

*Contraceptive Use and Induced Abortion
in Cambodia*

Social and Cultural Context, Perceptions and Decisions made

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Preface

Somewhere half way through the first semester, the mind was pushed into deciding what to do for a master's thesis. Different ideas popped into mind, but it was soon clear that it had to be something to do with reproductive health, and preferably somewhere abroad. Luck had it that close friends of my family were visiting, Simon and Oie. Here the first suggestion was given that has brought me to Cambodia and back. The idea was very appealing, but there were difficulties to overcome. First of all there were no established contact, so not only did I have to convince my professor, Dr. Inge Hutter, to allow me to go, but I also needed to make contact and find someone there to help me set up my research. The first part was the easiest part. My professor has been a never-ending source of support on my scientific, as well my personal, journey that has lead to this thesis. My 'big brother' Simon was my only contact in Cambodia, but it was his friend Bart Jacobs, who brought me into contact with Dr. François Crabbé. With his help I was able to hand in my request to the National Ethical Committee of Cambodia, and did I find a location to do my fieldwork, the Mother and Child Health clinic in Sihanoukville. Thank you for investing so much time and energy into helping me with the preparations for my fieldwork. Gratitude is also given to the National Ethical Committee of Cambodia, the provincial health department, the public hospital, and the MCH clinic, for approving my research.

There are so many more wonderful people I need to thank, Dr. Sophal and all other staff members of the MCH clinic in Sihanoukville for allowing me to take up so much of their time. Special thanks to my interpreter Somaly, who between her work and her two children still managed to spend hours with me conducting the interviews. And last but not least forever thanks to all the women who invited me into their homes and shared their stories with me. Without them it would not have been possible.

Upon my return from Cambodia there was so much work still to be done. Had it not been for the feedback from Prof. Dr. Inge Hutter and Dr. Fanny Janssen this final version would never have been what it is today. Thank you for being critical and teaching me so much.

On a much more personal note, I once again want to thank my 'big brother' and Oie, for taking care of me during my stay in Cambodia. Even though you were on the other side of the country, your support meant a great deal to me. Grateful am I to my friends for their love and support and especially all the emails while I was in Cambodia. And last but definitely not least Mum and Dad, thank you for your love and support. Thank you for believing in me.

Loes Kendle,
August 2006.

Summary

This thesis tries to answer the question how the social and cultural context influences the proximate determinants, contraceptive use and induced abortion in Cambodia. To answer this question the theory of the proximate determinants, theory of planned behaviour and process context approach were used. Two different approaches were used for finding the answers. The first approach is a quantitative analysis on the Cambodia Demographic and Health Survey (CDHS). The second approach is a qualitative research, done in Cambodia, to find answers behind the numbers by finding the perceptions women have about fertility, contraceptives and induced abortion. Contraceptive use and induced abortion were placed within the reproductive career of a woman.

The woman's reproductive career starts with menarche. Few of the interviewed women knew what happened to them at that moment. Questions were asked about whether they knew when their fertile period was, it became evident that even though women might be able to say when it is, they do not necessarily understand what it entails. Because many women practise withdrawal and abstinence as a form of birth control this is important knowledge. The CDHS showed that approval of the husband of contraceptives showed a stronger association with contraceptive than the woman's approval. The information found in Cambodia further showed that some women say they do not use contraceptives because of their husband, because he should make the decisions about contraceptives, and regarding having more children. When it comes to reasons for not using contraceptives both the CDHS and the interviewees said it was because of (perceived) health reasons. Abortion is a different matter, few answers could be found in the CDHS, the fieldwork however showed that women knew what a woman could do when she has an unwanted pregnancy. Women do not seem to judge other women for having one because taking care of the family, and making sure there is an income, is important and seems to be an acceptable reason.

Even though the research showed that other influences such as attitudes and subjective norm, the approval of contraceptives in particular, influence contraceptive use and induced abortion. Perceptions about the woman's body regarding fertility seem to have an impact, for example knowledge of the fertile period on correct use of contraceptives.

During the thesis it became clear that still a lot more information is needed. Mainly to know which source gives what information, as a lot of information is not clear to the women. This gives rise to inaccurate ideas about contraceptives and prevents them from using it correctly. Incorrect use of contraceptives can in turn lead to an induced abortion.

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1 Introduction

In Cambodia a high percentage of women can name one modern contraceptive, 92 percent of women between the ages 15-49 know about contraceptives, and 24% of the women are using contraceptives (Ministry of Planning 2001). It appears that contraceptive use, when looking at contraceptive knowledge, is low. When a high unmet need for contraceptives, is taken into consideration contraceptive use seems to be even lower (Ministry of Health 2004). Unmet need for contraceptives is there when women have more children than they want and/or have it at a different time than the women want. However being able to name a contraceptive and knowing how to use contraceptives are two different things. There are also the possibilities of not wanting to use the contraceptives, or not having any access to contraceptives. On the other hand it is estimated that 10 percent of the women will have an abortion by the end of their reproductive career (Ministry of Planning 2001). Why do few women use contraceptive and why do many women have an abortion? This thesis will try to answer these questions, and there are is a main question that comes to mind to do this:

Main questions:

1. How does the social and cultural context influence the proximate determinants of fertility, contraceptive use and induced abortion, in Cambodia?
 - a. How do attitudes and the subjective norm influence the proximate determinants of fertility, contraceptive use and induced abortion in Cambodia?
 - b. How do Cambodian women see their own fertility, what are their perceptions and how do they make their decisions?

Objectives of the thesis:

- Getting insight in the current situation concerning the proximate determinants of fertility, contraceptive use and induced abortion, about who uses contraceptives and who go for an induced abortion.
- Understanding how the context through the subjective norm and attitudes influence the proximate determinants of fertility, contraceptive use and induced abortion.
- Understanding women's perceptions of fertility, and how their perceptions are formed by the women's context.
- Understanding how women make decisions concerning contraceptives and induced abortion.

