possible advantage, which needs to be further investigated, is the increased sexual satisfaction that some women reported from using the injectable. Such satisfaction not only directly contributes to increased continuation by the women but could possibly also indirectly help by increasing husbands approval of the method.

The results show that continuation is highest for women in certain occupations, especially agriculture. The likely reason is the convenience of the method for women in this sector of the economy. Therefore IEC should target this very large group of women, with the main stress being placed on how the method can be easily used.

Service delivery schedules are an important impediment to effective delivery of the injectable. The results of the study show that for high continuation, injection schedules need to be more carefully integrated with schedules. If these is
flexibility in injection schedules more women, especially working women, will use the method.

Reasons for choosing injectable plays an important role in continuation of injectable use. Women choose the injectable because of dissatisfaction with other methods and because of the ease of use of injectable. If women choose this method because of doctors suggestion, they are more likely to discontinue the method. So IEC on injectables should stress not only the advantages but also the disadvantage of injectable.

In recent years, HIV/AIDS awareness has been more widespread among a large number of people. Many people are more sensitive to any activities which can potentially lead to infection such as use of needles. Injectable contraceptive involves use of needles. Acceptors of this method can be more confident if health centers can provide disposable instruments when giving the injection. This safe practice could indirectly help increase acceptability of the method. (Garza-Flores et al, 1994).

Although service delivery, psychological factors and several social factors are important determinants of continuation, it is quite obvious that high levels of continuation of injectable use will not occur until there are substantial decreases in levels of side-effects, especially those related to menstruation. Therefore, improvements in service delivery, IEC and counselling must occur together with improvement in the method itself.
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APPENDIX A
List of Selected Variables

Socio-Demographic Variables
Urban/rural residence
Occupation of wife
Occupation of husband
Education of wife
Education of husband
Husband’s approval

Reasons for Choosing Injectables
Not satisfied with other method
Advice of physician
Ease of use

Attitudes towards injectable use
Inconvenience of side-effects

Psychological variables
Affects to health
Affects to sexual satisfaction
Menstrual disturbances

Service variables
Injection schedule interference
Transport convenience
Explanation of disadvantage of use
APPENDIX B

QUESTIONNAIRE

DETERMINANTS OF CONTINUATION/DISCONTINUATION OF INJECTABLE CONTRACEPTIVE AMONG USERS IN VIETNAM

I- IDENTIFICATION

Name : 
Center number : 
Respondent number : 

II- GENERAL INFORMATION

1 - Date of first injection: 

2 - Type of Injection: 1. DMPA 2. CYCLOFEM

3 - Date of interview:

III- PERSONAL AND DEMOGRAPHIC CHARACTERISTICS:

4 - How old were you on your last birthday? 

5 - How old were you when you married for the first time? 

6 - What was the last level of schooling you completed? 
   1. Illiterate 
   2. Read and write (but not completed any grade) 
   3. Primary school 
   4. Secondary school 
   5. Tertiary 

7 - What is your occupation? 
   1. Officer 
   2. Worker 
   3. Peasant 
   4. Housewife 
   5. Others
8 - Do your parents or your parents in-law live with your family?
   1. Yes
   2. No

9 - How many living children do you have?
   Number of sons  Number of daughters

10 - How many children do you intend to have?
   Sons  Daughters

IV - FAMILY PLANNING

11 - Do you know any contraceptive method?
   1. Yes
   2. No (if no, go to Q.13)

12 - Do you know any of the following contraceptive methods:
   1. IUD
   2. Pill
   3. Condom
   4. Vasectomy
   5. Female sterilization
   6. Norplant
   7. Rhythm
   8. Withdrawal

13 - To what extent are you interested in obtaining information on family planning?
   1. very interested
   2. moderately interested
   3. a little interested
   4. don’t know

14 - What is your most important source of Family Planning information?
   1. Radio, T.V.
   2. Newspapers, books
   3. Seminars
   4. Health workers
   5. Friends and relatives
   6. Others
   7. None

15 - Have you ever heard of any contraceptive methods?
   1. Yes
   2. No (if no, skip to Q.17)

16 - If "yes", have you ever used the following method?
   (Interviewer: Code 1. Yes 2. No for each method)
   1. IUD
   2. Pill
   3. Injection
   4. Condom
   5. Norplant
   6. Rhythm
   7. Withdrawal
V - INJECTABLE CONTRACEPTIVE

17 - Who/what was the most important source for the injectable contraceptive?
   1. Husband
   2. Neighbor, friends
   3. Newspapers
   4. Radio
   5. T.V
   6. Health workers
   7. Social workers
   8. Other.

18 - To what extent did the following have an effect on your choice of the injectable?
   Was each:
   1. Very important
   2. Moderately important
   3. No influence
   a. Not satisfied with other methods
   b. Doctor's suggestion
   c. Easy to use.
   d. Fewer side-effects
   e. Other.

