

**FACTORS INFLUENCING THE CURRENT USE OF MODERN CONTRACEPTION  
METHODS IN LAMPUNG PROVINCE 2007**

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## DECLARATION

I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree in any university; and that to the best of my knowledge it does not contain any material, which is formerly published or written by any other persons except where due to reference is written in this thesis.

Adelaide, December 2009

Dini Nur Afni

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## ABSTRACT

The province of Lampung has become one of the poorest in Indonesia, and almost 50 % of currently married women in the province live at the poorer end of the wealth index. However, Lampung has achieved a high level of the current use of modern contraception use, which is 66.0%. Contraceptive change may have an effect on fertility change as well. A change in contraceptive use may influence the Total Fertility Rate (TFR) due to the fact that contraception is one of the proximate, or direct determinants of fertility (Bongaarts 1978). In 2007, Lampung's TFR was below the national average level of fertility. In order to examine the effects of demographic, socio-economic and family planning factors on modern contraceptive use in Lampung province, this study used a modified framework from Bongaarts (1978) and Islam et al. (1998). Data for analysis were taken from the 2007 IDHS from among 925 currently married women aged between 15 and 49 years old who were using modern contraception methods. The correlation between selected demographic, socio-economic and family planning variables and the current use of modern contraception was analysed by using the Chi-Square Test and multinomial logistic regression. The findings of the Chi-Square Test have confirmed that the number of living children, women's age, marital duration, women's educational attainment, women's occupation, wealth index, place of residence, being decision makers in contraception choices, and being informed of those choices all have a strong correlation with the current use of modern contraception. In addition, the findings of the multinomial logistic regression have confirmed that women aged between 15 to 24 years, women who work in the agricultural sector, and those who were informed about choices were likely to use short-term methods. Moreover, it was less likely that other people who acted as decision makers encouraged women to use short-term and long-term methods of modern contraception.

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## **CHAPTER ONE**

### **BACKGROUND OF THE STUDY**

#### **1.1 Introduction**

The annual growth rate of population in Indonesia has had a significant effect on all sectors, including the economy sector. Population growth has been the focus of the government as the quality of the population will be an asset for economic development. In contrast, the high number of people without good quality life will have a negative effect on economic development, possibly creating unemployment due to the amount of uneducated and unskilled people. The family planning program, through the use of contraception, aims to limit and space childbirth in order to control family size and achieve small and quality of family. So as to build quality of nation, it begins with build quality of people in the families through the family planning program. Moreover, the family planning program is a means of improving the health of women and children. Contraceptive use may influence women's reproductive health directly and indirectly (Committee on Population 1989, p. 20). However, contraceptive use varies among the provinces in Indonesia. Lampung has a high rate of contraception in spite of being one of the poorer provinces in Indonesia. Many factors influence the use of contraception among currently married women. Not only economic factors affect one of the indirect determinants of contraceptive use but socioeconomic factors also (Bongaart 1978). This study will analyze the socioeconomic, demographic, and other factors which have a significant effect on contraceptive use in Lampung province. In addition, this study will provide input for Indonesia's government planners and policy-makers to develop suitable intervention programs to raise contraceptive use and its quality of care in achieving quality of nation.

#### **1.2 Background of the Study**

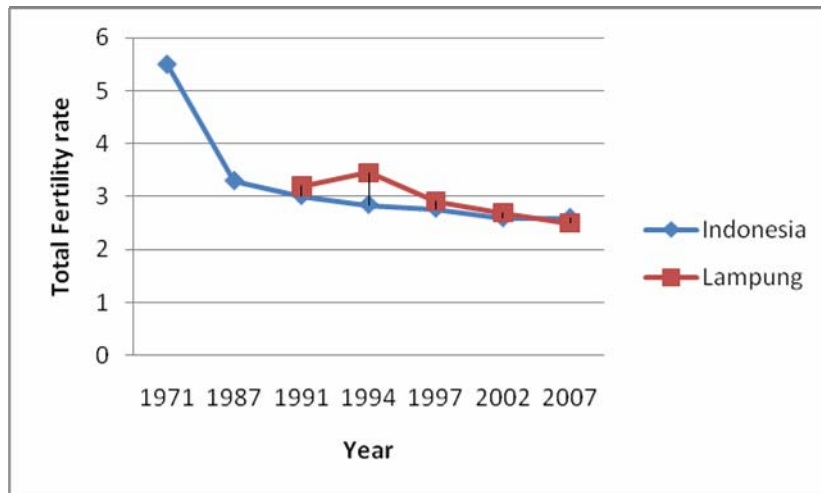
Contraception is one of the methods of the family planning program used to control family size and to achieve good quality reproductive health for women. Effective contraception can be used to reduce and control fertility, as population will grow more rapidly without fertility control. In order to reduce the health risk and improve efficacy of contraception, an effort is

to develop contraceptive methods choice with low risk (Committee on Population 1989, p. 11). That study concludes that the risk related to the use of currently modern contraception is lower than the risk of pregnancy, labor and delivery. Contraception has several effects on women's condition. The direct effects of contraception can be seen in the role that contraception plays in limiting, spacing and controlling fertility, thus affecting women's reproductive health. The indirect effects of contraception increase the control of fertility and controlling pregnancy gives women greater authority to make decisions concerning their own health. Furthermore, fertility control makes it easier for women to finish their education, participate in the labor force, and get better-paying jobs. It also leads to better health care (Committee on Population 1989, p. 20).

Worldwide, 61 % of all women who are married or in a union aged between 15-49 are using contraception (Chamie 2004, p. 1). In the developed countries, 69 % of those women use a method of contraception, while in the developing countries 59 % do so. Chamie (2004) also reported that women in developing countries more commonly use longer-acting and highly effective clinical contraceptives, such as female sterilization and IUDs than women in developed countries do. The percentage of women using contraception increased in developing countries; however, there is still a lack of modern contraceptive methods in use. This shortage of modern contraception contributes to women's reproductive health problems, such as unintended pregnancy, unsafe abortion, and the spread of Human Immunodeficiency Virus (HIV).

Indonesia with its family planning program, contributed to a rapid increase in the contraceptive prevalence rate from 26% in 1976, to 60% in 2002 (Schoemaker 2005). In the same period, fertility declined from 5.6 to 2.6 lifetime births per women as described in figure 1.1. Bonaparte (2009) concludes that family planning significantly influences contraceptive use in Indonesia rather than demographic or socioeconomic factors. Indonesia has a low level of economic development; therefore economic factors have a less significant effect on contraceptive use in comparison with the effect of the family planning program.

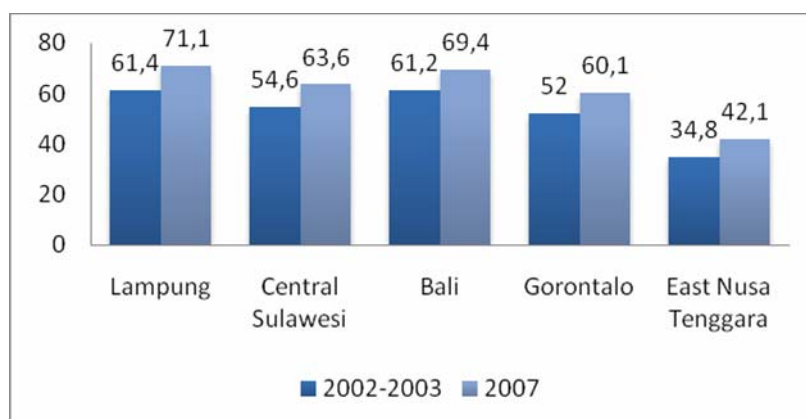
**Figure 1.1: Pattern of Total Fertility Rate in Indonesia and Lampung Province**



(Source : Indonesia Demographic and Health Survey, 2007)

From 2002 to 2007, Lampung province had the highest increase of current use of any method of contraception from 61.4 % to 71.1 % as described in figure 1.2. Lampung had the second highest percentage of any method of contraceptive use in Indonesia in 2007. Figure 1.1 describes a decrease in the total fertility rate from 2.7 to 2.5 from 2002 to 2007, which is below the national average level of fertility. However, the poverty rate continued to rise in Lampung, with 22.19 % of the population living below the poverty line in 2007 (BPS 2007).

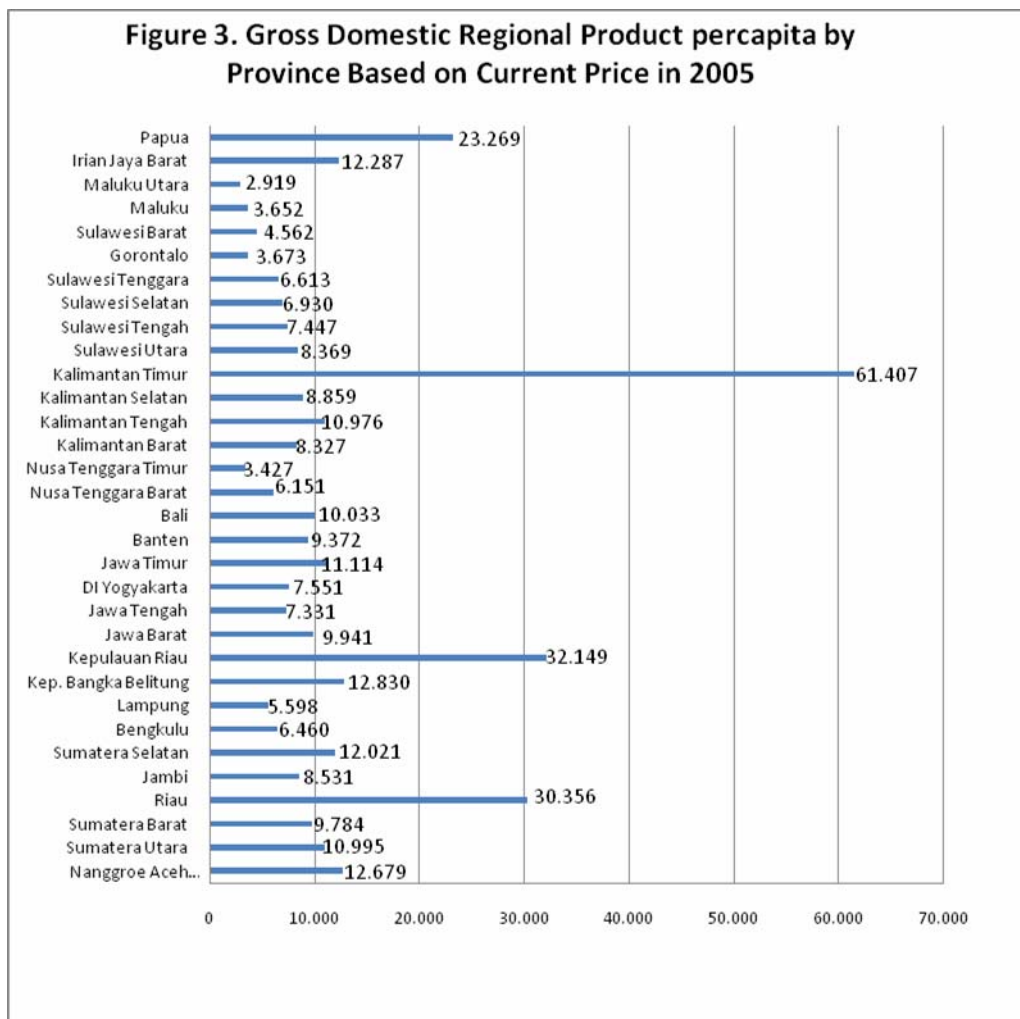
**Figure 1.2: Percentage of Current Use of any Method of Contraception  
In Selected Provinces in Indonesia**



(Source: Indonesia Demographic and Health Survey, 2002-2003 & 2007).