To find answers to these questions two different approaches are used. The research is constructed out of quantitative analyses and qualitative research. The quantitative analyses will firstly examine what the influences are on contraceptive use, who uses and who does not use contraceptives. Secondly an

analysis will be done on the women who go for an induced abortion to see whether there are differences between women who decide to go for an induced abortion and the women who do not. The objective here is to understand what influences the decisions of women regarding contraceptive use and induced abortion.

The second part of finding answers is done through qualitative research. The reason for doing this is to understand how women perceive their own fertility and how they come to their decisions regarding contraceptive use and induced abortion. By combining the quantitative analysis and qualitative research comprehensive answers about influences on contraceptive use and induced abortions are found. Qualitative research can give the reasons behind the outcomes of the quantitative analyses.

The thesis is structured as follow. After this introduction, chapter 2 is devoted to giving background information on Cambodia, a discussion on relevant research done in Cambodia, and policies related to contraceptive use and induced abortions are discussed. Chapter 3 is the theoretical background. Firstly the behaviour is discussed from a purely theoretical standpoint. Secondly the conceptual model is presented, which is the basis for the quantitative and qualitative analyses. Chapter 4 gives a more in-depth presentation of how the research was conducted, addressing the concepts used in the research, the operationalization of both quantitative analyses and qualitative research and the methods used for them. Time has also been given to the ethical issues that needed to be addressed specially for the fieldwork in Cambodia. The chapter ends with a reflection on the research. Chapter 5 is the first chapter that presents the results of the influences of the individual characteristics, attitudes and subjective norm on contraceptive use and induced abortion. Chapter 6 presents the identified perceptions on fertility. This chapter also gives results about the decisions women make concerning contraceptives and induced abortion and who influences their decisions. The last chapter is chapter 7 and it gives the final presentation of the conclusions of this thesis and recommendations for further research. But before all this, first a closer look at the current situation in Cambodia.

2 Background

This chapter gives more information about the current demographic situation in Cambodia. It has a look at some of the basic demographic indicators, population structure, fertility, mortality, contraceptive use and induced abortion. The chapter also has a look at previous research that has been done on contraceptive use and induced abortion. One of the researches discussed is on the proximate determinants of fertility for Cambodia. Even though the separate proximate determinants are discussed in this chapter, the theory of the proximate determinants of fertility is discussed in the chapter 3. The last section of this chapter consists of the presentation of the current population policies and reproductive health policies.

2.1 Demographic situation in Cambodia

Cambodia is part of South East Asia, see figure 2.1. Located to the west and north is Thailand, also to the north Laos, to the east Vietnam, and to the southwest the Gulf of Thailand. The Capital of Cambodia is Phnom Penh. Most people who have heard of Cambodia make a link to its recent violent past, and in particular the Khmer Rouge. It was not until the early 1990s that peace came to this country, and that rebuilding could start (Ministry of Planning 2002). This violent past has also left effects on the demographic situation of Cambodia. Therefore some time is devoted to the population structure and, fertility and mortality rates, besides contraceptive use and induced abortion.

Figure 2.1: Map of Cambodia



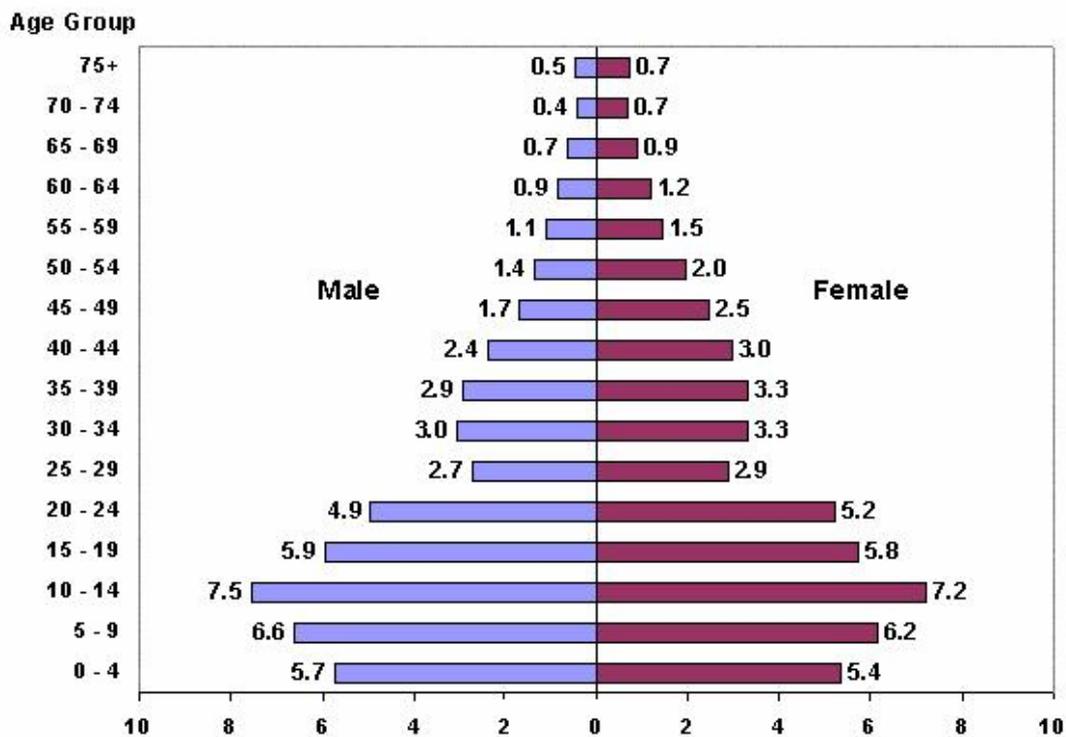
Source: National Library of Malaysia 2006

