A COMPARATIVE STUDY OF PILL AND IUD USERS IN INDONESIA

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A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS (POPULATION AND FAMILY PLANNING RESEARCH)

IN
FACULTY OF GRADUATE STUDIES
MAHIDOL UNIVERSITY
1993
A COMPARATIVE STUDY OF PILL AND IUD USERS IN INDONESIA

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A COMPARATIVE STUDY OF PILL AND IUD USERS IN INDONESIA

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ACKNOWLEDGMENTS

All praise, pride and glory to Almighty Allah who blessed me with the strength and spirit to undertake and complete this assignment.

I would like to express my deepest gratitude and appreciation to my major advisor, Dr. Philip Guest, for his strong efforts, attention, suggestions, and everlasting patience. Under his close guidance and tireless assistance I acquired the skill and found the will to complete this task. Without his supervision and support, this thesis would not have been complete.

I am also grateful to the members of my thesis advising committee, especially Dr. Bencha Yoddumnern-Attig, and Dr. Jumroon Mikhanorn whose suggestions and comments contributed to the enrichment of this thesis.

My heartfelt appreciation to Dr. Aphichat Chamratrithirong, director of the Institute of Population and Social Research, for selecting me to participate in this program. I would also like to thank Dr. Varachai Thongthai, for his kindness and assistance.

Sincere thanks to all lecturers, staff, administration, library, and computer units for their cooperation and friendship during my stay at Mahidol University.
I would like to express my gratitude to my sponsor, the United Nations Fund for Population Activities (UNFPA) in Jakarta, Indonesia, which provide a generous scholarship for this course.

My highest appreciation and gratitude to Drs. Sudarmadi, SKM., the Deputy of Research and Development, NFPCB, and Drs. Soegeng Waloejo, MPH., the Chief for Center Family Planning Studies, NFPCB, for gave me the opportunity and moral support to study in Thailand.

Finally, special love and thanks to my beloved mother Ny. Hajjah Prawiradisastra for her spiritual support. To my husband, my true love A. Lubis, and beautiful sons Mohandas and Reza Sultan, my everlasting love and devotion for your patience and understanding during my absence.

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6 May, B.E. 2537 (1994)

ABSTRACT

The objectives of this study are to establish the demographic, socioeconomic, program and geographic differentials among women using the pill and the IUD, as well as to examine the mechanisms through which the above factors affect pill and IUD use.

The findings showed that the relationship between background characteristics of respondent i.e. age, number of living children, educational attainment, current occupation, residence and region with current use of pill or IUD are statistically significant.

Contraceptive pill use is highest among young married women, with no or few children, with low education, who were not in labor force, were living in rural areas and who lived in outer Java/Bali I and outer Java/Bali II.

The IUD is preferred by older married women, with more than 2 children, with a higher educational level, who worked outside of agricultural sector, who stayed in urban areas and lived in Java/Bali.
Current age and method of choice is statistically significant for the number of living children. As the number of children increase, the reliance on the pill rather than the IUD increases regardless of the age of women.

Educational level of women has a positive association with method choice and remains statistically significant after controlling for current occupation, especially for women not in the labor force and women working in non-agricultural occupations. It is not significant for women in agricultural occupation.

Women were more likely to be using the IUD than the pill because they wanted a more effective method, the method was recommended by family planning worker and for convenience. Pill use was seen to be more likely to create side effects and problems of cost/accessibility and availability.

Women were more likely to be using the pill for spacing and more likely to be using the IUD for limiting. Motivation is related to contraceptive use, but is significantly different among age groups only among those with a limiting intention.

Educational level and method of choice is statistically significant for both spacing and limiting. Significant differences occur for each educational level among women who were using the pill for spacing. Women in rural areas are more likely to prefer using the pill to the IUD for spacing than in urban areas, and there was no difference between women in urban and rural areas who were using the IUD or pill for limiting purpose.
The implications from this study are useful for developing special IEC program to educate acceptors related to strength and weakness of the pill and IUD with proper guide for method choice for specific target groups of acceptors.
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CHAPTER I

INTRODUCTION

The 1990 Population Census records the total population of Indonesia at 179,321,641. Of this number there are more than 30 million couples eligible for family planning. They are distributed among 13,000 islands extending over an area of 3,400 miles. According to the latest projection, by the year 2000 Indonesia will have around 215 million people (Suyono, 1989).

The goal of the National Family Planning Movement is to create happy and prosperous small families. To accomplish this goal, the Family Planning Movement has worked to increase the number of new acceptors and decrease the birth rate. To support the decline of fertility in Indonesia, the Family Planning Movement attempts to protect eligible couple (ELCOs) from pregnancy. In 1990-1991 the target of ELCOs was 31.6 million couples. Some 18,771,971 couples used contraceptive methods, or 49.7 percent of ELCOs (Suyono, 1989).

In order to protect ELCOs from pregnancy, to reduce the birth rate, and achieve a net reproduction rate (NRR) of 1 by the year 2005, family planning practice is directed towards increasing the use of effective contraceptive methods (MKE). Of the 18.7 million ELCOs currently practicing family planning, 37.8 percent choose the pill, followed by 28.8
implants, 5.2 percent sterilization, and 2.4 percent the condom (BKKBN, 1992).

A major aim in providing contraceptive services in Indonesia is to reduce high levels of discontinuation by users. The BKKBN, based on extensive evaluation research, has found that in the Indonesian context the IUD is a more effective method of contraception than the pill. Therefore, the BKKBN has decided to try to shift acceptors from low continuation methods such as the pill to high continuation methods such as the IUD. However, the pill is more popular than the IUD, and there has been little change in its relative popularity over the last few years (Astawa, et al, 1975; Setiawan, et al, 1990; NICPS, 1987; IDHS, 1991).

To understand why this situation is occurring it is necessary to identify the characteristics of pill users versus IUD users. This will help BKKBN develop the most cost effective family planning method for particular target group of acceptors.

OBJECTIVES

The objectives of this study are:

1. To establish the demographic, socioeconomic, program (service) and geographic differentials among women using the pill and using the IUD.

2. To examine the mechanisms through which the above factors affect selection of pill or IUD as method of choice.
1.1 CONCEPTUAL FRAMEWORK

The conceptual framework used in the study is shown below in Figure 1.

Figure 1. Conceptual Framework of Comparative Study of Pill and IUD Users

<table>
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The conceptual framework outlined in Figure 1 is based on the premise that personal characteristics of the individual are instrumental in forming preferences for particular types of contraceptives. These factors can be divided into three categories as follows:

1). Demographic factors, such as age of the women and number of living children;

2). Socioeconomic factors of education and current occupation;

3). Geographic factors, including urban/rural residence and region.
However, these background characteristics do not operate directly to affect contraceptive choice. Three intervening factors are identified in the conceptual model: perceived side effects of particular methods, the availability and accessibility of methods, and motivation for use.

A limitation of this study is that the data available in the Indonesia Demographic and Health Survey, the source of data for this analysis, does not contain detailed information about accessibility and availability of contraceptive methods other than that which is currently used. Therefore it is not possible to obtain a direct measure of this set of intervening variables. However, for both side effects and availability an indirect measure based on the reason for use will be employed.

1.2 COMPARISON OF USE EFFECTIVENESS OF PILL AND IUD

The National Family Planning Coordinating Board (BBKBN) in Indonesia promotes "the cafeteria system" as the approach for delivering family planning services. It provides most of the modern contraceptive methods through its supply system including the pill, IUD, injectable, norplant, and condoms. Among these methods, the pill and IUD are the most widely used methods.