Gross Regional Domestic Product (GRDP) illustrates the capability of an area to produce goods and services and reflects society's income (BPS 2007). From the figure 1.3 it is had

obvious that Lampung has “lowest GRDP per capita compared with other provinces on Sumatra Island”. The other provinces where located on Sumatra Island are Kepulauan Riau, Bangka Belitung, Bengkulu, Sumatera Selatan, Jambi, Riau, Sumatera Utara, Sumatera Barat and Nanggroe Aceh. However, in spite of the slight increase in GRDP per capita from 1999 to 2003, Lampung’s society still has a very low economic level in comparison with other provinces (Ikawati 2008, p. 28). On the other hand as shown in Figure 1.2, current use of any method of contraception is high. This is an interesting condition as while married women of reproductive age are likely to use contraception, they are also likely to live in poor conditions. Usually, poorer conditions create a lower level of health in society due to lack of good health services. Therefore, this study will investigate other factors which may have a significant impact on contraceptive use beside economic factors.



Source: Central Bureau Statistic of Indonesia, 2005.

Several studies have reported the correlation between socioeconomic factors and contraceptive use. Studies in Bangladesh (Ullah & Chakraborty 1993), reported that women's education and participation in family planning decisions positively influence the current use of contraception. Moreover, visiting family planning workers, and wanting to have additional children have also been important factors because visited by family planning worker will influence increasing use of family planning method, otherwise women who want additional children tend to do not use any modern contraception. Other studies in Pakistan (Mahmood & Ringheim 1996, p. 18), reported that the family planning program is essential to increase awareness of people about the importance of fertility control by using contraception. That study examined that women's education level had influenced economic opportunities and women's autonomy as well as the level of women's decision-making, and husband-wife communication. In addition, women's participation in the decision-making process at home significantly increased with age, education and number of children. Women's decision-making is related to decisions relating about their own health, such as the use various contraception method, and seeking health care facilities.

Schoemaker (2005) stated that there are significantly different uses of contraception among extremely poor, moderately poor, and better-off women. Poor couples are less likely to adopt family planning practices than are better-off couples. However, poor couple cannot access those practices as easily as better-off couple's can because of ideal and actual family size that they desired. It means that desired family size was the strongest determinants on the use of contraception rather than the economic factor (Schoemaker 2005, p. 112). In another study, Schoemaker (2004, p. 12) stated that wealth is less important in determining contraceptive use among poor couples. Method failure and reasons related to women's health are more significant in determining discontinuation, than are access and cost factors combined.

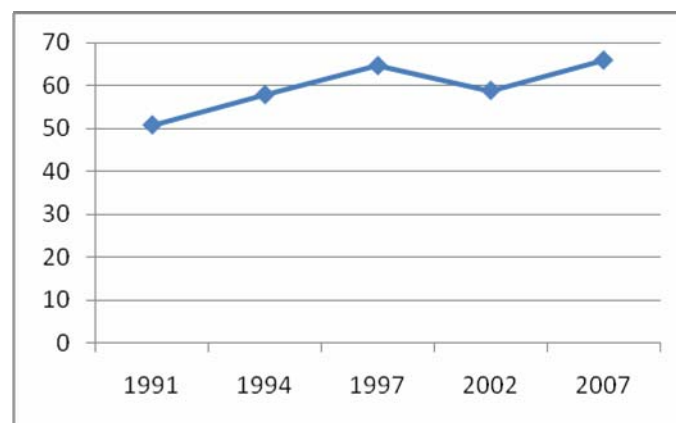
The economic crisis in the late 1990s affected many countries in Asia. Indonesia reduced its gross domestic product per capita by 12 % and the currency depreciate by approximately 80 % in 1998 (Frakenberg 2003). The downturn in economic conditions would normally have negative impacts on reproductive health services and would influence contraceptive behavior; in fact, in these times of economic deprivation, the demand of contraception did not change among couples in Indonesia. A study conducted by Frakenberg (2003) showed

that the economic crisis in Indonesia did not have any significant influence on the level of contraceptive prevalence, in unmet need, and in contraception method mix (Frakenberg et al. 2003 p. 115).

### 1.3 Significance of the Study

Change in contraceptive use may influence the TFR due to the fact that contraception is proximate or direct determinants of fertility (Bongaarts 1978), so contraceptive change may have an effect on fertility change as well. Lampung province experienced a decline in TFR between 1997 and 2007 as illustrated in figure 1.3. In order to achieve a replacement level of fertility rate, normally assumed to be 2.1 births per woman and to build small families, the current use of modern contraception should be at a high level. Figure 1.4 indicates an increase in modern contraceptive use among currently married women in Lampung province. Therefore, identifying the determinants of contraception is important and has a significant role in achieving both a low level of fertility and women's health. Improving maternal health is one of the eight goals that have been set through The Millennium Development Goals. Better outcomes of maternal health can be achieved by improving access to reproductive health through increasing the contraceptive prevalence rate.

**Figure 1.4: Pattern of Modern Currently Use of Contraception in Lampung Province**



Source: Indonesia Demographic and Health Survey 1991, 1994, 1997, 2002-2003 and 2007

In the case of Lampung province, the TFR declined between 1997 and 2007 (Figure 1.1). On the other hand, Lampung province has the lowest per capita GRDP based on current price in 2005 on Sumatra Island (BPS, 2005). However, in terms of economic growth, the poverty

rate has fluctuated in Lampung province (Ikawati 2008, p. 5), and this province has become one of the poorest in Indonesia. Lampung has been ranked as the second poorest province on Sumatra Island since 2007, after Nanggroe Aceh Darussalam (Saroso 2009). In poor condition and low level of income per capita, in fact Lampung can reach high increase of current use of any method of contraceptive for approximately 9.7 % point from 2002 to 2007. In contrast, East Kalimantan province with a high level of income per capita only reaches increasing of current use of any method of contraception from 56.2 % to 59.2 % or 3.0 percent point from 2002 to 2007. Therefore, low income per capita cannot reflect a low level of contraception because there are several essential factors which influence the use of contraception, not only economic condition.

In addition, there is an increase in modern contraceptive use in Lampung Province as presented in figure 1.4. It can be assumed that not only do economic factors influence contraceptive use, but demographic, socioeconomic, family planning, and other factors do too. Several studies indicate that socioeconomic and family planning factors, such as women's education, desired family size, women's participation in decision making, family planners visited, and other factors significantly influence contraceptive use. As a result, this study will investigate how significant socioeconomic, demographic and family planning factors influence current use of modern contraception in Lampung province.

#### **1.4 Research Questions**

The questions that will be addressed in this study are:

1. Which factors have an effect on the pattern of contraceptive use among currently married women in Lampung province?
2. How significant are the selected demographic, socioeconomic, and family planning factors in influencing the use of contraceptives in Lampung province?
3. What is the relationship among selected socio-economic, demographic, family planning, and proximate factors, and the use of contraceptives among currently married women in Lampung province?

## **1.5 Objectives of the Study**

The objective of this study is to examine the various factors that contribute to the pattern of contraceptive use and to analyze the differentials in contraceptive use among the selected various socio-economic and demographic groups, and family planning factors. In addition, this study is to provide recommendations for the government of Lampung to maintain and increase the level of contraceptive use.

## **1.6 Methodology**

### **1.6.1 Source of Data**

This study will utilize secondary data from the Indonesia Demography Health survey (IDHS 2007). IDHS used four questionnaires- a household questionnaire, a women's questionnaire, a men's questionnaire and young adult questionnaire (IDHS 2007). For the purpose of this study the household and women's questionnaires will be used.

The household questionnaire registered all members of the household and visitors to the selected household. Information of each person regarding age, sex, education and relationship with the head of the household is collected. The basic aim of this questionnaire is to identify women and men who were eligible for personal interviews. The survey also collected information on the socioeconomic status of household.

The women's questionnaire was used to collect information from ever-married women aged between 15-49. They were asked about: background characteristics like marital status, education, and media access; knowledge about family planning services; fertility preferences and reproductive history; pre-natal care, delivery and post-natal care; breastfeeding practices; immunization and child illness; malaria prevention; marriage and sexual activity; women's and husband's occupation and husband's background characteristics; child mortality; sibling and maternal mortality; HIV/AIDS and other transmitted diseases.

The men's questionnaire surveyed currently married men aged between 15-54 whom living in every third household in the IDHS sample. Men were asked the same questions as

women, except those relating reproductive history, maternal and child health, nutrition and maternal mortality.

### **1.6.2 Unit of Analysis**

The unit of analysis in this study is 925 currently married women aged between 15-49 who currently use modern methods of contraception and were included in the IDHS 2007 in rural and urban area. In Lampung, there was economic growth in urban and rural areas. In fact, the number of people who live under the poverty rate is still high in both areas. Furthermore, in those areas, there was a different pattern in the poverty gap as the impact of economic growth became apparent (Ikawati, 2008 p. 37). Poverty is not only structural problem in the economy, but there is also dysfunctional social behavior among the lower levels of society (Fukuyama 2001, p. 3133). Therefore, women who live in urban areas will have a different pattern of modern contraceptive use than those in rural areas as a result of supply and availability of contraception. As mentioned before, the analysis will be carried out based on socio-economic differentials among this group of women.

### **1.6.3 Method of Analysis**

Based on these questionnaires, the study will examine demographic, socioeconomic and family planning program characteristics as independent variables and current use of modern contraception as the dependent variable. It will use data pertaining to the current use of modern contraception method among currently married women aged 15-49, because modern contraception is part of the family planning program so it can be used as an indicator of the program's success. In analyzing dependent and independent variables, this research will utilize statistical analyses; they are univariate, bivariate and multivariate analyses.

This project will use statistical analysis, they are chi-square test (bivariate) and multinomial logistic regression (multivariate). This study used bivariate analysis to determine the relationship between two variables, such as women's education as part of socioeconomic factor, with the percentage of current use of contraception by using chi-square analysis. It can be said that this analysis will be used to determine the relationship between distant factors, such as demographic, socioeconomic factors, and the family planning program with

the current use of modern contraception methods. Multinomial regression analysis is used because dependent variables consist of three categories; they are women who not using contraception, using short-term and long-term methods of contraception. In addition, multivariate analysis examines a depth relationship between all demographic, socioeconomic and family planning variables and the percentage of current use of modern contraception.

#### **1.6.4 Definition of Variables**

Islam et al (1998 p. 7) examined the framework of the determinants of contraceptive use among married teenage women and newlywed couples and described four of factors. This study will use these factors and modify them within Bongaarts' framework (1978 p. 106). The categorization of all variables that are used in this study can be seen in Appendix 1 and definition of each variable in Appendix 2. These factors, together with their variables are:

1. Demographic factors: women's age, number of living children, marital duration, and ideal number of children.
2. Socioeconomic factors: men's and women's level of education, men's and women's occupation, place of residence, access to media, wealth variables, women's decision-making in family planning, women's access to health care and women's knowledge about any methods of contraception.
3. Family planning program: family planning field worker contact, informed choice and heard family planning program via media.

#### **1.7 Hypotheses**

The following hypotheses will be examined in this study:

The first hypotheses states that demographic factors, such as women's age, marital duration, ideal number of children, and the number of living children all influence contraceptive use. Studies in Bangladesh reported that older women were likely to have a higher number of children than those of a younger age, thus women who desired more children were significantly less likely to use current contraception (Islam et al. 1998, p. 25). Furthermore, the prevalence of contraceptive use varies with the sex-composition of living children. Couples with one daughter are more likely to not use contraception than couple

with at least one son (Ullah & Chakraborty 1993). In addition, having children provides benefits, both economic and non-economic benefit, to the parents, such as support in old age (Meyer & Lucas 1994, p. 60). In developing countries where societies have high fertility, the flow of wealth is from children to the parents (Caldwell, 1976).

The second hypothesis proposes a conventional relationship between socioeconomic factors and contraceptive use. For example, women's education and autonomy will have a significant effect on the current use of contraception rather than on economic status. Women's autonomy is related to power of women to make decisions about their health care, in using contraception for example. Moreover, women's autonomy is correlated with maternal and child health (Senarath & Gunawardena 2009, p.137). The Sri Lanka health survey (2000), reported that 71 % of women at childbearing age use family planning in Sri Lanka. Another study indicated that 79.7 % of the current users of contraception show that this use was a decision shared between women and their husbands (Senarath & Gunawardena 2009, p.139). This condition shows women's participation in decision-making influences the current use of contraception.