2.1.1 Population structure

The population census dates from 1998, through which a population of 11,747 million was estimated. A new survey, done in 2004, estimates the population to be 13,091 million (NIS 2005). A clear impact of the Khmer Rouge, which was in power from 1975-1979, can be found in the population structure,

as shown in figure 2.2. The birth cohort of people who are now 26-30 years old is visibly smaller than the older cohorts. This indicates that fewer children were born during the Khmer Rouge. The period after the Khmer Rouge, started with a baby boom in 1980 and the following years. However this is not the only visible difference. The largest cohort is the group of children who were born in the early 1990s. The Khmer Rouge might not have been in power for ten years, but it was not until the early 1990s that the country calmed down, which resulted in a larger baby boom. After this less children were born and the younger cohorts became smaller. There is also a large difference in the division of men and women. In Cambodia there is a sex ratio of 93 men to 100 women. This is mainly true for the older cohorts, which is an indication of a high mortality and out migration of men during the Khmer Rouge period (Ministry of Planning 2002). It also becomes visible in the high amount of female-headed households, 25.7 percent of all the households is female-headed (Ministry of Planning 2002).

Figure 2.2: Population pyramid of Cambodia for 2004



Source: NIS 2005

2.1.2 Fertility

There are a few things to say about fertility. First of all, fertility is high in Cambodia. The Cambodia Demographic and Health Survey (CDHS) in 2000 gave a fertility rate of 4.0 (Ministry of Planning 2001). This is the number of children women would have if they go through their entire reproductive career (age 15 to 49) with the current age specific fertility rates. In the CDHS women were asked about the amount of children they would like to have, which according to the Ministry of Health

(2004) is 3.1. This would indicate that on average women have one child more than they would like to have (Ministry of health 2004). There are however different numbers found in the CDHS, when reading the published CDHS report, one of the other numbers mentioned is 3.9 children for married women. Another number mentioned is 3.6 for all women participating in the CDHS (Ministry of Planning 2001). The value 3.9, the amount of desired number of children for married women, found in CDHS 2000 is confirmed by other research that found the same value in a KAP study (NCRHP 2000). However there are signs that the total fertility rate (TFR) is slowly declining, just not how much. There are different numbers for the fertility rate in the years before 2000 and they vary between 5.3 (Beaufils 2000, Ministry of Planning 2002) and 4.5 (Ministry of Planning 2003). The difference between the actual number of children and the desired number of children is not always clear. However what is known is that the amount of actual number of children is higher than then the desired number of children.

Not only are there a lot of women who have more children than they would want to have, there is also a large amount of women who would prefer that the children they already have, were born at a later time. A large amount of these women do not use any form of contraception, resulting in a large unmet need for contraceptives (Ministry of Health 2004). If there would be no unmet need for contraceptives than the desired amount of children would be born at the time that the people choose for themselves.

2.1.3 Contraceptive use and knowledge:

Related to fertility and unmet need of contraceptives, is the use and knowledge of contraceptives. Knowledge of contraceptives is high in Cambodia, 92 percent of all women could name at least one method. This proportion is slightly higher among married women than among unmarried women. However use of contraceptives is relatively low, 14.2 percent of all women aged 15 to 49, and 23.8 percent of current married women use contraceptives (Ministry of Planning 2001). Of the married women 18.5 percent uses modern methods of contraceptives and 5.3 percent uses traditional methods, such as periodic abstinence and withdrawal (Ministry of Planning 2001).

2.1.4 Mortality

The only indication of mortality rates in Cambodia that can be found, are the estimates from the Demographic Healthy Survey. However some caution is needed here because the sibling survivorship was used. In case someone has no (surviving) sibling, there is no report being made about him or her passing away. Something that resulted from these estimations was that more men died than women, 143 men to 100 women. This might be the result of the Khmer Rouge period and its aftermath, as fighting continued well into the 1990s (Ministry of Planning 2001). The two main current causes of

death for the entire population in Cambodia are: AIDS and traffic accidents (Ministry of Planning 2001).

Other forms of mortality are maternal and child mortality. Maternal mortality is high, 437 per 100,000 live births. For comparison, Vietnam has 130 per 100,000 live births and Laos has 650 per 100,000 live births (World Bank 2006). Maternal mortality is not the only problem; many more women suffer from complications. It is estimated that for each woman who dies, 20 to 30 more women suffer from complications that can lead to disabilities. One of the explanations for this could be that there are few qualified birth attendants present during the delivery (Ministry of Health 2004).

Under five year mortality is also high in Cambodia, and it has been high over the last decades. The number is estimated to be 124, which means 124 children die before the age of 5 for every 1000 children born (Ministry of Planning 2001). In comparison, in Vietnam the number is estimated to be 24 (Committee for Population, Family and Children 2003) and Laos 101 (World Bank 2006).

2.1.5 Induced Abortion

Cambodia is one of the few countries that allows induced abortion and which has its own abortion law (Ministry of Health 1998). The abortion act is from 1997. Before this abortion was only allowed to save the life of the woman. Now any women can ask for abortion within the first trimester without any fear of repercussions. But there are circumstances where the woman can ask for abortion after the first trimester, such as rape. In all cases consent of the pregnant women is needed (Fordham 2003). To get a deeper understanding about the abortion practises, questions were included in the Demographic and Health Survey about induced abortions. However caution is needed as having an induced abortion is not socially accepted, particularly for an unmarried woman. The numbers resulting from the CDHS data for the ages 15 to 19 are therefore likely to be most underestimated (Ministry of Planning 2001). Of all the women aged 15 to 49, five percent has had an induced abortion. However the number increases with age, and at the end of their reproductive life, almost 10 percent has had an abortion. The number does not only increase with age but also with the number of living children the woman has. The more children she has, the more likely it is that she had an induced abortion (Ministry of Planning 2001).