In Indonesia, the IUD is considered more effective than the pill. This conclusion is based on the results of several studies based on Indonesian data (Astawa, et al, 1975;
Setiawan, et al, 1990; Rahardjo, 1982). One study on family planning preference in Bali (Astawa, et al, 1975) revealed that at the end of 18 months, 86 percent of IUD users could be expected to continue using the IUD, whereas only 47 percent of pill users could be expected to be still using the pill. This study also found that 6 percent of pill users become pregnant during this 18 months period, whereas the failure rate among IUD users was only 2 percent.

Similarly, Setiawan, et al (1990) found that among IUD users, 50 percent reported continued use of the IUD 48 months after initial use. Among pill users, however, the median length of pill use was only 36 months. Rahardjo Pudjo (1982) also found that current IUD users tend to have higher continuation rates than current pill users, and these differences are more pronounced after 3 years.

The above findings show that the duration of use among IUD users is longer than the rate among pill users. Research findings in Indonesia and also indicate that IUD is more effective because it is more effective in preventing pregnancies than the Pill.

Clinically, differentials between the pill and the IUD, including the effectiveness, advantages, and disadvantages of these two method is discussed below:

* The pill contains hormones, that prevents a woman's body from releasing ovum. Without ovum, conception is impossible.
An IUD is a small plastic or plastic and cooper object that is placed into the womb. It prevents the woman's ovum and the man's sperm from joining.

Advantages

The Pill
1. Very effective.
2. Causes light, regular menstrual period with few or no cramps.
3. Does not interrupt sex.
4. May improve acne.
5. Helps protect against pelvic infections and some female concerns.

The IUD
1. Very effective.
2. Does not interfere with sex.
3. Inexpensive.
4. No supplies to get.
5. Nothing to do until the IUD needs to be replaced except to check the strings.

Disadvantages

The Pill
1. A women must remember to take a pill every day.
2. Side effects: some women may have mild nausea, dizziness, headaches, spotting, weight gain, or tender breasts, especially during the first months.
3. Sometime causes high blood pressure.
4. In rare cases may cause a blood clot in the legs or, especially in women over age 35 who smoke, a stroke or heart attack.

The IUD
1. May be painful when the IUD is inserted or removed.
2. Side effects: some women may have spotting and cramping between menstrual periods or painful, heavy menstrual periods.
3. May come out of the womb into the vagina.
4. May be easier to get pelvic inflammatory disease (PID) and become infertile, especially for women with more than one sexual partner.
Disadvantages

5. May very rarely perforate the womb during insertion, requiring surgery.

6. May be dangerous if the women becomes pregnant while she has an IUD.

1.3 FACTORS AFFECTING USE OF PILL AND THE IUD

Surveys in many developing countries have shown that contraceptive use is influenced by a variety of socio-demographic and behavioral factors (United Nations 1981: Morris, et al, 1981; Kamnuasilpa and Chamratrithirong, 1982, 1985). The following review briefly elaborates on the demographic, socioeconomic, and geographic factors, and the intervening processes, that effect choice of contraceptive method, concentrating on pill and IUD use.

1.3.1. Demographic Factors

Age

A study of contraceptive use and fertility in Thailand, found that at ages 15-19 slightly less than half of ever-married women had used the pill (Chamratrithirong, 1985). Levels of use of the pill reached a peak at ages 25-29, where 63 percent used the pill. IUD use, on the other hand, started
mainly at ages 20-24 and reached a peak at ages 35-39 where 17.8 percent of women used this method. This age pattern differential between pill users and IUD users has been shown to exist in developing societies as diverse as Indonesia (IDHS, 1991) and Nigeria (NDHS, 1990).

The pattern has also been found in developed countries. For example, Hall (1969) compared the characteristics of pill and IUD users participating in the Baltimore Public Program in the USA. She found that among both whites and non-whites, the pill reached women who were significantly younger than those reached by the IUD. Pill use also decreases sharply after age 24 in France and Great Britain and the IUD is most widely used by women between 30 and 34 (Riphagen and Lehert, 1989).

This pattern is most likely a result of younger women just starting their families deciding to space their births, while older women are more likely to have completed their families and to want to stop childbearing altogether. Younger women are spacing and hence are more likely to use temporary methods such as the pill, while older women are more likely to use more effective methods such as the IUD.

Number of Living Children

Data from the Indonesia Demographic and Health Survey 1991, found that eight percent of childless women were using a method of family planning, presumably to space their first
birth. These women tended to rely on the pill. As the number of children increased reliance on the pill diminished relative to the IUD. Hall (1969) found in the USA that the pill reached women who had fewer children than those reached by the IUD. Another US study found that pill users were concentrated at low parities (Cohrane, 1975).

1.3.2 Socioeconomic Factors

Education

In Indonesia contraceptive use increases with level of education. Slightly over one-third of currently married women with no education are using a method, compared to 59.4 percent of those with a secondary or higher education. Pill use varies erratically by education level, while use of the IUD increases with level of education (IDHS, 1991). The intervening variables that may cause the relationship between education and contraceptive use are unclear. Women with higher education tend to have more knowledge of contraceptive side effects, this may affect their choice of methods as they would choose those which they perceived to have fewer side effects.

Occupation

Links between contraceptive choice and occupation may be related to knowledge of efficiency or side effects. An
intriguing study of physician attitudes and family planning in Nigeria found that obstetricians and/or gynecologists and other specialists were more likely to be using an IUD than any other method, house officers were more likely to be using oral contraceptives (Covington, 1986). Study of oral contraceptive continuation rates in Singapore demonstrated that 80 percent of all oral acceptors are not working. A possible explanation may be that women who work outside their home are more likely to use the IUD because it is more practical and more effective than the pill.

1.3.3 Geographic Factors

Urban/Rural Residence

The National Contraceptive Prevalence Survey in Indonesia (1987) showed that rural women relied more heavily on the pill than did urban women, this pattern was the opposite for the IUD. Similarly, data from the Indonesia Demographic and Health Survey 1991, found 15.2 percent of rural women using the pill whereas 13.8 percent of urban women used the pill, with the IUD used more heavily by women in urban areas than in rural areas. The higher level of pill use in rural areas may be a result of the different composition of rural and urban areas in terms of education and other characteristics or it may be
a result of greater accessibility to the pill in rural areas compared to other methods.

Region

Data from the Indonesia Demographic and Health Survey 1991, revealed that women in Java/Bali had lower levels of use of the pill than women in Outer Java/Bali I and Java/Bali II region, whereas women accepted the IUD in Java/Bali at higher levels than in Outer Java/Bali I and Java/Bali II region. The family planning program were not initiated simultaneously throughout the country. In the first five year development plan (REPELITA) which covered the period 1969-1970 to 1973-1974, programs began in the six provinces of Java/Bali. In the next five-year plan, the program was expanded to the provinces in Outer Java/Bali I, and in the third PELITA the programs were expanded to Outer Java/Bali II region. Lower levels of IUD use in Outer Java/Bali I and Java/Bali II region may be a result of weak demand in conjunction with some supply problems. Medical complaints, limited accessibility to clinics in isolated areas and insufficient information, may all play a role in these regional differences (IDHS, 1991).
1.3.4 Intervening Process

Important factors influencing women to choose the pill or the IUD are motivation associated with spacing or limiting and perceived side effects of contraceptive methods.