The last hypothesis identifies family planning programs as crucial to the prevalence of contraceptive use. For example, the drastic decline in fertility in Bangladesh (from 7.0 births per women in 1970, to 3.3 births in 1996-1997) is believed to be mainly due to the success of family planning program (Arends 2001, p. 481). Family planning workers visited rural and urban areas which were affected, and the contraceptive prevalence rate remained the same. In addition, the family planning program is an essential means of support which can be used when a change in contraceptive behavior of the population is desired (Islam et al. 1998, p. 13).

## **1.8 Organization of the Study**

This study is organized into four chapters. The first chapter presents a brief description of the study's background, its significance, objectives and methodology, hypotheses, and organization of the thesis. The second chapter reviews several previous studies, recent and past literature related to contraceptive use, and the empirical framework of determinants on contraceptive use. For example, the framework of Bongaarts (1978, p. 106) and Islam et al. (1998, p. 7) will be used in this study as a justification for the selection of related

variables. Chapter three presents the results of the bivariate analysis to identify the significant relationship between selected demographic, socio-economic, and family planning programs and current contraceptive use in Lampung in 2007. This chapter also describes the multivariate, particularly multinomial logistic regression analysis of the current use of modern contraception. Chapter Four is a conclusion of the study which covers the findings, study implications and recommendations for any future studies.

**CHAPTER TWO**  
**THE DETERMINANTS OF CONTRACEPTIVE USE:**  
**A REVIEW OF SELECTED LITERATURE**

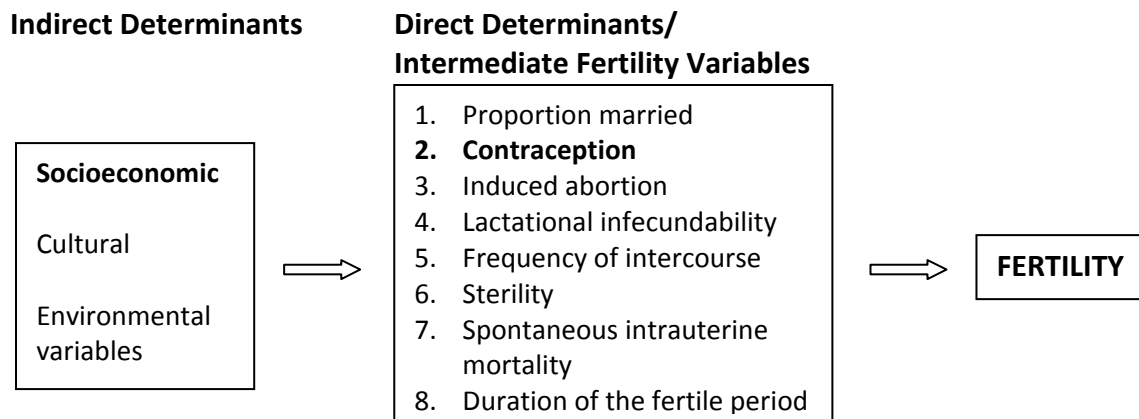
**2.1 Introduction**

Contraception is the most dominant determinant of fertility decline in developing countries (Giusti & Vignoli 2006). On the other hand factors that influence the level and types of contraceptive use vary worldwide due to different demographic and socioeconomic patterns. Indonesia is a multiethnic country which consists of 33 provinces. Lampung as one of these provinces has a different set of demographic and socio-economic characteristics. To analyse the current use of contraception among women who are married with selected socio-economic groups in the Lampung province, this study will use a modified framework conducted by Bongaarts (1978) and Islam et al. (1998). Furthermore, a review of the relevant literature will be carried out to describe the correlation between various demographic, socio-economic, and family planning factors and the levels of current use of contraception. A study conducted by Islam (1998) has shown that the pattern of contraceptive use pattern varies among married teenage women with socio-demographic and programmatic variables. In addition, women's knowledge of contraception, motivation to use contraception and access to family planning services play a vital role in determining the use of contraception. Well-built family planning programs are one of the factors that have significant in decreasing the fertility rate in developing countries.

**2.2 Conceptual Framework for Analyzing Contraceptive Use**

Fertility is considered to be a crucial element of population change. Bongaarts' study (1978) reported that fertility was influenced by indirect and direct or intermediate determinants. Contraception is one of the intermediate determinants (Figure 2.1). Based on Bongaarts' framework, this study will examine several factors which influence contraception, particularly the socio-economic, demographic, and family planning factors then examine the effect on fertility rates in Lampung province.

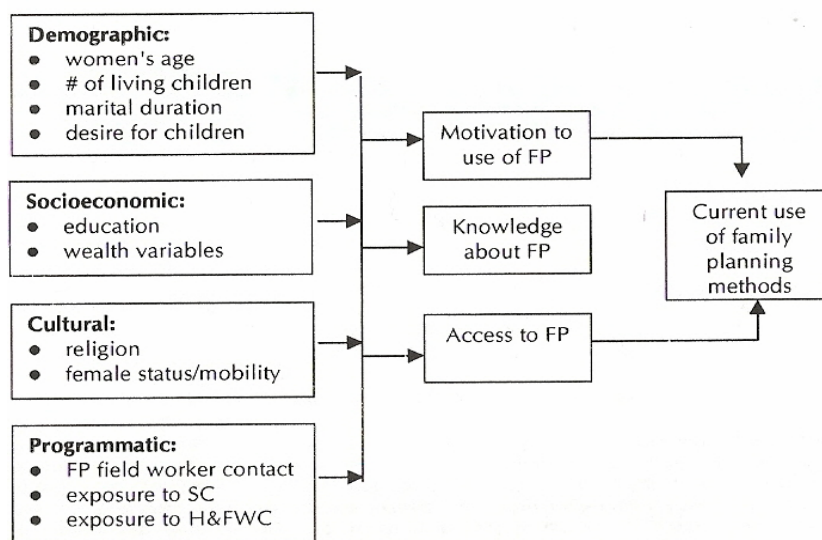
**Figure 2.1: Framework of the Relationship among the Determinants of Fertility**



Source: Bongaarts (1978, p. 106), modification from Kingsley Davis and Judith Blake

Islam et al. (1998) proposed a theoretical framework to analyse the determinants of contraceptive use among married teenage women and newlywed couples in Bangladesh as described in Figure 2.2. This framework describes four groups of independent variables; which are: demographic, socio-economic, cultural, and programmatic. This framework will also influence current use of family planning methods through intermediate factors. It may assume that the four variables groups above will influence the motivation to use family planning, women’s knowledge about and access to family planning, and will finally affect the use of contraception.

**Figure 2.2: Frameworks of the Determinants of Contraceptive Use Objective**



Note: SC (the satellite clinic)

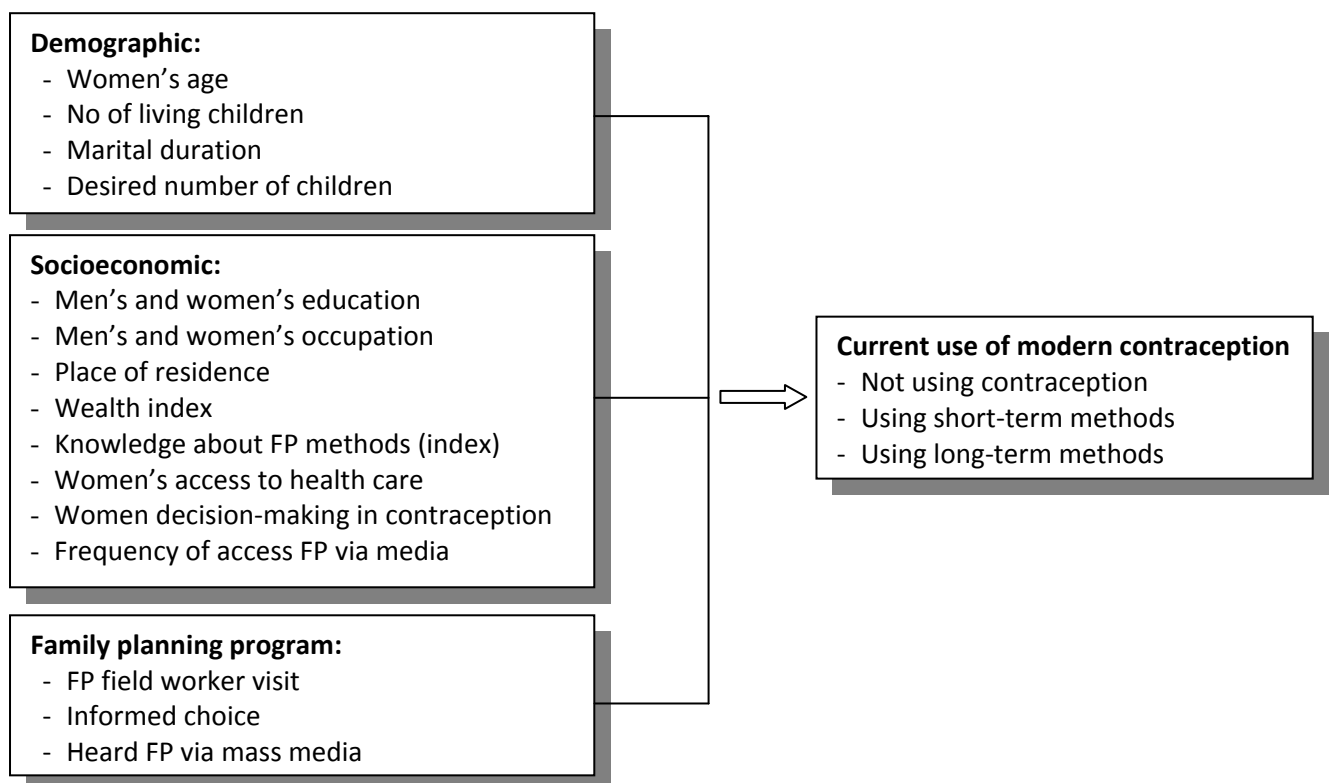
H&FWC (the health and family welfare centre)

Source: Islam et al. 1998 p. 7

This study will use a modified framework (Figure 2.3) from two frameworks described above in order to examine the effect of socioeconomic and other factors on modern contraceptive use in Lampung province. Modern contraception use is one of indicators of the success of the family planning program. The current use of modern contraception that will be examined is classified into couples not using contraception, short-term use, and long-term use of certain contraception methods. Intra uterine devices (IUD), implants and sterilization are modern contraceptives categorized as long-term methods.

The study will examine the effect of demographic, socioeconomic and family planning factors directly related to the use of modern contraception use excluding the intermediate factors (see Figure 2.3). Religious variables will not be used in this study because most of Lampung's societies are Muslim; almost 92 % of the total populations are Muslim (*Encyclopedia Lampung* 2000). So, this means that there was homogeneity of religion in that region.

**Figure 2.3: Framework for the Study to Analyse Current Use of Modern Contraception in Lampung Province 2007**



Source: modification from Bongaarts (1978) and Islam et al. (1998)

### 2.3 Demographic Factors

The age of women who are, or have ever been married is the demographic variable which has a significant impact on contraceptive use. Age at first marriage is related to the pattern of fertility because it indicates the length of time in terms of childbearing years which remains for women to have children (Lucas & Meyer 1994). That study also demonstrates an increasing trend in the age at marriage, particularly in industrialized countries. The use of contraceptives varies between younger and older women. Younger women use relatively less modern methods of contraception than those older women do (Islam et al. 1998). These studies concluded that this condition occurred because of young women and newlywed couples tended to have children soon after they married.

Moreover, the duration of the marriage among couples may influence the different patterns of the use of contraception. The length of marriage supposedly increases the use of contraception, as couples who have been married for a substantial period of time have already achieved their desired number of children in the family. Evidence showed that marriages of three or more years were shown to have a positive effect on current the use of contraception (Islam et al. 1998). Women who had been married for three years, already had children; however, newlywed couples tended to build a new family and have children earlier. Newly-married couples and women who had been married for less than three years tended not to use contraception.

In addition, the number of living children also has a correlation with the current use of contraception. The contraceptive prevalence rate (CPR), defined as the percentage of women at aged between 15-49 who use contraception, was higher among women who had children than those without any children (Islam et al. 1998). Furthermore, the experience of child loss had a negative effect on contraceptive use (Ullah & Chakraborty 1993), as it may have been related to the women's desired to have another child. Newlywed couples and women aged between 20-24 years were not likely to use contraception because at that age, they began to establish a family by bearing a child and subsequent additional child in their early reproductive years (Islam et al. 1998). Usually, a women's first marriage is between

the ages of 20-24. In addition, an increase in the age of first marriage will clearly increase the women's age at the birth of their first child.