The above section gave a short overview of the demographic situation in Cambodia over the last few years. Summarised Cambodia is a country with: an uneven population structure, high fertility, high mortality, especially under 5 year mortality, low contraceptive use and where one in ten women will have an induced abortion by the end of their reproductive careers.

2.2 Literature review of previous research done in Cambodia

In the previous section information has been given on the current demographic situation of Cambodia. Unfortunately it says little about what is behind these numbers. In this section information is given about the proximate determinants of fertility, and the perceptions on fertility, contraceptives and induced abortion. Cambodia is still in the process of rebuilding its country, and research concerning the population did not start until the 1990s. Although publications are few there are still some reports and articles that report on abortion and contraceptive use.

2.2.1 Proximate Determinants

The research question of this research is about the proximate determinants of fertility, contraceptive use and induced abortion. As they are important for this thesis, a little more time is devoted to giving information on the proximate determinants. The theory of the proximate determinants of fertility is discussed in Chapter 3. For the proximate determinants of Cambodia a report was published in 2002 by the Ministry of Planning, 'Fertility and Family Planning in Cambodia'. This report analyses the proximate determinants of fertility and tries to explain the values of these proximate determinants. The underlying idea is that fertility is influenced directly by these proximate determinants. The proximate determinants that are identified are: marriage, onset of permanent sterility, postpartum infecundability (time after birth that a woman cannot get pregnant), natural fecundability (frequency of intercourse), use and effectiveness of contraception, spontaneous intrauterine mortality, and induced abortion (Bongaarts and Potter 1983). The proximate determinants themselves are influenced by social factors, such as when is the best time for a woman to get married. Because women can have children between the ages of 15 to 49, having a high age at marriage will shorten the period she is at risk of having children, as it is assumed that children are born within marriage. For the report written by the Ministry of Planning (2000) the following proximate determinants were used: percentage of women married, postpartum infecundability, induced abortion, permanent sterility, and use and effectiveness of contraception.

When using the data for proximate determinants of fertility found in the Cambodian Demographic and Healthy Survey the total fertility rate (TFR) can be calculated indirectly. The TFR based on this calculation is estimated to be 5.1. This is different from the direct calculation of the TFR, which results in 4.0. The report tries to explain what could cause this difference, keeping the different proximate determinants in mind. The three possible explanations that are given are.

1. Contraceptive use has been underreported
Contraceptive prevalence has been estimated to be 14.1percent for all women
2. The number of abortions have been underreported
The total abortion rate has been estimated to be 0.2

3. Reduction in natural fecundity

Natural fecundity is estimated to be between 13.5 and 17.0 children and is taken to be 15.3

To have a TFR of 4.0, by changing one proximate determinant, contraceptive use should be 34.3 percent, abortion rates should be 3.3, or the total fecundity should be 12.0. However not all of these scenarios are very likely. Because the TFR of 4.0 directly calculated from the CDHS is taken to be more accurate than the estimated TFR of 5.1 some of the proximate determinants are assumed to be underestimated. Most likely underestimations are of contraceptive use and induced abortions. Bongaarts and Potter (1983), as mentioned in the report make a relationship between contraceptive use and abortion rate. Cambodia can be considered a country with moderate contraceptive use, in which case abortion rate could be estimated to be 0.8. However this would mean that the TFR would be estimated to be 4.5, which means it is still higher than the 4.0. This difference could be explained by a lower total fecundity. In order to get a TFR of 4.0 the total fecundity would have to be 13.5. The report argues that this could be true because of the years of hardship during the Khmer Rouge. The women who are now in their reproductive career, and in specific the women between 20 and 30 of age, who would be 0-10 during the Khmer Rouge Period, might have suffered the most severe consequences. This reign of the Khmer Rouge was a period of malnutrition, hard labour, and no medical treatment available, which could have lead to lasting effects on the women's reproductive abilities. The report published by the Ministry of Planning (2002) made two remarks to reflect on the explanations. The first remark is that the effects on reproductive abilities through physical hardship usually tend to be temporarily, and are solved when good nutrition becomes available again. This can be seen by the baby boom that followed the end of the Khmer Rouge regime. The second remark is that even though lasting effects of malnutrition and hard labour might have been likely, a total fecundity of 13.5 still falls with in the limits that were stated by Bongaarts and Potter. This means that the number, of 13.5, is not that extreme and unlikely to happen. Having discussed the research done on proximate determinants it is now time to look at other research.

2.2.2 Perceptions on fertility, contraceptive use and induced abortion

Other research that has been conducted in Cambodia does not give as much information about the proximate determinants, as they try to explain how Cambodian women perceive their fertility. This section will follow a thematic course, discussing firstly the perceptions related to fertility and the body, followed by perceptions about contraceptives. At the end some thought is given to induced abortion in Cambodia.

Fertility

Few women know when the fertile period is during their menstrual cycle. The main idea found in Cambodia is that the fertile period lasts for fourteen days, starting a few days before the menstrual period, and lasting till seven days after the end of the period (Sadana and Snow 1999, Ministry of Health 1998). During this period the womb is perceived to be open (Chap and Escoffier 1996), which means blood, or sperm, can go in and out of the body. This period is also associated with periodic abstinence during and in the week after the menstrual period (Chap and Escoffier 1996). This view of fertility has a major impact on the use and effectiveness of contraceptives. Because periodical abstinence is an important form of contraception, it is important to know when the fertile period is. At the end of the 1990s two thirds of the women practicing periodical abstinence did not know when their fertile period was (Beaufils 2000, Ministry of Health 1998). Something else that is important to know, about the perceptions Cambodian women have concerning their fertility, is that in order to get pregnant the body needs to be in balance (Ministry of Health and RACHA 2000). The representation of the body, which is relevant for reproduction, is that the body exists out of the elements earth, air, fire and water. Contraceptives are seen as a disturbance of the balance of elements through heating and cooling effects (Ministry of Health and RACHA 2000). It is through the effects of heating, or too much fire that pregnancy is prevented (Sadana and Snow 1999). Another result of this imbalance, caused by heating of the body through contraceptives, is the effect it can have on the blood. Women keep a close eye on their menstrual flow, as changes in quality and quantity of the blood flow is closely linked to being healthy (Beaufils 2000).