Motivation Associated with Spacing and Limiting

A survey of contraceptive use in five West European countries found that in all the countries considered there was a higher use rate for oral contraceptives by women who wanted to postpone a birth, but the association was much less noticeable for the IUD. The pill is apparently widely used for child spacing, while the IUD serves both for spacing and completion of childbearing. The Demographic and Health Survey 1987 in Trinidad and Tobago demonstrated that the timing of introduction of contraception has implications for the choice of method. First use of contraception early in the family building process implies a postponement of the first birth and the need for temporary methods of contraception, first use at later stages implies the need for more effective methods to limit births.

Perceived Side Effects of Contraceptive Methods

A women's perception of the safety of oral contraceptives and the IUD may affect use. These perception are, however, based on the effect of knowledge about different family
planning methods as well as rumors and misconceptions. In order to counteract rumors and misconceptions, IEC programs and activities may be employed and service delivery improved through trainings/retraining of medical and other program service providers. There are varying degrees of doubt about the IUD, but oral contraceptives evoke serious concerns as to health risk in all five countries of a European study, with French respondents seeing the pill as the most dangerous to health. Weight gain, headache and painful breasts were widely seen as disadvantages, though there were variations in responses among countries. More serious were the high proportions of women, especially in Great Britain and the Federal Republic of Germany, who thought that there was risk of permanent infertility after long-term use and higher risk of heart disease and cancer. These high proportions illustrate the extent of the bad reputation of oral contraception.

The amount of negative press attention given to this aspect of the pill seems to have had some effect on use. But the positive response to possible advantages of the pill was also very strong in all five countries, and the balance between drawbacks and positive elements is apparently still favorable enough to make oral contraception attractive to many women (Riphagen and Lehert, 1989). Similarly a study on family planning attitudes in urban Indonesia found that although the pill is the most widely known and used method of contraception
there are fears of side effects. The commonly mentioned side effects of the pill are the possibility of weight change; unsuitability for heart patients and for those with high blood pressure, hypertension, or varicose veins; interference with breastfeeding; and the concern that it may cause infertility. A number of women stopped using the pill because of side effects, some upon medical (midwife/doctor) advice. Generally, the pill's side effects are not considered serious, and they appear to be outweighed by the pill's effectiveness and relative ease of use. The IUD, although widely used, is less well known and less accepted than the pill. Some women clearly shudder at the thought of IUD use. The major perceived disadvantages are seen as: distaste at having a foreign body inside the uterus, a fear of bleeding or miscarriage, the need to have it 'fitted' by a doctor, the perception that it is not 100 percent effective; pregnancies can develop outside the womb; babies can be born with marks or with the IUD implanted; it causes discomfort and can be felt during intercourse; the man cannot 'go as far in'; and it is not suitable for poorer people who have no servant and who must do their own housework (Suyono, et al, 1981).

The safety scores reveal that the IUD and Pill are perceived as the two most unsafe methods for the users health. The IUD has the least favorable score for safety among all five methods, followed by the pill (Tanfer and Emily, 1986).
A study of contraceptive practice of Thai women 1987 revealed that IUD was also affected by the rumor of method failure (Leoprapai and Varachai, 1987).

Program Factors

Although measures of availability and accessibility are not available directly for this study they are important intervening mechanisms in the choice of method and therefore the effects are discussed below.

For a family planning program to succeed, the program must make family planning available and accessible by providing the services and informing the public of service locations. Thus, widespread availability and accessibility of family planning service is a crucial element for successful family planning program. Differential availability and accessibility of family planning services will affect the choice of the pill or the IUD. The affect is also related to financial cost and convenience of contraceptive methods.

A study of accessibility of contraception in Indonesia revealed that in the urban areas the pill was more readily available than IUD. For almost all women, pills were available in hospitals and health centers. On the other hand IUDs were available mainly in clinics. About half of the hospitals, health centers and clinics supplied the pill free. If there were charges they were lowest in health centers, where clients
were charged only for administrative costs not the cost of the pill. As with the pill, the cheapest place to have an IUD insertion was the health centers. IUDs were much more expensive in hospitals and clinics. IUDs were available from the nearest private doctors for only about a quarter of women, but this may not be very important in an urban area, because if the nearest doctor does not insert the IUD another closeby would.

In the rural areas the cheapest places to obtain pills (aside from a family planning worker) were the health centers, because these were all government facilities, which charged only for administrative costs. While the IUD was obtained mainly from hospitals, health centers and clinics.

A study of the influence of health care on contraceptive acceptance in rural Mexico found that pills were almost universally available in the public sector. Whereas IUDs were currently available in all of the IMSS installations and most of those administered by SSA (hospital) (Potter, et al, 1987). A similar study in the United States found that the pill is considered to present the least interference and to be the most convenient and practical method to use. Hatcher, et.al (1978), as cited in Sciarra (979) estimate, that the IUD is perceived as the most expensive method by women and there are significant differences in the cost perceptions of other methods.
A study in Thailand found that an increase in the price of a particular type of contraceptive will reduce the likelihood of that method being used, but the magnitude of that reduction appears to be small. The IUD had the lowest elasticities followed by the publicly provided pill (Ashakul, 1984). This indicates that for women with high motivation, price is not a major obstacle when it comes to using the IUD, but that price is more important with respect to the use of the pill. A study of accessibility to contraceptives in Indonesia found that the average round trip travel cost to the cheapest source of the pill was 500 rupiah (the highest was 3,000), and the pill was free to most women. Similarly a study in Indonesia found that the relationship between current use of pill and each of the four measures of contraceptive accessibility (travel cost, distance, facility, and travel time) were all weak or statistically insignificant. The one exception was between the travel time to the nearest source of the pill and the prevalence of the pill. Findings showed that the prevalence rate of the pill increased by 0.16 percent points for every extra minute travel. Only 11 percent of the respondents lived more than 40 minutes travel time from the nearest sources of the pill. Nonetheless, a high percentage of women in comparatively remote areas used the pill. One explanation is that in these areas the pill can be obtained more easily from outreach workers than the IUD (IDHS, 1991).
As with the pill, health centers were for most women (two thirds) the nearest source of the IUD in terms of both time and distance, followed by clinics (a quarter), and hospitals (a tenth). Travel costs were less than 2,000 rupiah for almost all women, which is cheap considering that the IUD does not need many visits. A study of contraceptive use and fertility in Thailand revealed that women had to travel approximately 20 minutes to get the pill, whereas travel time for the IUD was slightly less than one hour.

1.4 SITUATION IN INDONESIA

1.4.1 Contraceptive Use in Indonesia

In its two decades of existence, the National Family Planning Program has successfully contributed to a reduced birth rate in Indonesia. The Total Fertility Rate (TFR) has declined considerably compared to the situation a decade ago. The Indonesia Demographic and Health Survey (IDHS) conducted in 1991 revealed that TFR had decreased from 5.61 in 1971 to 3.02 in 1991. Close to 95 percent of married women of reproductive age reported that they knew at least one family planning method and half of the currently married women in Indonesia (59.3 percent) were using a method.

Based on effectiveness, contraceptive methods in Indonesia are categorized into 3 groups: first, permanent
methods such as tubectomy and vasectomy; second, effective methods such as IUD and norplant; and third, less effective methods such as the pill, condom and injectable.

The 1987 National Indonesia Contraceptive Prevalence Survey (NICPS) found the percentage of contracepting couples using the pill was 33.8 percent and the IUD 27.7 percent. Whereas the 1991 Indonesia Demographic and Health Survey (IDHS) shows the respective percentages as 29.7 percent for the pill and 26.9 percent for the IUD.