Desired family size or number of children that women want to have is another demographic variable that influences the demand on contraceptive use. The ideal desired number of children among societies through the world has varied; in general younger women prefer to have fewer children than the older women (Islam 1998; Lucas & Meyer 1994, p. 56). Additionally, desired family size is an essential factor in the use of contraception. This is due to the fact that this variable has a more significant effect rather than wealth variables do among poor women in Indonesia (Schoemaker 2005). In developing countries, where rapid population growth still happens, having children has several benefits for parents: children are able to work without any cost to the family business; children are as source of family income; they are able to support their parents at the old age (Lucas & Meyer 1994).

#### **2.4 Socioeconomic Factors**

Women's education and autonomy are believed to be essential socioeconomic factors and are recognized as foundation for effective health programs (Senarath & Gunawardena 2009). The correlation between education and current use of contraception can be seen with the control of women's age, number of children and marital duration (Cochrane 1979, p. 125). Evidence showed that women's autonomy is increases with a higher level of education, an increase in women's age and a better socioeconomic background (Gage 1995; Senarath 2009).

Women's education and autonomy or their participation in family planning decision-making have positive effects on contraceptive use (Gage 1995 ; Islam et al. 1998 and Senarath 2009). Communication with husbands about family planning in decision-making is a reflection of women's autonomy. Furthermore, the influence of women's socioeconomic conditions on contraceptive use is also affected by cultural conditions. Studies conducted by Gage (1995) in sub-Saharan Africa reported that husband-wife communication is more prevalent among women who married by choosing their husband rather than those who had their husband chosen for them, that is, through arranged marriages. It concluded that

the greater the level of individual controls over the selection of partners, the higher the level of spousal communication and modern contraceptive use (Gage 1995, p. 274).

Women's socioeconomic position which is often indicated by their occupation is also influenced by contraceptive behaviour. Gage (1995, p. 271) reported that women who participated in rotating credit or savings schemes were more likely to discuss family planning with their husbands and use more traditional and modern contraception than are other women who worked for cash. However, those women who worked for cash often increased their autonomy which induced them to take part in fertility decision-making. This result highlighted the importance of women's economic power and their control on their partner may influence their participation in using contraception. It can be seen that women who have economic power in terms of their occupation will have the power to make decisions about their health.

The wealth index is the index which can be used as a determinant for the household's long-term standard of living (IDHS 2007). The wealth index is one of the indicators of the household's socioeconomic status, which uses data for household ownership of consumer goods; characteristics of the dwelling; sources of drinking water; toilet facilities and others features. Indonesian's women with a higher level of the wealth index or higher socioeconomic level indicate a higher use of contraception (Schoemaker 2004). However, that study reported that wealth less important than others variables, such as the desired number of children in determining the current use of contraception. It shows that neither wealth nor socioeconomic status can be assumed as the dominant factor which influences contraceptive use in Indonesia. As a result, women who live in poor conditions are still able to reach a high level of contraception.

Administratively, each province in Indonesia is divided into districts and municipalities, and then further divided into sub-districts and villages. The village is the lower administrative unit in each province which is categorised into urban and rural areas (IDHS 2007). This study will analyse contraceptive use in both of urban and rural areas in Lampung province. The couples' place of residence also encourages various patterns of contraceptive use. Studies conducted by Ullah & Chakraborty (1993) revealed the possibility of urban women being

users of contraception was higher than that of rural women. It may be assumed that in urban areas there is better access to health care services, and the chance of women getting an education is higher than it is in rural areas.

Furthermore, women's access to health care facilities related to several factors: their distance from health facilities; transportation to health services; getting permission and money to go; and women's ability to go alone (Rutstein 2006). This means that urban areas with good transportation access and close health facilities encourage easier women's access to health facilities. Delays in reaching health facilities are often caused by difficult physical accessibility, such as availability and cost of transportation which was one of causes of maternal mortality (Thaddeus and Maine 1994).

Another socioeconomic factor that can have influence on fertility behaviour is access to media. Family planning programs can be promoted via media such as television, radio, print and electronic media. This is an effective means to inform people and increase their knowledge about the program. Oni and Mc Carty (1990) studied the Nigerian government's proposed family planning program through a mass-media campaign using radio and television to improve the program and other activities such as training and workshops. Furthermore, a Family Planning Information, Education, and Communication project (IEC) was launched in 1984. As a consequence, it reported that over five years, contraceptive knowledge and use was universal, even among those uneducated women and those who lived in the poorest areas. An increase of knowledge was followed by an increase in contraceptive use, particularly in the current use of contraception. Although in the area did not experience high contraceptive use, the change in the last five years have been considerable. It can be assumed that the access of media at the grass roots level of education is crucial factors in promoting, educating, and communicating the family planning program.

Another study (Indingo 2008) reported that educational attainment, such as completed secondary school will be conducive to an increased knowledge of fertility and positive behaviour regarding contraceptive use. Being informed about the family planning program is classified by the level of knowledge of contraception methods and how to source those

modern methods (Neitzel et al. 1996). That information is influenced by demographic and socioeconomic factors, such as women's age, number of living children, place of residence and women's education. In addition, knowledge of at least one method of contraception shows the widely spread of contraceptive information in the society (Neitzel et al 1996).

## **2.5 Family Planning Program**

The family planning program through encouragement of the use of contraception plays an essential role in decreasing fertility rates in developing countries. The success of Bangladesh in reducing the total fertility rate (TFR) from 7.0 children per women in 1970 to 3.3 children between 1996-1997 was largely due to effective family planning policies (Arends 2001). Visits by family planning workers were the key determinants in this situation. Studied conducted by Arends (2001) reported that uneducated women who lived in the poorer areas, and had difficulties in terms of cost and travel time were most positively affected by family planning workers' visits. As a result, contraceptive use in urban and rural area in Bangladesh remained the same. Arends' (2001) study concluded that family planning workers' visits affected contraceptive use by reducing money, time and cost rather than through support or persuasion.

In Indonesia, the role of field worker is shown at the community level. The family planning fieldworker may act as a liaison between the government and society. Posyandu or community health post is one of government's programs as merge post between family planning services and nutritional program. Most villages have this post which is attended by health-centre staff and family planning field workers in order to monitor children's nutrition and to provide family planning services (Frakenberg 2003, p. 105). It can be seen that the provider's role in the community is significant as part of an effort to increase contraceptive use and its quality of services. This is due to the high level of current contraceptive use which should be followed by high quality of care.

Indonesia also achieved a rapid decline in fertility from 5.9 children per women in 1965, to 2.8 children in 1997 (Hull 2002, p. 419). During the economic crisis, family planning suffered

due to the government's diminishing budget and the rising costs of contraception (Schoemaker 2005). However, during the 1997-1998 economic crisis, contraceptive prevalence and in contraception method-mix was did not change. It assumed that economic constraints may lead a couple to prevent pregnancy, as a result they were still using contraception and the demand for contraception did not change. In addition, it argued that strong demand for family planning was well-established among couple's who were motivation to build small families (Frakenberg 2003).

Bruce (1990) proposed a framework for analysing the quality of care of family planning services. One elements of quality of care was women who have been the provider's information to clients known as informed choice. Giving information about contraception is a crucial factor as it is related to human rights. Based on the provider's information, clients can organize suitable and low risk contraception so as to achieve contraceptive effectiveness. Sufficient information would lead to increased use of contraception; whereas lack information would negatively impact on its use (Arends & Kessy2007). Without suitable information about the side effects of contraception, rumours and disinformation are developed and potentially decrease the use of contraception. Belief in rumours as a result of lack of information will reduce contraceptive use (Kessy 2001, cited in Arends & Kessy 2007).

Another study in Mexico examined the role of information about family planning among clients with sexual transmitted diseases (STDs) (Ponce et al. 2000). The Intra Uterine Device (IUD) is the most effective contraceptive method choice, but it may be harmful to clients with sexual transmitted diseases (STDs). Therefore, information about family planning methods, STD risk factors and choice of contraceptive method may reduce the inappropriate contraception methods. In those cases, the provider still should give information about all methods of contraception including the IUD. However, in seeking family planning services, clients should be allowed to choose their own preferred method although it may be an inappropriate and ineffective method for them (Ponce et al. 2000, p. 280). Evidence shows that by giving clients their choice of contraception method, clients will continue to use contraception. On the other hand, if providers are choose or suggested any

methods of contraception, there was discontinuation in contraception at follow-up (Pariani, Heer & Arsdol 1991, p. 384).

The National Family Planning and Population Board (NFPPB) in Indonesia organises several programs in order to provide contraception with a good quality of services. Informed choice and consent are one of the NFPPB's efforts. Informed choice is the result of enlightening clients of contraceptive choice effectively. It does this by giving counseling and services in order to help clients in choose and use appropriate method of contraception (Piotrow 1989). Written informed consent is needed if client will use long-term methods of contraception. The provider or family planning field worker should supply all information regarding choice of contraception methods which includes side effects and how to deal with side-effects. It should also be emphasized that sterilization means that the clients will not be able to have more children.

Giving all the information that clients need is an effort of the family planning program in order to achieve contraception quality-care. It is expected that this will give affect the current use of contraception and its continuation. Ramarao (2003) concluded that the quality of services was a significant determinant which influenced contraceptive behaviour and that side effect were the principal reason for contraceptive discontinuation. The study indicated that women who got high quality of care showed more prevalence in contraceptive use at follow-up than those women who got low-quality care.

## **2.6 A profile of Lampung Province**

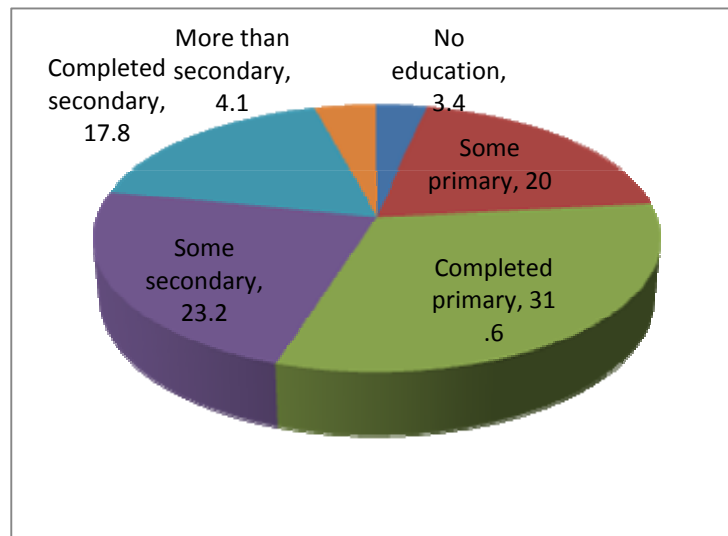
Lampung is one of 33 provinces in Indonesia and is located in the southern part of Sumatra Island. Lampung is famous as a transmigration destination province. In 1905, the government launched a transmigration program that removed people from populous provinces such as Bali and Java to other provinces such as Lampung, Sulawesi, and Kalimantan. However, in 1979 the government stopped the program. Migration is one of the demographic patterns which still occur in that province and the many migrants who live in that province affect poverty among Lampung's societies (*The Jakarta Post* 2009). Lampung was the third populous province on Sumatra Island (Ikawati 2008), with an annual

population growth rate of 1.14 % during 2000-2003. In 2003 (population census 2000), the population of Lampung reached 6.96 million.

Another demographic pattern besides migration is fertility. The 2007 IDHS reported that a slight decrease in fertility occurred in Lampung, from 2.7 births per women in 2002 to 2.5 births in 2007. There are several factors which influence fertility; particularly the proximate determinants because those determinants will directly affect fertility change. Approximately, 76.8 % women aged between 15-49 have their marital status recorded as currently married. This means that more than half the total women will possibility bear children. The use of contraception is one of the proximate determinants of fertility which may have an effect on decreasing the fertility rate. The current use of modern contraception dramatically increases from 58.9 % in 2002 to 66.0 % in 2007. Another proximate determinant was the women's age at first marriage which increased from 18.0 years old in 2002 to 19.0 years old in 2007. Age at first marriage is related to the pattern of fertility because it indicates the length of time in terms of childbearing years which remains for women to have children. As a result an increase of age at first married among women may leads to a decrease of time in terms of childbearing, and then decrease fertility.