Contraceptives

Something that is related with pregnancy and contraceptive use is the time between two children. Research indicated that women preferred a birth interval of 4.4 years between two children (NCRHP 2000). This same research also indicated that 55 percent of the women have their children within three years. This could indicate that women do not have the children when they want them, and would need to use contraceptives to make this birth interval happen. However few women seem to use contraceptives. The main reasons for women not to use contraceptives are either the desire to have another child, or the fear of side effects and health concerns. Reasons for discontinuing contraceptives are side effects and health concerns (Ministry of Health and RACHA 2000, Ministry of Health 1998). Another reason for not using contraceptives is that women say they are too busy to get contraceptives. This seems to be a more important reason among rural women than urban women (Ministry of Health and RACHA 2000). The important factor in choosing a method of contraception is whether it is suitable for the woman herself. This means that even though a contraceptive is good for one woman it might not be good for another woman. It depends on her own context, as the woman should still be able to do her daily activities (Sadana and Snow 1999). Contraceptives are mostly known for their side effects, which are important for deciding whether a contraceptive is suitable for a woman. Many of the

side effects can be associated with heating effects caused by contraceptive use. However it is also important to realize that contraceptives become scapegoats for physical problems (Ministry of Health and RACHA 2000), and the perceived side effects might not always be true side effects.

Because side effects are important for choosing a method of contraceptives the section below is devoted to the discussion of the perceived side effects per method. In this section not only the perceived side effects are listed, also other ideas and perceptions that could affect the use of the contraceptive are discussed.

Method: The 3 month injectable:

- Absence of the menstrual flow (Beaufils 2000)
- Character or personality changes of the women such as irritability (Beaufils 2000)
- Heating effect on the body (Beaufils 2000, Sadana and Snow 1999)

Absence of menstrual flow is perceived as problem because women wonder where the blood stays. The heating effect on the body is perceived as thickening the blood, which causes it to solidify under the skin. This can cause spotting on the skin. As fairness of the skin is a beauty trait the darkening of the skin is therefore seen as undesirable (Beaufils 2000, Chap and Escoffier 1996). Another heating effect is the perception of the womb drying up as a flower under the sun. This view is also presented as the start of menopause. This causes women to believe that menopause has happened when in fact it has not (Chap and Escoffier 1996).

Method: The IUD (Intrauterine Device):

- Movement of the IUD through the body (Beaufils 2000)
- Contact with the penis during sexual contact (Beaufils 2000)
- Causes cancer (Beaufils 2000)
- Grows into the body, and gets stuck (Chap and Escoffier 1996)
- Having to go to the clinic in case of problems (Beaufils 2000)
- Shame associated with insertions and checks (Beaufils 2000, Sadana and Snow 1999)

Important perceptions that cause fear, is the idea that the IUD can travel through the body and can cause internal damage. The womb is more perceived as a place in the body that opens and closes, allowing the IUD to travel (Chap and Escoffier 1996). The perceptions of the women are under the influence of the wrong image women have of their body and how it works (Chap and Escoffier 1996). The reason that 'having to go to the clinic' is a problem is because of the extra costs, that is associated with visiting a clinic. Also there is the shame of having a doctor or nurse insert an IUD (Beaufils 2000).

Method: Condom:

- Reduce of sexual pleasure for the husband (Beaufils 2000)
- Inflammation of the womb (Beaufils 2000)
- Does not protect against pregnancy, only against STDs (Beaufils 2000)

Not only is there the reduction of sexual pleasure for the husband, it is also perceived as having a bad effect on the husbands health. However men also thought that if the sperm would return into their bodies this might lead to illnesses (Ministry of Health 1998). Inflammation of the womb can lead to serious illnesses such as cancer (Beaufils 2000).

Method: Daily pill:

- Heating effect on the body (Beaufils 2000, Sadana and Snow 1999)
- Having to take them daily (Beaufils 2000)

Same as with the injection, the daily pill is seen as having a heating effect on the body, which can lead to side effects such as dryness of the body. Dryness of the body can cause weight loss and darkening of the skin because of solidification of the blood. This can lead to cancer and eventually death (Beaufils 2000, Chap and Escoffier 1996). It is also noteworthy that in general the daily pill is preferred over injectables because the daily pill is believed to have fewer side effects. On the other hand injectables are seen as more convenient to use (Ministry of Health and RACHA 2000).

Method: Monthly 'Chinese' pill:

- Risk of blood clots, bleeding, nausea, headaches, weight gain and breast tenderness because of the strong hormones used in the pill (Beaufils 2000)

Poor information is given out on how the monthly pill works, with the result that problems exist with taking the pill, as women do not know when to take them (Beaufils 2000).

Besides modern methods women also use a lot of traditional methods, many of which are also considered to have a heating effect. There are also contraceptives that are considered to have a cooling effect on the body, which therefore can be taken together with the modern forms of contraceptives. Cambodian women consider traditional methods to be reliable (Beaufils 2000). The most common forms of traditional methods are periodic abstinence and withdrawal. These can also go together with the use of modern contraceptives (Sadana and Snow 1999).