1.4.2 Indonesia's Contraceptive Services

The cafeteria approach (system) has consistently been the policy employed for providing contraceptives in Indonesia. The reason for this policy is that it gives users choices to suit their individual and biological preferences, so that all couples can be protected by using some kind of modern contraceptive method.

The contraceptive methods provided and distributed by the national program are, various brands of oral contraceptive pills, condoms, injectables, IUDs and implants. Sterilization, at present, is provided by non-government organization family planning services. Abortion and menstrual regulation as methods of reducing fertility are not part of the Indonesia Family Planning Program.
The Oral Pill

This is the most popular method, used by only 158,419 women between 1971-1972 but more than 7 million at the end of fiscal year 1985-1986. There were 22 million cycles distributed in the year 1975-1976, but, ten years later in 1984-1985, there were over 100 million cycles distributed.

The provision of oral pills in the family planning program is through all available channels (family planning clinic, mobile team, hospital, private practice), and for resupply they are also available through family planning field workers and family planning cadres in the village contraceptive distribution centers.

The IUD

In Indonesia, IUDs that have been used are Lippes Loop, Cooper T and ML 250. Since these devices have a relatively high continuation rate, the program has placed an emphasis on encouraging women to use the IUD. As far as the national program is concerned, this is the method of choice in Indonesia for both spacing pregnancies and controlling the size of families.

The insertion of an IUD is conducted by doctors and trained midwives, both in a clinical and in non-clinical settings. The training for IUD insertion by midwives is very important because the majority of people who live in rural
areas prefer to be attended by midwives rather than by male doctors.

1.5 Hypotheses:

1. The probability of use of the pill versus the IUD will be higher for young women compared to older women.

2. The probability of use of the pill versus the IUD will be higher for women having less children compared to women having more children.

3. The probability of use of the pill versus the IUD will be higher for women with high education compared to women with low education.

4. The relative probability of use of the pill versus the IUD will be higher for women in the labor force compared to women not in labor force.

5. The relative probability of use of the pill versus the IUD will be higher for women living in rural areas compared to women living in urban areas.

6. The relative probability of use of the pill versus the IUD will be higher for women who perceive side effects of contraceptive method compared to women not perceive side effect of contraceptive methods.

7. The relative probability of use of the pill versus the IUD will be higher for women had motivation for limiting compared to women had motivation for spacing.
2.1 DEFINITION OF VARIABLES

To examine the choice of pill and IUD, data from a recently completed survey in Indonesia is used. Intensive information about knowledge and practice of family planning and background characteristics of current users of contraceptives were collected in the survey.

The independent variables used in this study are:

1) Demographic Factors

Current age: the age of currently married women at the time of the interview, grouped as:

- 15-19 years
- 20-24 years
- 25-29 years
- 30-34 years
- 35-39 years
- 40-44 years
- 45-49 years

Number of living children: the total of number of living children, classified as:

- 0-1 child
- 2 children
- 3 children
- 4 children and more

2) Socioeconomic Factors

Educational attainment: the level of formal education that women have completed, classified as:
. No education
. Primary school
. Secondary school
. High school and more.

Occupational status: the status of the women's occupation at the time of interview:

. Not in agricultural employment
. Agriculture
. Not working

3) Geographic Factors

Area of residence:

. Urban
. Rural

Region (family planning development program):

. Java/Bali Island
. Outer Java/Bali I
. Outer Java/Bali II

The intervening variables used in this study are:

1) Perceived side effects: There was limited information about side effects collected in IDHS, 1991. In this analysis perceived side effects are measured by the reason women chose their current contraceptive method (pill or IUD). This variable is also used to investigate the availability and accessibility of methods. These reasons are grouped in 6 categories namely:

. Recommendation of family planning worker
. Side effect of other method
. Convenience
. Cost/accessibility and availability
. Wanted more effective method
. Other (friend/relative, husband preferred).
2) Motivation is measured by the desire of women to have additional children. If a woman plans to have another child she is considered to use contraceptives for spacing purposes. On the other hand, if a woman does not want to have any more children she is considered to use contraceptives for limiting purposes.

2.2 SOURCE OF DATA

This study uses data from The Indonesian Demographic Health Survey 1991. The IDHS was conducted from May 1991 to July 1991, by the Central Bureau of Statistics, the National Family Planning Coordinating Board, the Ministry of Health, and IRD/Westinghouse.

The sample was representative of the country, which has 27 provinces, urban and rural areas and three regions. The IDHS sample was a sub-sample of the 1990 Population Census Sample. A two stage sampling procedure was employed. First, enumeration areas (EAS/Wilcah) were selected with probability proportional to size within the urban and rural domain in each province. The total number of EAS/Wilcah selected were 1,777. In the second stage individual households were selected within each EAS.

IDHS data collection was carried out by 178 female interviewers, 56 male field supervisors and 34 field editors. Each of the 56 teams consisted of two to four interviewers,
one field editor and one supervisor. The total number of respondents were 22,909 ever-married women, and 21,187 (unweighted) or 21,109 (weighted), currently married women of 15-49 years. They were interviewed to obtain information about the following:

- Respondent background
- Birth history/ reproductive
- Knowledge and practice of family planning
- Maternal care and breastfeeding
- Immunization and health children
- Marriage
- Fertility preference
- Spouse's background, residence and employment

This study focuses on the 5945 married women who were using the pill or IUD at the time of the interview.

2.3 ANALYSIS OF DATA

The analysis of data in this study is based on frequency distributions and cross-tabulations of specific variables. The relationship between selected variables is tested using chi-square to determine whether or not the relationships are statistically significant.
CHAPTER III

RESULTS

Figure 2 presents data on levels of current contraceptive use. The results show that 29.7 percent of currently married women in Indonesia were using the pill, 26.8 percent using the IUD, and 23.5 percent injection. These contraceptives are the most commonly used methods, together accounting for about 80 percent of current users. Permanent methods such as female sterilization and male sterilization were used by only 6.8 percent. Other contraceptive methods account for lower percentages: Norplant 6.3 percent, traditional methods (periodic abstinence, withdrawal, herbs, and massage) 5.3 percent, and condoms and diaphragm 1.6 percent.

Figure 2. Percent Distribution of Currently Married Women By Contraceptive Method

SOURCE: IDHS, 1991
3.1 Background Characteristics of Women Using the Pill and the IUD

This section of the study discusses the distribution of women by selected demographic, socioeconomic, program and geographic differentials among women using the pill and the IUD.

Age is one of the most strongly related variables with choice of contraceptive method. From Table 1, it can be seen that the youngest women are much more likely to be using the pill than the IUD (77.3 vs 22.7). As the age of women increase, use of the pill decreases and women are more likely to use the IUD, especially after the age of 35 years. Younger women tend to use the pill more than the IUD, perhaps because they have just started their families and therefore use the pill for spacing or delaying their births. Whereas older women generally have already completed their families. They want to stop their births, therefore they may use the IUD because it is more effective.

As with age, the number of living children is a significant correlate of choice of family planning method. The data indicates that women with 1 child or no children use the pill more than the IUD (61.4 vs 38.6). This pattern changes where the women have more than two children, they tend to use the more effective method of the IUD. This suggests that as women reach their desired family size, they switch from
temporary methods such as the pill to more permanent methods.

The results also show that women with low levels of education are more likely to use the pill than the IUD, whereas women with high levels of education are more likely to use the IUD. The largest difference occurs between those with a primary school education and those with a secondary or higher level of education. The highest percentage (68.7) using the IUD is women with a high school education or more.