Besides demographic factors, socioeconomic patterns also differ among provinces in Indonesia. Education is one of the socioeconomic factors that has an important role in influencing the contraception level, as it may increase women's knowledge and autonomy, and then lead to better women's reproductive health. Figure 2.4 describes educational attainment among women who have been married in Lampung. Most of women have had completed their education (primary and secondary level), nevertheless, there are only 3.4 % who have no education.

**Figure 2.4: Educational Attainment among married women or who have been married in Lampung Province 2007**



Source: Indonesia Demographic and Health Survey (IDHS) 2007

Women's education may lead to increased women's autonomy in decision-making about their health. In Lampung approximately 74.8 % of women who have been married said that they had alone or in conjunction with their husbands made decisions about their own health care (IDHS 2007). This is a good condition for the improvement of health care and the family planning services. In order to increase women's knowledge, access to the media also has a role to play. IDHS (2007) reported that only 13.2 % of women who have been married had no access to the media at least once a week. This meant that media access is widespread in both urban and rural areas and reaches almost 90 % of women who have are, or have ever been married. This result can be utilized by the NFPPB to inform, educate and communicate using the family planning program.

All of the demographic, socioeconomic and family planning factors in Lampung province will be analysed in this study. The high level of contraceptive use and the poor condition among Lampung's society are base conditions for the analysing the correlation between each of these factors, including the wealth index and the current use of contraception. The next chapter will describe in-depth the characteristics of the women who currently married as units of study analysis, the relationship between the selected demographic, socioeconomic and family planning factors, and the use of modern contraception methods by using statistical methods analysis.

## CHAPTER THREE

### DETERMINANTS OF CONTRACEPTIVE USE: STATISTICAL ANALYSIS

#### 3.1 Introduction

In order to analyse the influence of selected demographic, socioeconomic and family planning factors on contraceptive use, this study will use univariate, bivariate and multivariate analyses, particularly the Chi Square Test and multinomial logistic regression. Univariate analysis will be used to describe the characteristics of currently married women who use modern methods of contraception. Chi Square analysis (bivariate analysis) will be used to determine the correlation between each independent variable and dependent variable. The multinomial logistic regression will determine the significance of the influence of independent variables on contraceptive use. Based on three types of statistical analysis above, this chapter is organized into three subchapters. Finally, a deep analysis, and the influence of selected demographic, socioeconomic and family planning factors on the current use of modern contraceptive methods which are categorized as short-term or long-term methods, will be briefly discussed and examined.

#### 3.2 Respondents' Characteristics

##### 3.2.1 Socio-economic Factors

Socioeconomic factors consist of selected socioeconomic characteristics of currently married women and their husbands. Education is one of the important socioeconomic characteristics that influence women's status, occupation and autonomy. By comparing the educational background of women and their husbands, it is clear that both of them have a similar pattern of educational attainment. The percentage of women who attain only primary education is slightly higher than those who attain secondary education (Table 3.1). Moreover, in the case of the husband's education, the percentage is higher for the primary education category. The pattern of working status or occupation is also similar between women and their husbands.

Approximately 43.1% of women were working in agricultural sectors and 30.7% of those worked in non-agricultural sectors. Similarly, most men (59.8%) were working in the agricultural sectors and related farming industries, including the rubber, coffee, coconut, sugar cane, palm oil, and hybrid coconut industry, which had been built in Lampung.

Furthermore, women's autonomy may reflect on women's decision making in term of their health care, in this case, in the use of contraception. It was found that women were likely to make decisions with her husband in using contraception. More than half percent of women said that the decision was a joint decision between them. Waluyo (1990) studied in the village of Sukanegara, a village in Lampung province and found that, as the families head, while the father retained all the power, joint decision making between father and mother was common in that region. However, the number of other people who acted as decision makers in the use of contraception was also quiet high at 29.2% higher than that of women or husbands as decision makers.

In addition, women's knowledge about family planning programs, particularly knowledge of contraception methods was also high. Almost 90 % of women were aware of more than five methods of contraception including modern and traditional methods. Modern methods were sterilisation, IUD, pills, injectables, condoms, implants, Lactational Amenorrhea Methods (LAM), emergency contraception, vaginal barrier methods or the diaphragm. The traditional methods covered periodic abstinence, the withdrawals method and other folk methods, such as herbal medicine and massage (IDHS 2007; Bongaarts & Johansson 2000, p. 6). Actually, knowledge regarding the source of contraception was also part of knowledge about the family planning program (Curtis & Neitzel 1996). Moreover, the knowledge source of contraception is one of the indicators of access to family planning services. In fact, there are invalid data about that knowledge and as a result this study does not use them.

Wealth index is another important socioeconomic characteristic in society. Almost 50 % of currently married women in Lampung live in poor conditions with a low level of wealth index. Moreover, most of currently married women live in rural areas (77.3%). However, in poor conditions women still have easy access to health services (94.2%). Access to health services

covers seven aspects which included: women knowing where to go to get health care, getting permission to go, getting money needed for treatment, distance to health care, whether or not they have transportation, not wanting to go alone and concern that there were no female providers in the health care industry (Rustein & Rojas 2006). For information access, television was the most popular medium as a source of information. Approximately 81.8 % of women watched television once a week or more, while in contrast, only 8.6 % women read newspapers, and 30.0 % who listened to the radio once a week or more. These results have come about as television has become one of the primary needs in society and the benefits of its audio visual effect far outweigh that of the other mass media such as radio and the print media.

**Table 3.1: Percentage of currently married women by selected socioeconomic characteristics, Lampung Province 2007.**

| <b>Socioeconomic Factors</b>     | <b>Categories</b>      | <b>Frequency<br/>(N=925)</b> | <b>Percentage</b> |
|----------------------------------|------------------------|------------------------------|-------------------|
| Women's education                | No education           | 30                           | 3.2               |
|                                  | <= Primary education   | 474                          | 51.2              |
|                                  | >= Secondary education | 421                          | 45.5              |
| Husband's education              | No education           | 21                           | 2.3               |
|                                  | <= Primary education   | 460                          | 49.7              |
|                                  | >= Secondary education | 444                          | 48.0              |
| Women's working status           | Not working            | 243                          | 26.2              |
|                                  | Agricultural work      | 399                          | 43.1              |
|                                  | Non-agricultural work  | 284                          | 30.7              |
| Husband's working status         | Not working            | 13                           | 1.4               |
|                                  | Agricultural work      | 554                          | 59.8              |
|                                  | Non-agricultural work  | 359                          | 38.8              |
| Decision making in contraception | Other                  | 271                          | 29.2              |
|                                  | Mainly husband         | 33                           | 3.6               |
|                                  | Mainly women           | 109                          | 11.8              |
|                                  | Joint decision         | 512                          | 55.4              |

| Socioeconomic Factors                 | Categories                  | Frequency<br>(N=925)  | Percentage |      |
|---------------------------------------|-----------------------------|-----------------------|------------|------|
| Knowledge about contraception methods | Knows one method            | 7                     | 0.7        |      |
|                                       | Knows 2-4 methods           | 91                    | 9.9        |      |
|                                       | Knows > 5 methods           | 827                   | 89.4       |      |
| Wealth index                          | Lower                       | 444                   | 47.9       |      |
|                                       | Middle                      | 228                   | 24.7       |      |
|                                       | Higher                      | 253                   | 27.4       |      |
| Place of residence                    | Rural                       | 715                   | 77.3       |      |
|                                       | Urban                       | 210                   | 22.7       |      |
| Women's access to health care (index) | Difficult access            | 53                    | 5.8        |      |
|                                       | Easy access                 | 872                   | 94.2       |      |
| Frequency of access media :           | a. Read newspaper, magazine | Less than once a week | 846        | 91.4 |
|                                       |                             | Once a week or more   | 79         | 8.6  |
|                                       | b. Listen to radio          | Less than once a week | 648        | 70.0 |
|                                       |                             | Once a week or more   | 278        | 30.0 |
|                                       | c. Watch television         | Less than once a week | 169        | 18.2 |
|                                       |                             | Once a week or more   | 757        | 81.8 |

Source: calculated from the 2007 IDHS.

### 3.2.2 Family planning factors

The National Family Planning and Population Board (NFPPB) in Indonesia has launched several programs in order to increase the Contraceptive Prevalence Rate (CPR) and the quality of services. The current use of modern contraception is an outcome that will be examined in this study. Nowadays, 66.0% of currently married women are using modern contraception methods which are classified as using short-term methods (58.3%), while only 7.7 % are using long-term methods. Currently married women who are not using contraception are also quite high (34.0 %), and the numbers are higher than for those who are using long-term methods (see Table 3.2). Due to an increase in family planning services in the grassroots areas, the NFPPB has provided family planning field worker visits. However, in Lampung province, there was only 5.2 % of currently married women who said that they had been visited by the provider in the last

12 months. It could be assumed then that women went to health care facilities in order to access family planning services rather than getting them from the provider or field worker.

**Table 3.2: Percentage of currently married women by selected family planning factors, Lampung 2007.**

| Family Planning Factors                                    | Categories               | Frequency<br>N=925 | Percentage |
|--|--------------------------|--------------------|------------|
| Current use of contraception (dependent)                   | Not using contraception  | 314                | 34.0       |
|  | Using short-term methods | 540                | 58.3       |
|  | Using long-term methods  | 72                 | 7.7        |
| FP Field worker visit in last 12 months                    | Not visited              | 877                | 94.8       |
|  | Visited                  | 48                 | 5.2        |
| Heard FP via media last month:<br>a. Newspapers, magazines | No                       | 869                | 93.9       |
|  | Yes                      | 56                 | 6.1        |
| b. Radio   | No                       | 861                | 93.1       |
|  | Yes                      | 64                 | 6.9        |
| c. Television  | No                       | 767                | 82.8       |
|  | Yes                      | 159                | 17.2       |
| Informed choice index                                      | Weak informed            | 843                | 91.1       |
|  | Strong informed          | 83                 | 8.9        |

Source: calculated from the 2007 IDHS.

Informed choice is one of the means of enhancing a good quality of family planning services. Included in the informed choice factor was that information which the provider gave to clients which covered: side effects of contraception, how to deal with side effects or problems, the various methods of contraception choice, and that the consequences of sterilization mean not being able to have more children (Rutstein & Rojas 2006). Informed choice is an important factor as an indicator of family planning quality services. This study is using 2007 IDHS data; in fact only 8.9 % of women were exposed to three or four aspects of informed choice and most of the currently married women had not been fully informed of their choices. Informed choice should be given by providers or family planning field workers, and fewer visits by field workers will lead to a low level of informed choice given to clients.

In addition, in order to increase women's knowledge about family planning program, the role of mass media is also crucial. It found, only a few currently married women had heard about the family planning program last month through using three kinds of media, 6.9 % via radio

compared to 17.2 % via television, and only 6.1 % via the print media. This means that the family planning program was still did not widely spread in society via the mass media, particularly among currently married women.

### **3.3. Bivariate Analysis**

Bivariate analysis is a statistical analysis which identifies the relationship between selected demographic, socioeconomic and family planning factors and the current use of modern contraception as a dependent variable. The Chi Square Test will be used in examining the significant regression coefficients of independent variables with a measure of p-value < 0.05. It means that the data is required to obtain the 95% confidence interval (Lindeman, Merenda & Gold 1980, p. 47).

#### **3.3.1 Demographic Factors**

In order to examine the hypotheses which state that the influence of selected demographic characteristics significantly affects the use of modern contraception; a Chi Square analysis is to be used to determine that correlation. They are four variables of demographic factors which will be examined and they are: a women's age, number of living children, marital duration, and the ideal number of children. Based on the Chi Square Test, it is resulted that three variables significantly influenced the current use of modern contraception with a p-value of < 0.05 (Table 3.3).