Induced Abortion

The last section will have a look at what research has been found on induced abortion. A large number, who go for an induced abortion at clinics, did mention they used a method of contraception. When asked for what method of contraception they were using periodic abstinence was often

mentioned. However when women were checked about knowledge of their fertile period, most of them did not know the correct time (Beaufils 2000, Ministry of Health 1998). This shows that if a contraceptive method is used incorrectly it can lead to the woman having an induced abortion.

The main reasons for women having an induced abortion are:

- Income considerations, if a woman is pregnant she might not be able to work, which could have consequences for her family (Beaufils 2000, Ministry of Health 1998).
- Too many children (Beaufils 2000, Ministry of Health 1998)
- No husband anymore, either left or passed away (Beaufils 2000, Ministry of Health 1998)
- Health considerations, feeling unwell during the first months of pregnancy (Beaufils 2000, Ministry of Health 1998)

2.3 Policies in Cambodia

Discussion research done on fertility, contraceptive use and induced abortion is not all that should be said. To understand what is going on in Cambodia, it is also relevant to see what processes are going on to changing the current situation, which policies are implemented, and to know where changes can occur. This is important because only recently has research been done on the demographic status in Cambodia, and therefore few changes are visible. By focussing on the topics that are addressed in the policies, they can give an indication where changes might occur in the future. Over the last few years, the government together with international organisations (IOs) and non governmental organisations (NGOs) have made and implemented policies that affect the demographic as well as the health status of Cambodians. The main policy is the national population policy, but there are also policies concerning birth spacing, family planning and safe motherhood.

In Cambodia there are quite a lot of policies concerning population and health, all which can be found on the Internet. In 2003 the Cambodian Government published the first national population policy (NPP). In preparation for this, a report was written, 'towards a population and development strategy for Cambodia,' by the Ministry of Planning (2002). The main aims of this report were to find the population trends, to review the current policies and programs, and to have a look at the options for further population and development policies. This is not all; the report also explains why there is a need for a population and development policy. The main points they acknowledge are that it will help economic development, speed up the process of social development, accelerate poverty reduction and reach sustainable development. It was mentioned in the report that there was a start made, and that there are certain policies to be made in the following years, one of them being the National Population

Policy, which indeed has been written. The report further tells about the different policies that were in place in 2000. Such as the birth spacing, family planning and safe motherhood policies

One of the major policies is the birth spacing policy. The government started in 1994 with the development of a birth spacing policy and it was installed in 1995 (Fordham 2003). Here it states that everyone has the right to the highest standard of physical and mental health possible, and there is reference made to the reproductive rights of people to choose whether to have children, how many and when to have them (Ministry of health 1998). With the start of the policy, contraceptives and information on contraceptives were being spread (Fordham 2003). A few topics that were being addressed in the policy are firstly that birth spacing services and that they should be integrated with the mother and child health services. Secondly people should be offered a choice and be freely informed about birth spacing. Using the services should always be voluntary (Ministry of Health 1998). The birth spacing policy was not the only one, there was also a policy on safe motherhood and childhood and they have as main target to improve the number of successful childbearing and reducing the numbers of maternal and child morbidity and mortality (Fordham 2003). Other focus points for the safe motherhood were: family planning, antenatal care, clean labour and delivery, and essentials obstetric care (Beaufils 2000).

However writing policies and implementing them are two different things. The national population policy (NPP) is going to be the basis of the national population strategy, which was due in 2005 (Ministry of Planning 2003), but has not yet been released. Also the implementation of the safe motherhood and childhood policy has had its problems. This results in not everyone having access to the services that were provided (Fordham 2003). Most people first make use of the private health sector, and this is mainly caused by lack of trust in the public health sector (Ministry of Health 1998). Also the national birth spacing policy is only partially implemented (Ministry of Planning 2002). In the report that was made prior to the NPP, it refers to the birth spacing and safe motherhood policies. Saying that public health services were not as quickly developed as was planned, even though a lot has been accomplished, the quality of services is low, and even though services should be free, at times fees are asked (Ministry of Planning 2002).

At this moment the National Population Policy still needs to be transferred to a strategy so that it can be implemented. However there are other programmes that attend to the same subjects. Most of the programmes and projects are being implemented by non-governmental organisations and international organisations. However most of these projects are only for a limited amount of time, and therefore continuity cannot be guaranteed (Beaufils 2000, Ministry of Health 1998). The policies show there is a focus on providing family planning methods for birth spacing. Through the safe motherhood policies

safe pregnancies and deliveries are addressed, tackling problems such as high maternal and child mortality.

With this background information in mind, the next chapter will focus on the theories and the conceptual model that are used in order to help find answers to the main questions that were presented in the first chapter, the introduction.

3 Theories and conceptual model

This chapter takes a closer look at the different theories that are used for finding the answers to the research questions presented in the introduction, chapter 1. There are three main theories that are used. The first is the theory of proximate determinants of fertility of Bongaarts and Potter (1983). This theory gives a better understanding of the reproductive process and fertility, as well as the factors that influence this on a macro level. The second theory is the theory of planned behaviour of Ajzen (1991), which explains human behaviour by looking at the choices and intentions of individuals. The third one is the process context approach that was developed by the Population Research Centre in Groningen, of which the main contributors were Willekens (1990) and De Bruijn (1999). This approach places the process of decision making within a context, which changes over time. Where the theory of the proximate determinants gives an explanation for fertility by using background data from individuals, it does not explain *why* there are differences in the outcomes (Hutter 1998). This is why there needs to be a theory that explains decisions and motivations of human behaviour by looking at the individual level. After the theories have been presented, the conceptual model is presented. The conceptual model is the basis for research that will eventually answers the main research questions.