Occupation is used as a proxy variable for measuring the socio-economic status of women. From Table 1, it can be seen that women not working are more likely to use the pill than the IUD (58.9 vs 41.1), while women working outside of agriculture are more likely to use the IUD (53.3 vs 46.7). Two factors may be operating to influence women not working and working in agriculture to rely more on the pill than the IUD. The first is that these women, compared to others, are probably from a lower socio-economic background. Therefore they choose the pill because it is cheaper. The other factor could be related to rumors about the IUD. Some women believe that the IUD it is not suitable for poor women who have no servant and who must do their own house work or heavy agricultural work.

The pill is more popular than the IUD in rural areas, while the reverse is found in urban areas. A possible explanation is that community participation in delivering the
pill is very high in the rural areas, and this means that the pill is more available. However, the rural/urban difference is not great.

Table 1  Percentage distribution of currently married women 15-49 using Pill or IUD by selected background characteristics, IDHS, 1991

<table>
<thead>
<tr>
<th>Background characteristics</th>
<th>Current Users</th>
<th>Total</th>
<th>Number women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pill</td>
<td>IUD</td>
<td></td>
</tr>
<tr>
<td>Current age *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-19</td>
<td>77.3</td>
<td>22.7</td>
<td>100.0</td>
</tr>
<tr>
<td>20-24</td>
<td>58.3</td>
<td>41.7</td>
<td>100.0</td>
</tr>
<tr>
<td>25-29</td>
<td>58.0</td>
<td>42.0</td>
<td>100.0</td>
</tr>
<tr>
<td>30-34</td>
<td>54.5</td>
<td>45.5</td>
<td>100.0</td>
</tr>
<tr>
<td>35-39</td>
<td>48.6</td>
<td>51.4</td>
<td>100.0</td>
</tr>
<tr>
<td>40-44</td>
<td>39.5</td>
<td>60.5</td>
<td>100.0</td>
</tr>
<tr>
<td>45-49</td>
<td>37.1</td>
<td>62.9</td>
<td>100.0</td>
</tr>
<tr>
<td>Number of living children *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-1 child</td>
<td>61.4</td>
<td>38.6</td>
<td>100.0</td>
</tr>
<tr>
<td>2 children</td>
<td>52.5</td>
<td>47.5</td>
<td>100.0</td>
</tr>
<tr>
<td>3 children</td>
<td>49.7</td>
<td>50.3</td>
<td>100.0</td>
</tr>
<tr>
<td>4 children and more</td>
<td>48.1</td>
<td>51.9</td>
<td>100.0</td>
</tr>
<tr>
<td>Educational attainment *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No education</td>
<td>55.3</td>
<td>44.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Primary</td>
<td>57.7</td>
<td>42.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Secondary</td>
<td>43.8</td>
<td>56.2</td>
<td>100.0</td>
</tr>
<tr>
<td>High and more</td>
<td>31.3</td>
<td>68.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Current occupation *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not agriculture</td>
<td>46.7</td>
<td>53.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Agriculture</td>
<td>52.5</td>
<td>47.5</td>
<td>100.0</td>
</tr>
<tr>
<td>Not working</td>
<td>58.9</td>
<td>41.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Residence *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>49.3</td>
<td>50.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Rural</td>
<td>54.0</td>
<td>46.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Region *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Java/Bali</td>
<td>47.4</td>
<td>52.6</td>
<td>100.0</td>
</tr>
<tr>
<td>Outer Java/Bali I</td>
<td>64.8</td>
<td>35.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Outer Java/Bali II</td>
<td>63.1</td>
<td>36.9</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>52.6</td>
<td>47.4</td>
<td>100.0</td>
</tr>
</tbody>
</table>

* Significant at p < 0.01.
The family planning program in Indonesia was not initiated simultaneously among regions. The program was started first in Java/Bali, then Outer Java/Bali I and Outer Java/Bali II. Among regions, current use of both the pill and the IUD in Java/Bali is higher than in Outer Java/Bali I and Outer Java/Bali II. It is because the national family planning program was started five to ten years earlier in Java/Bali than in the Outer Islands that this area has the highest rate of contraceptive prevalence.

In Java/Bali the IUD is more popular than the pill, whereas in Outer Java/Bali I and Outer Java/Bali II women are more likely to use the pill than the IUD. This may be because in Java/Bali there has been a longer time to promote more effective methods such as the IUD. Also information, education, and communication (IEC) about the IUD is stronger in Java/Bali, and the IUD is more accessible and available than in the Outer Islands. Limited IEC, accessibility and availability to sources of supply are possible explanations for the relative lack of IUD acceptance in Outer Java/Bali I and Outer Java/Bali II.

As shown in Table 1, younger women tend to use the pill more than the IUD, but as age increases the pattern reverses. When the age of women is controlled by the number of living children this pattern still remains (see Table 2). As the number of children increases, the reliance on the pill
diminishes relative to the IUD, regardless of the age of women. Hence two pattern are operating. One affect appears to be related to a desire to limit fertility and therefore switch to a more permanent method such as the IUD. The other pattern could be related to aging, younger women find it more convenient to use the pill rather than the IUD, or could be a cohort phenomena, i.e. older women were exposed first to the IUD early in the program. However, as the pill has been available in the program for many years it is probably an aging effect. This has policy implications as it suggests that for younger women it is necessary to stress the convenience of use of the IUD as well as its effectiveness.

Table 2 Percentage distribution of currently married women 15-49 using Pill or IUD by age and number of living children, IDHS, 1991

<table>
<thead>
<tr>
<th>Current Age</th>
<th>Pill</th>
<th>IUD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0-1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>*</td>
<td>*</td>
</tr>
<tr>
<td>15-19</td>
<td>76.8</td>
<td>94.0</td>
</tr>
<tr>
<td>20-24</td>
<td>59.2</td>
<td>56.9</td>
</tr>
<tr>
<td>25-29</td>
<td>60.8</td>
<td>56.3</td>
</tr>
<tr>
<td>30-34</td>
<td>53.3</td>
<td>52.0</td>
</tr>
<tr>
<td>35-39</td>
<td>57.8</td>
<td>43.4</td>
</tr>
<tr>
<td>40-44</td>
<td>28.0</td>
<td>41.2</td>
</tr>
<tr>
<td>45-49</td>
<td>82.9</td>
<td>44.2</td>
</tr>
<tr>
<td>Total</td>
<td>61.4</td>
<td>52.5</td>
</tr>
<tr>
<td>Total Women</td>
<td>806</td>
<td>896</td>
</tr>
</tbody>
</table>

* Significant at p < 0.01.
The results in Table 3 indicate that when the education level of women is controlled by current occupation, differences in use between the IUD and the pill is much stronger than when occupation is examined by itself. Most women in agricultural occupations have lower education than those in non-agriculture. Agricultural occupations are also concentrated in rural areas, and women in rural areas are more likely to use the pill than the IUD, because the pill is cheaper and more accessible than the IUD. Women in non-agricultural occupations have higher education, associated with a higher socio-economic level, and are concentrated in urban areas. Women in urban areas are more likely to use IUD because it is more practical and more effective, and they are able to pay for the services and supplies.