It can be seen in Table 3.3 that the ideal number of children was the only variable which did not have a significant effect on the current use of modern contraception. The desired number of children is a women's subjective decision about the number of children which they want to have, yet that perception may change. The actual number of children or number of living children that the women already have has more significance on the use of contraception than the desired number of children. Cross tabulation between the number of living children that women have and their current use of contraception shows women who had no living children tended not to use contraception (94.4%). They wanted to have a child as soon as possible in order to build a family. In addition, women who had 1-2 children were less likely to not use

contraception (26.1%), than those who had more than three children (33.1%). It found through analysis that women with one or two children wanted more children later. It also described that they were likely to use more short-term methods (66.7%) than those women who had more than three children (57.1%). In addition, women with more than three children tended to use longer-term methods if compared with others groups, because they did not want to have child in the short-time period.

**Table 3.3: Percentage of currently married women who currently using modern contraception by demographic factors, Lampung 2007.**

| Demographic factors       | Current use of modern contraception (%) |                         |                        | Chi Square Test |         |
|---------------------------|---|-------------------------|------------------------|-----------------|---------|
|                           | Not using                               | Using short-term method | Using long-term method | Value           | p-value |
| No of living children:    |   |                         |                        | 132.798         | *0.000  |
| No child                  | 94.4                                    | 4.2                     | 1.4                    |                 |         |
| 1-2 children              | 26.1                                    | 66.7                    | 7.2                    |                 |         |
| >= 3 children             | 33.1                                    | 57.1                    | 9.8                    |                 |         |
| Women's age:              |   |                         |                        | 25.827          | *0.000  |
| 15-24                     | 33.8                                    | 65.5                    | 0.7                    |                 |         |
| 25-34                     | 29.6                                    | 63.6                    | 6.8                    |                 |         |
| 35-49                     | 37.9                                    | 51.1                    | 11.0                   |                 |         |
| Marital duration:         |   |                         |                        | 12.068          | *0.002  |
| <= 4 years                | 43.6                                    | 53.8                    | 2.6                    |                 |         |
| >4 years                  | 32.1                                    | 59.2                    | 8.7                    |                 |         |
| Ideal number of children: |   |                         |                        | 6.524           | 0.163   |
| 0-2 children              | 32.1                                    | 59.8                    | 8.1                    |                 |         |
| >= 3 children             | 34.7                                    | 58.6                    | 6.7                    |                 |         |
| No numeric                | 40.4                                    | 45.6                    | 14.0                   |                 |         |

Source: calculated from the 2007 IDHS. Note: \*significant with  $\alpha < 0.05$

Table 3.3 shows that women in the youngest age group are not likely to be using contraception. This happens because the median age at first marriage is 19.0 years and the median age at first birth is 20.6 years among women in Lampung province (IDHS 2007). As a consequence, women aged between 15 and 24 want to fall pregnant as soon as possible after marriage and tend not use any contraception methods. The highest use of contraception, both of short-term and long-term methods belongs to the 25-34 year old age group. The older age group shows a higher use

of long-term methods of contraception. Women at a younger age are not likely to use long-term methods of contraception. It is assumed that women at a younger age want a child as soon as possible after marriage and want to build a family compared with those older women. In contrast, older women age already have enough living children and do not want any more children in a short-time period. Therefore, they tend to use long-term methods.

In order to examine the effect of women's marital duration on contraceptive use, those variables are cross-tabulated and the results are presented in Table 3.3. The level of current use of contraception methods among women who have been married less than four years is lower than those who have been married for over four years. It may be deduced then that women who have been married for less than four years still want more children to increase their family at a later time. In addition, women with a long-time period of marriage already have ideal families, and as a result they prefer to use both short-term and long-term methods of contraception than who had only been married for a short period of time.

Overall, the selected demographic characteristics above have a significant effect on the pattern of current use of modern methods of contraception, excluding the desired number of children. The strength variables are: women's age, and number of living children, with a p-value=0.000; and after that, marital duration with a p-value of 0.002. Therefore, statistical analysis with suitable data from the IDHS 2007 supports the study's proposed hypotheses. In addition, in order to analyse how significantly those characteristics influence the current use of contraception, multivariate analysis will be used.

### **3.3.2 Socioeconomic Factors**

Selected socioeconomic characteristics have been examined using the Chi Square Test and the results are presented in Table 3.4. Variables with a p-value>0.05 are shown not to be of a significant value which means that those variables does not have a significant effect or correlation with the use of modern method of contraception. These variables included the husband's education, husband's occupation, women's access to health care, knowledge about contraception methods, and frequency of access to the print and electronic media, television and radio. However, several studies have revealed that those variables do have a significant

effect; this study cannot approve it because various socioeconomic characteristics in the specific society. This study found several socioeconomic characteristics that significantly affected the pattern of contraceptive use among currently married women in Lampung province. They are: women’s educational attainment, women’s occupation, wealth index, place of residence, and the decision makers regarding contraception. Women’s educational background will influence their knowledge about modern methods of contraception, increase women’s ability to access health services and finally increase the current use of modern contraception methods (Cochrane 1979, p. 135). However, in this case women’s knowledge and access to health care are not have correlated with the use of modern contraception, and it is only women’s educational attainment which influences it.

**Table 3.4: Percentage of current married women who currently using modern contraception by Socioeconomic Factors, Lampung 2007.**

| Socioeconomic Factors               | Current use of modern contraception (%) |                         |                        | Chi-Square Test |         |
|-------------------------------------|---|-------------------------|------------------------|-----------------|---------|
|                                     | Not using                               | Using short-term method | Using long-term method | Value           | p-value |
| Women educational attainment:       |   |                         |                        | 14.809          | *0.005  |
| No education                        | 58.1                                    | 35.5                    | 6.5                    |                 |         |
| <= Primary education                | 33.8                                    | 60.5                    | 5.7                    |                 |         |
| >= Secondary education              | 32.3                                    | 57.5                    | 10.2                   |                 |         |
| Husband educational attainment:     |   |                         |                        | 6.433           | 0.169   |
| No education                        | 42.9                                    | 52.4                    | 4.8                    |                 |         |
| <= Primary education                | 32.0                                    | 61.7                    | 6.3                    |                 |         |
| >= Secondary education              | 35.6                                    | 55.0                    | 9.5                    |                 |         |
| Knowledge methods of contraception: |   |                         |                        | 4.915           | 0.296   |
| knows one method                    | 57.1                                    | 42.9                    | 0                      |                 |         |
| Knows 2-4 methods                   | 41.3                                    | 53.3                    | 5.4                    |                 |         |
| Knows > 5 methods                   | 32.9                                    | 59.0                    | 8.1                    |                 |         |
| Women’s occupation:                 |   |                         |                        | 17.025          | *0.002  |
| Not working                         | 35.4                                    | 59.3                    | 5.3                    |                 |         |
| Agricultural work                   | 30.4                                    | 63.3                    | 6.3                    |                 |         |
| Non-agricultural work               | 37.7                                    | 50.4                    | 12.0                   |                 |         |

| Socioeconomic Factors            | Current use of modern contraception (%) |                         |                        | Chi-Square Test |         |
|----------------------------------|---|-------------------------|------------------------|-----------------|---------|
|                                  | Not using                               | Using short-term method | Using long-term method | Value           | p-value |
| Husband occupation:              |   |                         |                        | 7.468           | 0.113   |
| Not working                      | 61.5                                    | 30.8                    | 7.7                    |                 |         |
| Agricultural work                | 32.2                                    | 60.8                    | 7.1                    |                 |         |
| Non-agricultural work            | 35.7                                    | 55.4                    | 8.9                    |                 |         |
| Wealth Index:                    |   |                         |                        | 18.866          | *0.001  |
| Lower                            | 34.8                                    | 60.9                    | 4.3                    |                 |         |
| Middle                           | 33.6                                    | 58.1                    | 8.3                    |                 |         |
| Higher                           | 32.7                                    | 53.9                    | 13.4                   |                 |         |
| Place of residence:              |   |                         |                        | 13.744          | *0.001  |
| Rural                            | 33.0                                    | 60.8                    | 6.2                    |                 |         |
| Urban                            | 37.4                                    | 49.8                    | 12.8                   |                 |         |
| Women's access to healthcare:    |   |                         |                        | 5.926           | 0.052   |
| Difficulty access                | 47.2                                    | 50.9                    | 1.9                    |                 |         |
| Easier access                    | 33.1                                    | 58.7                    | 8.1                    |                 |         |
| Decision maker in contraception: |   |                         |                        | 729.294         | *0.000  |
| Others                           | 99.3                                    | 0.4                     | 0.4                    |                 |         |
| Mainly husband                   | 14.7                                    | 73.5                    | 11.8                   |                 |         |
| Mainly women                     | 5.5                                     | 85.3                    | 9.2                    |                 |         |
| Joint decision                   | 6.8                                     | 82.1                    | 11.1                   |                 |         |
| Frequency of access media:       |   |                         |                        |                 |         |
| a. Television:                   |   |                         |                        | 5.283           | 0.071   |
| Less than once a week            | 40.2                                    | 55.0                    | 4.7                    |                 |         |
| Once a week or more              | 32.5                                    | 59.0                    | 8.5                    |                 |         |
| b. Radio:                        |   |                         |                        | 0.122           | 0.941   |
| Less than once a week            | 34.0                                    | 58.2                    | 7.9                    |                 |         |
| Once a week or more              | 33.9                                    | 58.8                    | 7.2                    |                 |         |
| c. Printed media:                |   |                         |                        | 1.272           | 0.529   |
| Less than once a week            | 33.7                                    | 58.9                    | 7.4                    |                 |         |
| Once a week or more              | 36.7                                    | 53.2                    | 10.1                   |                 |         |

Source: calculated from the 2007 IDHS. Note: \*significant with  $\alpha < 0.05$

Education is a crucial socioeconomic characteristic that influences women's health. Women's educational background or level of education may affect the use of health services, particularly in using contraception. A higher level of women's education may encourage a greater current use of contraception (Table 3.4). This study found that women who had a secondary level education were more likely to use modern methods (67.7%) compared with those who had a primary education (66.2%). In addition, women with a secondary level of education are likely to use long-term methods than those who attain only primary education. It may be concluded

then that educational level may increase women's awareness about family planning programs, especially with regard to using modern contraceptive methods. A husband's educational level did not produce a significant relationship with women's use of contraception. This means that the role of education among women has more power in women's health care, particularly in the use of contraception rather than men's education does.

One function of the role of education is that it may increase women's knowledge in order to enhance their health and increase their access to health care facilities. However, this is unable to be proved in this study as knowledge of modern methods and access to health services did not have a correlation. Knowledge of at least one method of contraception may influence its use; knowledge of more methods reflect the wide dissemination of information and the high awareness of women of contraceptive use (Curtis & Neitzel 1996, p. 10). It can be said that there is a greater awareness of contraception methods choice among women in Lampung province because most of women are aware of more than five methods of contraception; however this knowledge cannot influence the use of modern methods of contraception.

Education level may also influence women's jobs and their husbands' occupation. Educated people will usually have a higher level of jobs. In this study, occupation status was categorised as work in agriculture and non-agriculture sectors. In developing country, the value of children as economic assets to their parents still expected (Lucas & Meyer 1994, p. 57). As a result a parent's occupation may influence the use of contraception in terms of management of the number of children they have. There are slightly significant differences in current use of contraception among women who are not working (64.6%), women who work in agriculture (69.6%), or those who work in non-agricultural sectors (62.4%). This means that women's occupation status has a role in the use of contraception. Women who work in the agriculture sectors show the highest use of contraception. It may be assumed then that women's awareness of the role of contraception in managing the number of children is already high, even among women who work in agricultural sectors. In addition, the economic value of children is low in Lampung province.

Wealth index is a measure of society welfare based on household characteristics. Almost 50 % of women live in poor condition in Lampung. However, there are no significant differences in the percentage of women who use modern contraception (long-term and short-term methods) among the higher level of the wealth index (67.3%), the middle level (66.4%) and the lower level (65.3%). It also described that women with a higher economic status were likely to use slightly higher long-term methods (13.4%) compared with those who had middle level (8.3%) and lower level economic status (4.3%). This means that wealth index or economic status is not factors which prevent woman seeking health services and using modern contraception methods.