19 - Evaluate the level of inconvenience for injectable use for the following items, using the following scale:
   1. Very important
   2. Moderately important
   3. No influence
   a. Must go to hospital
   b. Must have injection
   c. Side-effects.

20 - Do you have any friend or relative who uses the injectable but has a different schedule of injection?
   1. Yes
   2. No (If no, skip to Q.23)

21 - Which kind of injectable is more convenient?
   1. Your injectable
   2. Relative's injectable
   3. The same

22 - Which kind of injectable has more side-effects?
   1. Your injectable
   2. Relative's injectable
   3. The same

23 - If you had a chance to choose, which kind of injectable would you choose?
   1. monthly
   2. three monthly
VI - INFORMATION ON RESPONDENTS HUSBAND

24 - What was the highest level of schooling did your husband complete?
   1. Illiteracy          4. Secondary school
   2. Can read and write  5. Bachelor/college
   3. Primary school     6. Higher

25 - What is his occupation?
   1. Officer            3. Peasant
   2. Worker             4. Other

26 - How often do you meet your husband?
   1. Daily              4. Once a 6-12 months
   2. Once a month       5. Once a more than 12 months
   3. Once a 6 months

27 - How much does your husband influence your contraceptive choice?
   1. Very strongly       2. Moderately          3. Little or no influence
   ..if answer 1 or 2, ask: Does your husband accept your contraceptive choices?
   1. Yes                 2. No

28 - How much did your husband effect your choice of the injectable?
   1. Very strongly       2. Moderately          3. Little or no influence
   .. if answer 1 or 2, ask: Does your husband accept you use of the injectable?
   1. Yes                 2. No

29 - How much does your mother-in-law influence your contraceptive choice?
   1. Very strongly       2. Moderately          3. Little or no influence
   ..if answer 1 or 2, ask: Does she accept your contraceptive choices?
   1. Yes                 2. No

30 - How much did your mother-in-law effect your choice of the injectable?
   1. Very strongly       2. Moderately          3. Little or no influence
   .. if answer 1 or 2, ask: Does she accept you use of the injectable?
   1. Yes                 2. No
VII - HEALTH

31 - How do you evaluate the effect of the injectable on your health?
   1. Good       2. Bad       3. Little effect or no influence

32 - Using the scale of severe, tolerable, or little effect, evaluate the effect of the
      injectable according to the following symptoms:
   1. Severe       2. Tolerable       3. Little or none
   a. Lost weight  d. Vaginal dryness.
   b. Headache     e. Menstrual problem
   c. Sleepless (insomnia)  f. Others.
      if answered 3 for (e), go to Q.34

33 - Does the injectable have an effect on the following aspects of your
      menstruation?
   1. Yes       2. No
   a. Amenorrhoea  
   b. Longer menstrual period
   c. Shorter menstrual period
   d. Spotting
   e. Prolonged bleeding
   f. Heavy bleeding
   g. Light bleeding
   h. Menstrual pain.

34 - What is the effect of the injectable on your sexual desire?
   1. Increase       2. Decrease       3. Unchanged       4. Don't know.

35 - What is the effect of the injectable on your feeling during sexual intercourse?

VIII - SERVICE

36 - How far from your house to the health center?
   (Hour/Minute by bicycle)
37 - How is transportation from your house to the health center?

38 - Do you have any financial difficulty for travel to the health center?
   1. Yes  2. No

39 - What is effect of the timing of injection on your work?
   1. Much effect  2. Normal effect  3. Little or no effect

40 - Have the doctors and midwives provided you with good service?
   1. Yes  2. No  3. Don't know
   (If yes, go to Q.42)

41 - In your opinion has there been any bad service provided by doctors and midwives?
   1. Yes  2. No  3. Don't know.

42 - Were they clear in explaining to you the advantages of the injectable?
   1. Clear  2. Unclear  3. Did not explain

43 - Were they clear in explaining to you the disadvantages of the injectable?
   1. Clear  2. Unclear  3. Did not explain

44 - Were they clear in explaining to you when you had to return for the next injection?
   1. Clear  2. Unclear  3. Did not explain

45 - Were they clear in explaining what to do if you have problem with the injectable?
   1. Clear  2. Unclear  3. Did not explain
FOR DISCONTINUERS ONLY!

46 - Did the following reason have a severe, moderate, or little effect on your decision to stop use of the injectable?
   1. Severe  2. Moderate  3. Little or none
   a. Desire for pregnancy
   b. Had side-effects
   c. Menstrual problems
   d. Did not like injection
   e. Injectable painful
   f. Nobody in Health Center when visited
   g. Unhappy with services
   h. Waited for a long time at clinic
   i. Husband disagree
   j. Did not remember the injectable schedule
   k. Too far from home to health center
   l. Other

47 - Would you accept if you had a chance to use this injectable again?
   1. Yes  2. No

48 - Although you have stopped using this method, would you suggest to other women that they use the method?
   1. Yes  2. No

Thank you very much for your cooperation.

Name of interviewer

Signature