Table 3 Percentage distribution of currently married women 15-49 using Pill or IUD by highest educational level and current occupation, IDHS, 1991

<table>
<thead>
<tr>
<th>Educational Levels</th>
<th>Pill</th>
<th>IUD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Not-agri-</td>
<td>Agri-</td>
</tr>
<tr>
<td></td>
<td>culture</td>
<td>work</td>
</tr>
<tr>
<td>No education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>51.9</td>
<td>51.9</td>
</tr>
<tr>
<td>Secondary</td>
<td>56.2</td>
<td>52.9</td>
</tr>
<tr>
<td>High and more</td>
<td>37.6</td>
<td>54.7</td>
</tr>
<tr>
<td>Total</td>
<td>29.9</td>
<td>29.6</td>
</tr>
<tr>
<td>Total women</td>
<td>46.7</td>
<td>52.5</td>
</tr>
<tr>
<td></td>
<td>880</td>
<td>1170</td>
</tr>
</tbody>
</table>

* Significant at p < 0.01.
The results in this table show that the highest percentage of IUD users are women with higher educational levels for all current occupation (not work, work in agricultural, and non-agricultural), and the differences among the occupational groups are not great (65.6 vs 70.4 vs 70.1). This perhaps reflects the greater opportunity for highly educated women to obtain knowledge about the relative efficiency of the IUD. In the non-agricultural groups there is a large jump in IUD use between the primary and secondary education groups. This increase is not evident for the agricultural group. This may be due to the perception that the IUD is not suitable for women engaged in physical work.
3.2 Reason for Women Using the Pill or the IUD

The following section presents information on the distribution of women by reason for use of the pill or the IUD. The results in Table 4 indicate that women who wanted a more effective method were more likely to be using the IUD than the pill (60.6 vs 39.4), followed by recommendation from family planning worker (59.3 vs 40.7) and convenience (54.1 vs 45.9). Whereas pill use was more likely where side effects were mentioned (60.3 vs 39.7) and cost/accessibility and availability (91.8 vs 8.2).

Women who wanted a more effective method relied on the IUD because it seems they are aware that the effectiveness of the IUD is higher than the pill. One insertion of IUD can protect women for 3 to 5 years from pregnancy.

In Indonesia, family planning field worker supervisors (FPPWs) and family planning field workers (FPPWs) have a very important role. They have the function of the operational controller of the family planning program, especially at the district and at the village level. One of these functions is to promote more effective methods such as the IUD. Table 4 indicates that among IUD users many are using the IUD because of recommendation from family planning field workers.

Some women also prefer the IUD because they feel that the IUD is more convenient than the pill. Taking the pill daily can lead to forgetting, and hence result in unwanted pregnancy.
Table 4  Percentage distribution of currently married women 15-49 using Pill or IUD, according to reason for use, IDHS, 1991

<table>
<thead>
<tr>
<th>Reason for use</th>
<th>Current Users</th>
<th>Total</th>
<th>Total women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pill</td>
<td>IUD</td>
<td></td>
</tr>
<tr>
<td>Recom P.P. worker</td>
<td>40.7</td>
<td>59.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Side effect others</td>
<td>60.3</td>
<td>39.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Convenience</td>
<td>45.9</td>
<td>54.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Cost/accessibility and availability</td>
<td>91.8</td>
<td>8.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Want more effective</td>
<td>39.4</td>
<td>60.6</td>
<td>100.0</td>
</tr>
<tr>
<td>Others</td>
<td>55.7</td>
<td>44.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Don't know</td>
<td>49.9</td>
<td>50.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>52.6</td>
<td>47.4</td>
<td>100.0</td>
</tr>
</tbody>
</table>

* Significant at p < 0.01.

The results also suggest that women who rely on the pill believe that pill has less side effects than other methods. This reason is probably associated with previous experience, where women perceive side effects when they use other methods.

The provision of contraceptive pills in the family planning program in Indonesia is through channels such as: family planning clinic, mobile team, hospital, health centers, and for resupply also through family planning field workers, village cadres and integrated services post (Posyandu). These channels make contraceptive pill available and accessible to acceptors. About half of the hospitals, health centers and clinics supply the pill free. If they charge, it is for
administrative cost and not the cost of the pill, especially in health centers.

The results indicate that women are more likely to use the pill than the IUD because of consideration of cost and accessibility. However, it should be noted that only about 12% of women noted this as a reason for use.

The results in Table 5 indicate that the relationship of educational level and method choice is significantly different for the following reasons: wanted more effective method, perceived side effect of other methods, convenience, and other reasons. Importantly, there was no significant variation among educational levels for recommendation by family planning worker or cost, accessibility and availability. This implies that the family planning program, and it's supply network, influence all groups equally.

The data indicate that for those women who wanted a more effective method, in each educational group more were likely to be using the IUD than the pill. The largest difference, however, occurs for those with an educational level of secondary and above, compared to those with a lower level of education. For the highly educated who gave wanting a more effective method as the reason for choice, around three-quarters were using the IUD, compared to only about 50 percent of those with a primary school education or below. Women with higher educational level who want a more effective method are
more likely to be using the IUD than the pill compared with
women in lower educational level because higher educational
level is may be associated with higher knowledge about
contraceptive methods. Therefore, they choose the IUD because
they know that it is more effective than the pill.

The results also indicate that the second most frequent
reason why women were using their current method is because of
the side effects of other methods. The relative use of pill
and IUD differs significantly by educational level for women
who gave this reason. More than 62 percent of women in primary
level of education or below, were more likely to be using the
pill compared to the IUD, while less than 42 percent in higher
level of education are using the pill. Thus, fear of the side
effects are more likely to lead women with low education using
the pill rather than the IUD while the reverse is true for
women with higher education. It is obvious that more research
needs to be undertaken as to why different levels of education
are related to different reactions to perceived side effects.

Women who said that they were using their current method
because of convenience were generally more likely to be using
the IUD. The difference is seen among women who gave this
reason in each educational level except the lowest. The
largest difference is for women in the highest educational
category (more than 70 percent using the IUD) compared with
women without education, (around 45 percent using the IUD).
Table 5  Percentage distribution of currently married women 15-49 using Pill or IUD by educational level and reason for use, IDHS, 1991

<table>
<thead>
<tr>
<th>Educational level</th>
<th>Current Users</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pill</td>
<td>IUD</td>
<td>Total</td>
<td>Total</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recom. F.P Worker</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never study</td>
<td>41.1</td>
<td>58.9</td>
<td>100.0</td>
<td>218</td>
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<td>Primary</td>
<td>40.5</td>
<td>59.5</td>
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<td>559</td>
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<td>Secondary</td>
<td>40.8</td>
<td>59.2</td>
<td>100.0</td>
<td>42</td>
</tr>
<tr>
<td>High and more</td>
<td>39.7</td>
<td>60.3</td>
<td>100.0</td>
<td>43</td>
</tr>
<tr>
<td>Total</td>
<td>40.7</td>
<td>59.3</td>
<td>100.0</td>
<td>863</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Side Effect Others *</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never study</td>
<td>68.1</td>
<td>31.9</td>
<td>100.0</td>
<td>136</td>
</tr>
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<td>Primary</td>
<td>63.0</td>
<td>37.0</td>
<td>100.0</td>
<td>813</td>
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<tr>
<td>Secondary</td>
<td>57.7</td>
<td>42.3</td>
<td>100.0</td>
<td>122</td>
</tr>
<tr>
<td>High and more</td>
<td>41.4</td>
<td>58.6</td>
<td>100.0</td>
<td>159</td>
</tr>
<tr>
<td>Total</td>
<td>60.3</td>
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</tr>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Convenience *</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never study</td>
<td>54.6</td>
<td>45.4</td>
<td>100.0</td>
<td>96</td>
</tr>
<tr>
<td>Primary</td>
<td>48.8</td>
<td>51.2</td>
<td>100.0</td>
<td>511</td>
</tr>
<tr>
<td>Secondary</td>
<td>40.7</td>
<td>59.3</td>
<td>100.0</td>
<td>97</td>
</tr>
<tr>
<td>High and more</td>
<td>28.3</td>
<td>71.7</td>
<td>100.0</td>
<td>105</td>
</tr>
<tr>
<td>Total</td>
<td>45.9</td>
<td>54.1</td>
<td>100.0</td>
<td>809</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Cost/access/availability</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Never study</td>
<td>92.2</td>
<td>7.8</td>
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<td>121</td>
</tr>
<tr>
<td>Primary</td>
<td>91.4</td>
<td>8.6</td>
<td>100.0</td>
<td>510</td>
</tr>
<tr>
<td>Secondary</td>
<td>98.1</td>
<td>1.9</td>
<td>100.0</td>
<td>47</td>
</tr>
<tr>
<td>High and more</td>
<td>87.5</td>
<td>12.5</td>
<td>100.0</td>
<td>33</td>
</tr>
<tr>
<td>Total</td>
<td>91.8</td>
<td>8.2</td>
<td>100.0</td>
<td>711</td>
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### Table 5 (continued)