Furthermore, type of residence not a limiting factor either in the use of contraception methods. In fact, the percentage of women who currently use contraception in rural areas is higher (67.0%) than that of women who live in urban areas (62.6%) because the majority of currently married women live in the rural areas. Women who live in urban areas also had easier access to health facilities. They tend to use a higher level of long-term contraceptive methods because these health service and the professional health workers are only available at specific health facilities which tend to be available in urban areas. This study found that easier access to health services did not influences the level of percentage of women who use contraception because  $p\text{-value} > 0.05$ , which is 0.052. However, the value is close to the significant value and, therefore access to health services can influence the contraceptive use with measure  $p\text{-value} < 0.01$  which means that data is required to obtain the 90% confidence interval. The easier access to health care facilities shows the higher use of modern contraception, which is 66.8% among women with easier access, when compared to only 52.8% women who had difficulties in accessing contraception. This means that access to health care services or get contraception is not a constraining factor in Lampung province.

Cohrane (1979) stated that the role of media was stronger in countries with a stronger family planning program because the mass media acts as a formal education for society. However, this study cannot provide evidence of the hypotheses that the media can influence the use of

contraception. This study concluded that the print and electronic media, radio and television had no correlation with women's use of modern contraception methods.

Communication between a husband and wife can also be influenced by education (Cohrane 1979). This study investigated decision-making in using contraception and found that joint decisions between the husband and wife were common. Joint decisions accounted for the high percentage use of short-term methods approximately 82.1%. This study also supported the argument that women's decision making regarding family planning may influence their use of contraception. It found that 85.3% of women used short-term methods of contraception with mainly women as the decision makers. In addition, the percentage of women who used short-term methods of contraception with decision makers being mainly the husband was 73.5%, and only 0.4% who used short-term methods with other people as the decision maker. Women's decision making in contraception showed that those women had a power or autonomy regarding their own healthcare.

### **3.3.3 Family Planning Factors**

Family planning factors are reported to have a role in the higher use of contraception methods in developing countries. In order to examine the influence of the family planning program on the use of contraception, three variables are used in this study; visits by family planning field workers, informed choice index, and whether respondents heard about the family planning program via the mass media in the previous month. Field workers' visits, media exposure and informed choice (index) are important variables in the family planning program and will be analysed by using the Chi Square Test. This study found that field worker's visits and information gained about the family planning program via the mass media do not significantly affects the use of contraception. However, the informed choice index significantly affects the use of modern contraception with a p-value of 0.000 (see Table 3.5).

Although this study cannot prove the correlation between several family planning programs and the use of contraception, it cannot assume that there is no significant role of the family planning program on contraceptive use. The high level of current use of modern contraception in Lampung province (66.0%) and the fact that the 2007 IDHS reports a low level of unmet need

(5.5%), below that of the national level (9.1%) are good indicators of the success of the family planning program. Knowledge, attitude toward and practice of family planning (KAP)-gap or unmet need is shows the differences between the practice of contraception and reproductive intentions, that is want spacing and limiting (Bongaarts 1991). This study reports that the low level of unmet need means the family planning services are successful as there is a reduction in the number of women who do not want to fall pregnant but do not use any contraception methods.

**Table 3.5: Percentage of currently married women who are using contraception by family planning factors, Lampung 2007.**

| Family planning Factors               | Current use of modern contraception (%) |                         |                        | Chi-square test |         |
|---------------------------------------|---|-------------------------|------------------------|-----------------|---------|
|                                       | Not using                               | Using short-term method | Using long-term method | Value           | p-value |
| Family planning field worker visited: |   |                         |                        | 3.120           | 0.210   |
| No                                    | 34.5                                    | 57.8                    | 7.6                    |                 |         |
| Yes                                   | 22.4                                    | 67.3                    | 10.2                   |                 |         |
| Heard FP in last month via:           |   |                         |                        |                 |         |
| a. Printed media:                     |   |                         |                        | 2.625           | 0.269   |
| No                                    | 33.7                                    | 58.8                    | 7.5                    |                 |         |
| Yes                                   | 37.5                                    | 50.0                    | 12.5                   |                 |         |
| b. Radio:                             |   |                         |                        | 1.159           | 0.560   |
| No                                    | 34.1                                    | 58.0                    | 7.9                    |                 |         |
| Yes                                   | 31.7                                    | 63.5                    | 4.8                    |                 |         |
| c. Television:                        |   |                         |                        | 0.357           | 0.836   |
| No                                    | 34.2                                    | 58.4                    | 7.4                    |                 |         |
| Yes                                   | 33.3                                    | 57.9                    | 8.8                    |                 |         |
| Informed Choice:                      |   |                         |                        | 59.861          | *0.000  |
| Weak informed                         | 37.2                                    | 56.3                    | 6.4                    |                 |         |
| Strong informed                       | -                                       | 78.3                    | 21.7                   |                 |         |

Source: calculated from the 2007 IDHS. Note: \*significant with  $\alpha < 0.05$

This study found that the informed choice index, that is a composite of four elements of informed choice, had a strong relationship with the level of contraception. It found that choice of methods of contraception, and that sterilisation means not having more children, are crucial factors in the current use of contraception. Weak informed choice may impact upon the low level of current use of contraception; approximately 37.2% of women did not use any

contraception methods as a result of being poorly informed. Information about contraceptive side-effects and how to deal with them is important in order to maintain contraceptive continuation. Approximately 18% of discontinuation contraception methods in Indonesia are caused as a result of side effects (IDHS 2007, p. 101). Giving as much information as possible about contraception may achieve a good quality of care from family planning services.

### **3.4 Multivariate Analysis**

Multivariate analysis, particularly multinomial logistic regression has been used to predict the main independent factors which significantly affect the dependent variables. The current use of contraception as a dependent variable, is classified by women who are not using contraception or are using short-term or long-term methods of contraception. Multinomial logistic regression is used in this study due to the dependent variables consisting of the three categories above. Multinomial logistic regression is a statistical method which is used when the dependent variables contain more than two or three categories as an outcome (Trihendradi 2007; Tabachnick & Fidell 2007). Variables with p-value of less than 0.05 means those variables have a significant effect on the current use of modern contraception.

Multinomial logistic regression consists of several indicators. In order to examine suitable data with model, the result of indicator for goodness-of-fit should have a p-value  $> 0.05$  (Trihendradi 2007), while this test is divided into two indicators: Pearson and deviance. This study found that all predictors in the model showed an excellent fit with the p-value 1.000 by Pearson and p-value 1.000 for deviance. Furthermore, the statistical value is measured by PseudoR-Square: Cox and Snell, Nagelkerke and McFadden with a value between 0 and 1. This analysis of multinomial logistic regression has a value of PseudoR-square between 0 and 1. In addition, the likelihood ratio test shows the influence of each independent variables (Table 3.6). Based on that test, the study found that the variables of women's age, decision makers in contraception, and informed choice all have a strong influence in the use of contraception with a p-value of 0.000.

**Table 3.6: Likelihood Ratio Test**

| Effect                                 | Likelihood ratio tests |          |              |
|--|------------------------|----------|--------------|
|  | Chi-square             | df       | p-value      |
| Intercept                              | 0.000                  | 0        |              |
| <b>Women's age</b>                     | 22.754                 | 4        | <b>0.000</b> |
| Number of living children              | 1.852                  | 4        | 0.763        |
| Marital duration                       | 0.059                  | 2        | 0.971        |
| Women's educational attainment         | 4.387                  | 4        | 0.356        |
| Women's occupation                     | 8.847                  | 4        | 0.065        |
| <b>Decision maker in contraception</b> | <b>638.031</b>         | <b>6</b> | <b>0.000</b> |
| Wealth index                           | 3.388                  | 4        | 0.495        |
| Place of residence                     | 2.441                  | 2        | 0.295        |
| <b>Informed choice index</b>           | <b>48.655</b>          | <b>2</b> | <b>0.000</b> |

In addition, the parameter estimates report an influence of each variable's predictor (Trihendradi 2007) with p-value (sig value) < 0.05. Table 3.7 describes several variables that influence to contraceptive use. In this study, not using contraception as referent group and interpret a model for 'using short-term' relative to 'not using' and a model 'using long-term' relative to 'not using'. The interpretation of significance variables is limited to the model in which the parameter estimate was calculated.

Firstly, estimated 'using short-term' relative to 'not using' contraception, with p value < 0.05. Table 3.7 describes the regression coefficient for all selected variables with a p-value of < 0.05 have been found to be statistically different from zero for using short-term methods to not using contraception given that all variables are in the model. This means that those variables significantly had correlated with the dependent variable. This study concluded that independent variables which significantly and positively influence the use of short-term modern contraceptive methods are: women aged between 15 and 24 years; women who work in the agricultural sector; husband-wife who act as decision makers; and women who had informed choice. It may be assumed that only the four variables above have a relationship with the current use of modern contraception if all significant factors that have been analysed using bivariate analysis are examined.

Table 3.7 indicates that women aged 15 to 24 years are thirteen times (odds ratio) as likely to use short-term methods of modern contraception as women aged 35 to 49 years. It indicates that women at a younger age want children in a short-time period. As a consequence, they prefer to use short-term methods. In Lampung province, the median age at first marriage is 19 years and the median age at first birth is 20.6 years (IDHS 2007). Therefore, during the 15-24 age bracket is when women first got married or had their first child. After getting married, women wanted a child soon as possible because having at least one child is a dream and an expectation of couples who want to build a family. After that, it may be assumed that women are likely to use short-term methods because they still want a child in a short time period. It also may deduced that women aged between 35 and 49 years are less likely to use short-term methods compared with those aged 15-24 years because in that age group women already have their ideal family and did not want a child in that short-time period.

**Table 3.7: Logistic Regression Analysis of current use of short-term methods of modern contraception, Lampung 2007**

| <b>Variables</b>  | <b>B</b> | <b>Wald<br/>X<sup>2</sup> test</b> | <b>Odds<br/>Ratio</b> | <b>p-Value</b> |
|---|----------|------------------------------------|-----------------------|----------------|
| Women aged 15-24 years vs. aged 35-49 years                 | 2.567    | 5.435                              | 13.028                | 0.020          |
| Women's who work in agriculture vs. work in non-agriculture | 1.039    | 6.050                              | 2.827                 | 0.014          |
| Others as decision maker vs. Joint decision                 | -9.170   | 39.655                             | 0.000                 | 0.000          |
| Weak informed vs. strong informed                           | -17.118  | 2356.717                           | 3.67-8                | 0.000          |

Source: calculated from the 2007 IDHS.

Occupation among currently married women also influences their use of contraception. Women who work in the agricultural sectors are 2.8 times more likely to use short-term rather than not using it, if compared with those who work in non-agricultural sectors. It showed that the children's value, which emphasized the benefit of children to their parents in the future (helping parents work on farms), was not common in Lampung province. Parents tended to control the number of children they had by using modern contraception methods. It may also

be assumed that poor conditions may lead parents to manage their number of children; moreover the family planning program was common in Lampung province, even women who work in the agricultural sectors use modern methods of contraception, particularly short-term methods. However, the husband's occupation shows no correlation with the women's current use of contraception. Therefore, women who work have more power or autonomy in deciding their own health care rather than husbands who work.

Moreover, women's autonomy is also reflected by the women's decision making in using contraception methods. This study indicates that other people who act as decision makers affect the low level of current use of contraception if compared with husband-wife decision makers. Women are less likely to use short-term methods with others as decision maker (odds ratio 0.000). It also may be assumed that joint decisions between husband and wife may increase the current use of contraception. Communication between husband and wife is built because women also have power and autonomy to discuss, argue and reason and also make decisions regarding their health care, so the decision is not only mainly a husband's decision. Joint decisions are common in Lampung province and this account for 55.4% of percentage husband-wife as decision makers.

In addition, the level on the informed choice index significantly affects the short-term usage of contraceptives. This means that more information about contraception that women receive will encourage more contraceptive use because women know about their side effects, how to deal with them, choice of contraceptives, and the impact of sterilisation, so they do not need to be anxious in using contraception. This condition can lead to contraception continuation in the future. However, most women, approximately 90 % are still being poorly informed in Lampung province. Overall, in using short term methods, the strength variables which influence it (p-value=0.000) are decision makers in contraception, and the informed choice that the provider gives to the women. Women's occupation (p-value 0.014) and women's age (p-value 0.020) also had significant effects after two strong variables above.