3.1 Theoretical framework

In order to have a fertility rate, children need to be born, and in order for that to happen, women need to be fertile, get pregnant, and carry the pregnancy to a good end. This means that there are certain factors that determine fertility and the total fertility rate as such. Contraceptive use and induced abortion influence the total fertility rate by either preventing or terminating a pregnancy. The theories that will be presented below are related to the research questions presented in the first chapter:

1. How does the social and cultural context influence the proximate determinants of fertility, contraceptive use and induced abortion, in Cambodia?
 - a. How do attitudes and the subjective norm influence the proximate determinants of fertility contraceptive use and induced abortion in Cambodia?
 - b. How do women see their own fertility, what are their perceptions and how do they make their decisions?

The basis for answering the first question is the theory of the proximate determinants of fertility (Bongaarts and Potter 1983). To answer the questions a. and b. the process-context approach is used (Willekens 1990, De Bruijn 1999). However the theory is not used in the same way for both sub questions. This first question has the focus on the parts that are represented by the theory of planned

behaviour (Ajzen 1991). The second questions will be answered through the process-context approach to incorporate influences of schemas in the decision making process.

3.1.1 Theory of proximate determinants of fertility

The first of the mentioned theories is the theory of proximate determinants of fertility by Bongaarts and Potter (1983). The underlying idea is that fertility is influenced directly by these proximate determinants. The determinants that are identified are: marriage, onset of permanent sterility, postpartum infecundability, natural fecundability (frequency of intercourse), use and effectiveness of contraception, spontaneous intrauterine mortality, and induced abortion.

Socio-economic and environmental factors → Proximate Determinants → Fertility

Source: Bongaarts and Potter (1983)

All the determinants can be influenced by other socio-economic and environmental factors. For example contraceptives use can be influenced by the availability of contraceptives. When people cannot buy contraceptives it will prevent people from using them. The result is that a woman has a higher chance of becoming pregnant than a woman who uses contraceptives. The determinants influence the fertility of women, or more specific the Total Fertility Rate (TFR). The most prominent proximate determinants are marriage, postpartum infecundability, induced abortion and contraceptive use (Bongaarts and Potter 1983). These are also the ones that have been used for research, as these can explain 96 percent of the variation in the TFR (Mazharul Islam et al 2004, Boerma and Weir 2005, Casterline et al 1984). There is also a difference made between natural and controlled fertility. The difference between the two lays in the deliberate limiting of the number of children. The proximate determinants of controlled fertility are marriage, contraceptive use and induced abortion (Bongaarts and Potter 1984). For this thesis attention will be given to the controlled fertility he study of the use of contraception, and induced abortion. Marriage has been excluded in the research, as it is usually a onetime event in the woman's life, which marks the beginning of the time she is at risk of pregnancy. Contraceptive use and induced abortion however can alter throughout the rest of her reproductive career, influencing the number of children a woman has from marriage until menopause.

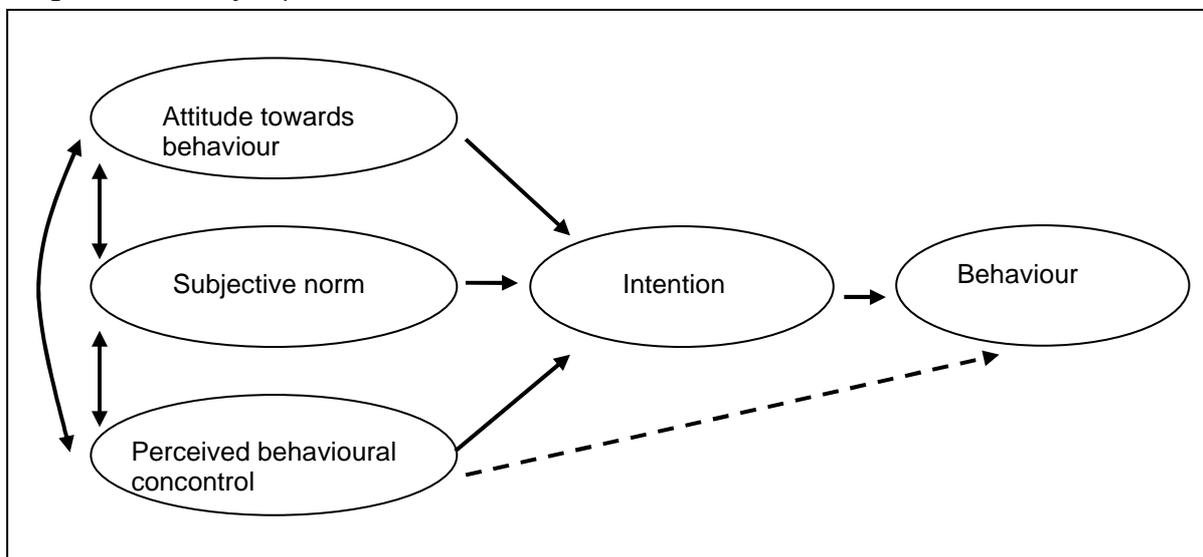
3.1.2 Theory of Planned Behaviour

The second theory that is used is the theory of planned behaviour by Ajzen (1991). It is a theory that focuses on the intention to predict certain behaviour. This theory besides predicting also concentrates on understanding behaviour, by looking at what determines the behaviour (Ajzen 2005) All through out life decisions are made. It is in the case of rarer events, such as having a child or not, that

behaviour can be seen as an outcome of conscious decision-making. Common events can be seen as routines in a daily life (Hutter 1998). For these larger events the theory of planned behaviour can be used to analyse behaviour. The basis of this theory can be found in the theory of reasoned action of Fishbein and Ajzen from 1980 (Ajzen 1991). Besides the motivation to perform certain behaviour, attention is also given to aspects of ability to perform it. This last aspect depends on opportunities as well as resources. The reason for using this theory together with the theory of the proximate determinants of fertility is the idea that the context on the macro level influences the individual behaviour on the micro level. The main question, ‘How does the social and cultural context influence the proximate determinants of fertility’ is asked on the macro level. Finding the answer, through the sub-questions, is done on the micro level by using the theory of Planned behaviour by Ajzen (1991)