<table>
<thead>
<tr>
<th>Educational level</th>
<th>Current Users</th>
<th>Total</th>
<th>Total women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pill</td>
<td>IUD</td>
<td></td>
</tr>
<tr>
<td>Never study</td>
<td>45.4</td>
<td>54.6</td>
<td>100.0</td>
</tr>
<tr>
<td>Primary</td>
<td>48.4</td>
<td>51.6</td>
<td>100.0</td>
</tr>
<tr>
<td>Secondary</td>
<td>25.3</td>
<td>74.7</td>
<td>100.0</td>
</tr>
<tr>
<td>High and more</td>
<td>20.9</td>
<td>79.1</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>39.4</td>
<td>60.6</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Wanted more effective method</strong> *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never study</td>
<td>44.4</td>
<td>55.6</td>
<td>100.0</td>
</tr>
<tr>
<td>Primary</td>
<td>62.0</td>
<td>38.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Secondary</td>
<td>59.0</td>
<td>41.0</td>
<td>100.0</td>
</tr>
<tr>
<td>High and more</td>
<td>35.4</td>
<td>64.6</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>55.7</td>
<td>44.3</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Others</strong> *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never study</td>
<td>44.5</td>
<td>55.5</td>
<td>100.0</td>
</tr>
<tr>
<td>Primary</td>
<td>57.6</td>
<td>42.4</td>
<td>100.0</td>
</tr>
<tr>
<td>Secondary</td>
<td>13.8</td>
<td>86.2</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>49.9</td>
<td>50.1</td>
<td>100.0</td>
</tr>
</tbody>
</table>

*Significant at $p < 0.01$.

Women with lower education are more likely to be using the pill than the IUD for convenience, as lower educational level is associated with less opportunity to work outside the home. Women without an occupation and who stay at home prefer using the pill probably because taking the pill daily is no problem for them and they feel it is more convenient than using other methods.
3.3 Motivation of Women Using the Pill or the IUD

Motivation is a major factor affecting women's decisions to choose a contraceptive method. This section covers information about motivation of women using the pill or the IUD measured by spacing and limiting intentions.

The data presented in Figure 3 show that women using a contraceptive method for spacing were more likely to use the pill than the IUD (64.1 vs 35.9). Generally, the aim of women using a contraceptive method are for spacing or for limiting births. The pill is the simplest method for women to use to space or delay their births because the character of pill is temporary, ie. for pill users it is easy to stop this method if they want.

**Figure 3**

PERCENT DISTRIBUTION CURRENTLY MARRIED WOMEN USING PILL AND IUD BY MOTIVATION

SOURCES: DHS, 1991
On the other hand, women using contraceptives for limiting were more likely to use the IUD than the pill (54.2 vs 45.8). The IUD is more permanent than the pill, therefore for those that wish to terminate fertility the IUD is more effective.

As shown in Figure 3, women who have motivation for spacing their births are more likely to use the pill than the IUD. Also Table 1 indicates that younger women are more likely to use the pill than the IUD. When the age of women using the pill or the IUD is controlled by motivation, the pattern remains essentially similar for each group, with between 60 and 65 percent of those spacing using the pill (see Table 6).

The results also indicate that while motivation is related to contraceptive use, it is significantly different among those with limiting intention compared to those with spacing by the different age groups. There is a significant difference by age among these women using contraception to limit their fertility, with 55 percent of women in the youngest age group and 57 percent in oldest age group using the IUD. It is possible that some women aged 25-34 may still not be completely sure about their motivation and hence continue to use the pill even though they think they might want to limit fertility. It is probably this group which are prime target in getting women to shift from the pill to the IUD.
Table 6  Percentage distribution of currently married women 15–49 using Pill or IUD by current age and motivation, IDHS, 1991

<table>
<thead>
<tr>
<th>Current age</th>
<th>Current Users</th>
<th>Spacing</th>
<th>Limiting *</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pill</td>
<td>IUD</td>
<td>Total</td>
</tr>
<tr>
<td>15–24</td>
<td>64.6</td>
<td>35.4</td>
<td>100.0</td>
</tr>
<tr>
<td>25–34</td>
<td>64.0</td>
<td>36.0</td>
<td>100.0</td>
</tr>
<tr>
<td>35–49</td>
<td>61.9</td>
<td>38.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>64.1</td>
<td>35.9</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>44.8</td>
<td>55.2</td>
<td>100.0</td>
</tr>
<tr>
<td>25–34</td>
<td>50.6</td>
<td>49.4</td>
<td>100.0</td>
</tr>
<tr>
<td>35–49</td>
<td>42.2</td>
<td>57.8</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>45.8</td>
<td>54.2</td>
<td>100.0</td>
</tr>
</tbody>
</table>

* Significant at $p < 0.01$.

The data in Table 7 indicate that the relationship of educational level of women and method choice is statistically significant for both spacing and limiting. Differences occur at each educational level among women who were using the pill for spacing their fertility. The largest difference is for women without education where more than 77 percent use the pill compared with less than 42 percent in the highest educational level. It is possible that women without education tend to have earlier marriage than those with higher education and prefer using the pill because they have a longer reproductive period, making contraceptive use applicable for
spacing purposes. Lower education is also associated with a lack of commitment to small family norms and the preference for the pill over the IUD may be because they don't want to limit their family.

Higher education is associated with greater knowledge about contraceptive efficacy and perhaps fewer of side effects of the IUD. Therefore these women prefer the more effective method of IUD rather than the pill.