Secondly, the independent variables which positively affects the use of long-term methods of contraception is the decision makers in using contraception (see Table 3.8). Table 3.8 shows

that other people who act as decision makers in using contraception may induce to less use of modern contraception among currently married women (odds ratio 0.002), particularly with regard to long-term methods. It can be said that whoever acts as a decision maker is crucial because it may affect the use of both short-term and long-term methods of contraception and it has a strong correlation which is signed by a p-value 0.000. The study asserts that women's autonomy is quite high in Lampung province as joint decision-making between husband and wife is common.

Education is also crucial in affecting women's autonomy in decision making regarding their health. Cochrane (1979, p.9) claims that 'education has positive effects on attitudes toward contraception, knowledge of contraception and communication between husband and wife and on contraceptive usage'. However, in this study, education cannot be correlated to the use of contraception if several factors are examined. In addition, the community's level of education also may affect on women's health care as people can encourage women to care about their health. Simmons and **je Jong** (cited in Cochrane 1979) found that even if the women's level of education is controlled, the community's level of education was crucial in determining the percentage of women who knew about contraception.

**Table 3.8: Logistic Regression Analysis of current use of long-term methods of modern contraception, Lampung 2007**

| Variables  | B      | Wald<br>X <sup>2</sup> test | Odds<br>Ratio | p-Value |
|--|--------|-----------------------------|---------------|---------|
| Other people as decision maker vs. joint decision making | -6.295 | 25.405                      | 0.002         | 0.000   |

Source: calculated from the 2007 IDHS.

This study found that the wealth index that shows the household characteristics did not affect the use of short-term and long-term methods of contraception. Almost 50% of currently married women live in poor conditions in Lampung province, in fact, the current use of modern contraception is still high (66%). This means that poor conditions are not a constraint to the use

of contraception and several factors may affect that usage, not only the wealth index which shows the economic status of currently married women. A low level of economic status did not affect women's health care because women were still able to access health care facilities if they had autonomy and received adequate information regarding choice from their health provider.

## CHAPTER FOUR

### CONCLUSION

#### 4.1 Introduction

The objective of this study is two-fold to examine the various factors that contribute to the pattern of contraceptive use and to analyze the differentials in contraceptive use among the selected various socio-economic and demographic groups, and family planning factors. The 2007 IDHS data are used, particularly among the 925 currently married women aged between 15 and 49 years. This study uses modern contraceptive methods as unit of analysis. It examines several hypotheses, which include are independent variables (demographic, socio-economic and family planning) that significantly influence the dependent variables (the current use of modern methods of contraception). In order to analyse the correlation between independent and dependent variables, the Chi-Square Test and multinomial logistic regression are used as statistical methods of analysis and the main finding of which is described in this chapter. In addition, this chapter describes recommendations for the government of Lampung to maintain and increase the level of contraceptive use and discusses the implications of further study.

#### 4.2 Key findings

Lampung province is located on the southern Sumatra Island and is the gateway for trade from Java to Sumatra Island. However, Lampung has a strategic location and enjoys economic growth. This province has been ranked as the second poorest province on Sumatra Island since 2007, after Nanggroe Aceh Darussalam (Saroso 2009). This study found that almost 50 % of currently married women who use modern contraception live in poor conditions which are indicated by a low level on the wealth index; only 27.4% women have a high level on the wealth index. An interesting fact is that the current use of modern contraception methods among currently married women is high at 66.0% in 2007 even though Lampung is one of the poorer provinces.

This study indicated that the current use of both short-term and long-term methods of modern contraception among women is influenced by selected demographic, socioeconomic and family

planning factors. In terms of demographic factors, the findings of the bivariate analysis have confirmed that women who had 1-2 living children, women aged between 25 and 34 years old, and women who have been married for more than four years, are likely to use short-term methods. However, long-term use is chosen by women who had more than three living children, women in the 35-49 year old age group and who have been married for more than four years. The ideal number of children is not shown to be significantly associated with the use of modern methods of contraception.

In terms of the socio-economic factors, the findings of the bivariate analysis have confirmed that women's educational attainment, women's occupation, wealth index, place of residence, and the decision makers who choose the contraception, all contribute to the probability of the use of contraception. Other factors that have a non-significant correlation are the husband's educational attainment, husband's occupation, the frequency of access to television, radio and print media, knowledge methods of contraception, and women's access to health care. Those variables, therefore, were not included in the multivariate analysis. However, women's access to health care ( $p$  0.052), and the frequency of access to television ( $p$  0.071) may had correlation to the use of modern contraception if used the 90% of confidence interval with  $p$ -value less than 0.10 indicates the significant value of correlation.

Low economic status is not a constraint to contraceptive use. Having the financial resources to access health facilities is one aspect of women's access to health care. This study is supported by evidence that low income was not an obstacle for women to access health care in Lampung. Data shows that 94% of women said that they had easy access to health facilities which is known to have an impact on the use of modern contraception methods. Moreover, the wealth index which indicates the welfare level in the society is not found to create a significant difference in the use of modern contraception. The percentage of women who use modern contraception methods (in the short and long-term) among the higher level of wealth index is 67.3%; among the middle level is 66.4%; and among the lower level is 65.2%. This signifies that those women on the lower level of the wealth index can achieve a high level of contraceptive use too.

Furthermore, television had become a primary need in society; commonly, poor people have television as a source of information. Women who get information by watching television at least once a week may exhibit a higher use of contraception than those who watch it less than once a week. It assumes that the role of television as source of information is essential in supporting women's health. In addition, and as a result of the binomial logistic regression analysis, a higher level on the wealth index does not affect the use of short-term and long-term methods of contraception

This study revealed an unexpected result in family planning factors. This is, the notion of informed choice which provides information about side effects and how to deal with them, informed choice regarding methods of contraception, and sterilisation shows a strong correlation with the use of modern contraception methods with  $p\text{-value} = 0.000$ . An informed choice which the provider gives to clients is an important means of enhancing a good quality of family planning services. Good quality of care in family planning services may maintain a client's contraception continuation (Ramarao 2003). In fact, there are still cases of clients being not being well informed enough. Not being well informed may lead to a low level of current use of modern contraception because a lack of knowledge about side effects is one aspect of misinformation that may induce to women to discontinue contraception use.

However, visits by field workers and family planning information via television, radio, and print media have shown a non-significant influence in modern contraception methods usage. Only 5% of women who were visited by family planning field workers and had access to family planning programs via mass media still did not wide spread in society. It may be assumed that clients are more likely to go to health care facilities in order to get family planning services rather than from the provider. In addition, the study found that only a few currently married women had heard about the family planning program last month by using three kinds of media: 6.7 % via radio compared to 17.1 % via television, and only 6.0 % via printed media.

Indeed, depth analysis was carried out by using multinomial logistic regression. Based on that analysis, several variables that had significantly positive effects on the use of short-term

methods of modern contraception were women being aged between 15 and 24 years, working in the agricultural sectors, making the decisions about contraception, and being informed about contraceptive choices. Moreover, the variables which positively affected the use of long-term methods of contraception were being the decision maker in using contraception.

Women at a younger age (15-24 years old) had a stronger correlation, and were thirteen times more likely to use short-term methods than women at aged 35-49 years old. The 15-24 years old age bracket is when women first get married or have their first birth. So, it may be assumed that women in that age group wanted a child early to begin building a family. As a consequence, women with these characteristics preferred to use short-term methods of contraception. In contrast, women in the 35-49 age groups were less likely to use short-term methods because they did not want a child in a short-time period.

This study found that most women and their husbands (77.3%) lived in rural areas and mostly worked in the agricultural sectors as this province had various agricultural sectors of production. Women who worked in agriculture were 2.83 times more likely to use short-term contraception than those who worked in non-agriculture. However, a husband's occupation had no correlation with the woman's use of contraception, so this study indicate that husband's occupation did not support their wife in using short-term methods. This meant that women's awareness of using contraception was high, even though they worked in the agricultural sector. Therefore, Lampung had a total fertility rate (TFR) below the national TFR (2.5 births per woman) in 2007 (IDHS 2007). Caldwell (2005) carried out a study to update his Wealth Flow Theory (1976) which focused on the wealth flow in developing countries, particularly in farming and pre-farming societies. This new study carried out reserve the wealth flow theory, which is from parent to children because everybody's work input was small and the impact of children's input was small too, then fertility fell among those societies. It may be assumed then that contraception is a proximate determinant of fertility, and therefore the use of modern contraception among women who work in agriculture (69.6%) will lead to a lower level of fertility in Lampung province.

Furthermore, the clients' informed choice improves women's knowledge about contraception, and these women then tend to use contraception methods. A lack of informed choice from providers results in a higher level of women not using any contraception (37.2%). However, almost 90 % of women knew of more than five any methods of contraception. Knowledge of at least one method may influence the use of that contraception; knowledge of more methods reflects the wide dissemination of that information and the high awareness of women about contraceptive use (Curtis & Neitzel 1996, p. 10). This study found that although women were not fully informed about their choices, their knowledge about contraceptive methods was high. This meant that women's awareness about the importance of contraception was already high; however, women's knowledge about contraception method choice had no correlation with the use of modern methods of contraception. It may be concluded then that not only do women need to be more informed by their healthcare providers; they need to be more autonomous in making decisions affecting contraception methods, and have more access to health care. All of these factors seem to have enhanced the current use of contraception.

Decision making in using contraception is also important and shows women's autonomy in health care. In Lampung province, a joint decision between husband and wife is common. Other people who act as decision makers are less likely to encourage the current use of modern contraception, both of short-term and long-term methods among currently married women. Better communication between husband and wife can be built and strengthened as women have the autonomy to decide, and to argue and communicate with their husbands. Educational level also may influence a woman's autonomy. However, in this case, educational attainment does not have a significant effect if several independent variables are examined by using multinomial logistic regression. In Lampung province, only a few women who had no education and most of currently married women and their husband had completed primary education which is 51.2% (women) and 49.7% (husband).

## 4.2 Recommendations

The multivariate analysis carried out revealed that of all the factors examined, women's age, women's occupation, decision making in using contraception, and informed choice were all significantly correlated to the use of modern contraception methods rather than the wealth index variable. Wealth index did not have a correlation with the use of short-term and long-term methods. This means that poor conditions were not a situational constraint in contraception use. Therefore, the policy maker should focus on the selected demographic and socio-economic factors above in order to achieve a high level of contraceptive use in Lampung province in poorer conditions. For example, by giving clients an informed choice may increase women's autonomy to make decisions regarding their own health care. As a result, they tend to use modern methods of contraception.

However, this study also found that there was no significant positive effect of the family planning program, excluding informed choice index which consisted of four aspects. In fact, this study described a good indicator of family planning program in Lampung province, which was a high level of contraceptive prevalence rate (CPR). The 2007 IDHS reported that the TFR of Lampung province was below the average national level. In addition, in order to enhance the current use of modern contraception and achieve replacement level of fertility, that is 2.1 births per women, the role of Family Planning and Population Board (BKKBN) in Indonesia is still needed. Low levels of visits by family planning field workers (5%), a lack of informed choice, and limited information about family planning via the mass media all need to be improve through an available and wide-spread family planning program targeted at currently married women.

In Lampung, women's awareness of contraception use is high because most of women know of more than five methods of contraception (89.4%). However, knowledge of contraception methods is not enough to ensure women's use of contraception. Informed choice and information about side-effects and how to deal with them, as well as information about sterilisation were found have more significant effects on the use of modern methods rather than the knowledge of contraception methods did. Therefore, more effort on the part of providers to give women more informed choice is required.

Nowadays, the aim of the family planning program is to not only encourage a high level of contraception use but to also provide a good quality of care in family planning services. The family planning program should respect to the human right and enhance women's health. This study found that, as one aspect of family planning services, informed choice significantly affects to the use of contraception. However, it needs further research in order to increase the good quality of care from family planning services. These services cover six elements: choice of methods, information given to clients, technical competence, interpersonal relations, follow-up or continuity mechanism and appropriate constellation of services (Bruce 1990). The high use of contraception without the follow up of good quality of care did not make a significant change in quality of family planning services.

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