Table 7 Percentage distribution of currently married women 15-49 using Pill or IUD by educational level and motivation, IDHS, 1991

<table>
<thead>
<tr>
<th>Educational level</th>
<th>Current Users</th>
<th>Total</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pill</td>
<td>IUD</td>
<td></td>
</tr>
<tr>
<td>Spacing *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never study</td>
<td>77.3</td>
<td>22.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Primary</td>
<td>69.1</td>
<td>30.9</td>
<td>100.0</td>
</tr>
<tr>
<td>Secondary</td>
<td>51.1</td>
<td>48.9</td>
<td>100.0</td>
</tr>
<tr>
<td>High and more</td>
<td>41.7</td>
<td>58.3</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>64.1</td>
<td>35.9</td>
<td>100.0</td>
</tr>
</tbody>
</table>

| Limiting *        |      |     |       |       |
| Never study       | 48.8 | 51.2 | 100.0 | 675   |
| Primary           | 50.2 | 49.8 | 100.0 | 2262  |
| Secondary         | 38.9 | 61.1 | 100.0 | 342   |
| High and more     | 24.1 | 75.9 | 100.0 | 435   |
| Total             | 45.8 | 54.2 | 100.0 | 3715  |

* Significant at P < 0.01.
The results also indicate, that there are significant differences in relative use of the IUD and pill by educational level among those women using contraception for limiting purposes. While 61 and 75 percent of women in the secondary and higher educational levels, respectively, were using the IUD for limiting, slightly less than 50 percent of women in primary school were using the IUD. It seems that some women in low educational groups lack knowledge about the function of contraceptive methods, especially for spacing or limiting. Therefore, when they want to limit their fertility, they use the pill, even though the IUD is better than the pill for limiting purposes.

The results in Table 8 indicate that motivation is related to the use of the pill versus the IUD and is significantly different among women for spacing purposes by residence. Almost 57 percent of women in urban compared to 66 percent in rural areas use the pill rather than the IUD for spacing purposes. The higher percentage of women using the pill in rural areas, is probably because rural areas is associated with agricultural occupation. Most women in the agricultural occupation have lower education than those in non-agriculture. Women with lower education tend to have more perceived side effects than women with higher education. Therefore, they prefer using the pill because they have perceptions that the pill have less side effect than other
methods. Most women in rural areas also rely more on the pill than in urban areas, because community participation in delivery the pill is very high in rural areas, make contraceptive pill very accessible and available for them.

This table also indicate that there was no difference among women in urban and rural areas using the IUD versus the pill for limiting purposes. This indicate that urban and rural women who want to limit fertility have similar purposes in using the more efficient method of the IUD.

Table 8 Percentage distribution of currently married women 15-49 using Pill or IUD by residence and motivation, IDHS, 1991

<table>
<thead>
<tr>
<th>Residence</th>
<th>Current Users</th>
<th>Total</th>
<th>Total women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pill</td>
<td>IUD</td>
<td></td>
</tr>
<tr>
<td>Spacing *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>57.3</td>
<td>42.7</td>
<td>100.0</td>
</tr>
<tr>
<td>Rural</td>
<td>66.4</td>
<td>33.6</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>64.1</td>
<td>35.9</td>
<td>100.0</td>
</tr>
<tr>
<td>Limiting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban</td>
<td>45.5</td>
<td>54.5</td>
<td>100.0</td>
</tr>
<tr>
<td>Rural</td>
<td>45.9</td>
<td>54.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>45.8</td>
<td>54.2</td>
<td>100.0</td>
</tr>
</tbody>
</table>

* Significant at \( P < 0.01 \).
CHAPTER IV

CONCLUSION AND POLICY IMPLICATIONS

This analysis uses data from the Indonesia Demographic Health Survey 1991. Intensive information about knowledge and practice of family planning and background characteristics of current users of contraceptive were collected in the survey. The analysis focuses on 5945 married women who were using the pill and IUD at the time of the survey.

4.1 CONCLUSION

The results from 1991 IDHS showed that 29.7 percent of currently married women in Indonesia were using the pill, 26.8 percent using the IUD, and 23.5 percent injection. These contraceptives are the most commonly used methods and together account for about 80 percent of total current users. Other contraceptive methods account for lower percentages.

The relationships between the independent variables and dependent variable is statistically significant for all background characteristics of the respondent, namely: age, number of living children, educational attainment, current occupation, residence and region and are generally in the hypothesized direction.

Contraceptive use of the pill relative to the IUD is highest among young women, who had no or few children, who had low education, were not in labour force, in rural areas, and
who lived in outer Java/Bali I and outer Java/Bali II.

The IUD is preferred over the pill by older married women, who had more than 2 children, who had a higher educational level, who worked outside of agriculture, stayed in urban areas and who lived in Java/Bali.

All of the hypotheses of the study were supported, however after controlling for other independent or intervening variables some of the relationship changed.

The relationship between current age and method choice is statistically significant for the number of living children. As the number of children increases, the reliance on the pill diminishes relative to the IUD, regardless of the age of women.

Educational level of women has a relationship with method choice and remains statistically significant after controlling for current occupation, especially for women not in the labour force and women working in non-agriculture. There was no significant relationship between educational level of women with method choice in agricultural occupations. This is probably because most women in agricultural occupations are characterized by low education, physical work, concentrated in rural areas and have a perception that the IUD is not suitable for them, regardless of their education.

Women were more likely to be using the IUD than the pill because they wanted a more effective method, the method was
recommended by family planning worker and for convenience. Whereas pill use is more likely were side effects were mentioned, and due to cost/accessibility and availability.

The relationship between educational level and method choice is statistically significant for the following reasons: wanted more effective method, perceived side effect of other methods, convenience and others. In method choice, education is not significant related to method choice for recommendation by family planning worker or cost, accessibility and availability. Probably, the family planning program IEC materials about contraceptive methods and also supplies of contraceptive are equally distributed for all groups.

Women were more likely to be using the pill for spacing and more likely to be using the IUD for limiting intention. Motivation is related to contraceptive use, but significantly different among age groups only among those with limiting intention. This means that motivation of women to use the pill for spacing purposes were not influenced by the current age of women.

The relationship between educational level and method choice is statistically significant for both spacing and limiting. Significantly differences occurs for each educational level among women who were using the pill for spacing. The largest difference is for women without education compared with women in the highest level of education. Some
difference is also shown in higher education level for limiting purposes.

Most women in rural areas are more likely to be using the pill versus the IUD for spacing than in urban areas, and there was no difference between women in urban and rural areas who were using the IUD or pill for limiting purposes. A possible explanation is the institutionalized family planning program which already covers both urban and rural areas, therefore, knowledge about contraceptive use for limiting purposes was not different between these areas.

Briefly, the above findings showed that most of the hypotheses have statistically significant effects on a women's choice of whether to use the pill or IUD.

4.2 POLICY IMPLICATIONS

Important policy implications for this study are:

Family planning program should develop special IEC materials on IUD promotion. In general, these IEC materials should focus on the advantages, effectiveness, suitability, lack of side effects and convenience in using the IUD and designed for the following target groups:

a) Women with lower educational attainment. Simple IEC materials stressing on promotion of the convenience of the use of IUD especially among younger women with low education.
b) Women in agricultural occupation. Special IEC materials required to counteract rumors and misconceptions, and stress the suitability of IUD use among women doing physical work. It should also include information that the IUD is cheap if considered in terms of time and price spent upon acceptance.

c) Younger women with a limiting intention. IEC materials should suggest a shift from use of temporary methods to more effective methods. Also, the IEC should highlight the function of contraceptive methods especially for spacing or limiting purposes.

d) Older women with a spacing intention. IEC materials to encourage shifting from spacing to limiting intention is important.

e) Women who have more than 2 children, the IEC should suggest the use of more effective methods for limiting purposes.

f) Women in low education with a spacing intention, regarding this group, the IEC should stress the campaigns for 2-child family and promotion to use of more effective methods for both spacing or limiting purposes.

g) Rural women with a spacing intention, special IEC materials to counter rumors and misconceptions and reassure women about the lack of side effects of the IUD should be developed.
Finally, a further analysis using qualitative method regarding preference of pill over IUD use among married women who want to control their fertility is required. Also more research needs to be undertaken as to why different levels of education are related to different reactions to perceived side effects.
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