Social Theory of Coleman (1990) explains the mechanisms between the macro and micro level. The idea behind social theory is that it tries to explain social phenomena that are manifested on the macro level, such as the TFR. The explanation is sought through processes within the social system, or context, which are performed by individuals on the micro level. The outcome measured on the macro level is the accumulation of all the behaviours of individuals on the micro level (Coleman 1990). The theory of planned behaviour is a theory that uses the micro level to explain behaviour, a theory that explains individual behaviour. At the same time the theory also allows the context to influence this individual behaviour. Figure 3.1 below shows a model of the theory of planned behaviour.

Figure 3.1: Theory of planned behaviour



Source: Ajzen (1991)

The main concepts of this theory are the ones presented in the figure above. Attitude towards behaviour can be defined as ‘the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question’ (Ajzen 1991, p. 188). It looks at how the person themselves think of the behaviour and on evaluation of outcomes. Subjective norm can be defined as ‘perceived

social pressure to perform or not perform the behaviour’ (Ajzen 1991, p. 188). In other words, it refers to what the individual thinks what others think, and in how far the individual is willing to comply with these thoughts. Perceived behavioural control is defined as ‘the perceived ease or difficulty of performing the behaviour’ (Ajzen 1991, p. 188). It is seen as the ability of the person to overcome perceived obstacles in order to perform certain behaviour.

These three concepts influence the intention to perform certain behaviour. All three concepts are taken into consideration. For example when a person has a positive attitude towards certain behaviour, the subjective norm is favourable, and there are no hard obstacles to overcome, then the intention will be in favour of acting out the behaviour. However the influence of the three separate concepts will vary across different behaviours. In an article by Bennet and Bozionelos (2000) on using the theory of planned behaviour to predict condom use, it is was said that for ‘predicting both intentions to use condoms and condom use, attitudes are more powerfully predictive than social norms, and that efficacy judgements appear to me more influential than other perceived control factors’ (p. 307). The reason for perceived behavioural control to be directly linked to performed behaviour is because the performance of the behaviour is not solely decided by the intention to perform, but also the control over the behaviour itself.

These concepts gives a quick overview of the theory, however a little more time might be given to explaining the three main concepts that influence the intention to perform a certain behaviour. Each of the concepts are divided into two other concepts (Bennet and Bionzonelos 2000):

Behavioural beliefs	x	outcome evaluations	→	attitude towards behaviour
Normative beliefs	x	motivation to comply	→	subjective norm
Control beliefs	x	perceived power	→	perceived behavioural control

Source: Bennet and Bionzonelos 2000

The beliefs that are given in the first column are the ones that give the first indication of the perceptions concerning the attitude towards behaviour, the subjective norm and the perceived behavioural control. Behavioural beliefs say something about ‘the consequences of the behaviour ... each behavioural belief links the behaviour to a certain outcome, or to some other attribute such as the cost incurred by performing the behaviour’ (Ajzen 2005, p. 123). It gives an indication what the person herself thinks of her own behaviour, is it good or bad, harmful or not. Taking these behavioural beliefs together can give an indication whether she approves or disapproves of her behaviour. Normative beliefs are ‘the person’s beliefs that specific individuals or groups approve or disapprove of performing the behaviour’ (Ajzen 2005, p. 124). And the motivation to comply is how willing the person is to submit to the ideas of others (Ajzen 1991). The last ones are the control beliefs are ‘beliefs about the presence or absence of factors that facilitate or impede performance of the behaviour’ (Ajzen 2005, p 125). This might give an indication if the person thinks she is capable of performing the

behaviour (Ajzen 1991). For the research the three different concepts, attitude towards behaviour, subjective norm and perceived behavioural control, are important.

One question is still unanswered. How is this theory of planned behaviour linked to the context in which the person lives? The theory needs to help in explaining why certain behaviours is performed in a context, and the context influences the individual through the background factors, which Ajzen (2005) divides in three categories: personal factors, social (cultural) factors and information. These factors influence the beliefs of the individuals (Ajzen 2005). Not everyone grows up in the same context and therefore will not make the same decisions.

3.1.3 Process-Context Approach

This approach tries to give a different perspective on behaviour. In the previous theory the behaviour was explained through the perception of the individual on herself and on the context, through the subjective norm and perceived behavioural control. The process context approach tries to find the underlying mechanisms by both looking at the micro and macro level. But also by looking at the choices at the individual level as well as the context in which they are made. But more importantly it looks at the interaction between the micro and macro levels. Hutter (1998 p. 7) defined the process-context approach for reproductive health as “reproductive health behaviour is seen as the outcome of a process, that involves a series of individual decisions and actions taking place within a social, economic, ecological and cultural context.” The process context approach makes a difference between individual behaviour on micro level and the context on macro level, and the interaction between these levels. Below the individual behaviour, the context and the interaction between the individual and the context will be discussed.

Individual behaviour

“Fertility is typically observed at the individual level, as a function of both individual psychological difference and, more important, the attitudes and behaviours of women and their spouses,” (Smith 1989, p 174). When looking at the individual level it is important to realize two things. First of all an individual is not a rational being, and is not all knowing. This means that persons do not gather all the information there is, and are always situated within a context that provides part of all information (Willekens 1990, De Bruijn 1999). Secondly people are driven by motivation, needs, interests preferences etc. (De Bruin 1999). A way of analysing individual behaviour is by looking at the goals and motivation of the individual. ‘People are assumed to be motivated to act in one way rather than in another: certain behaviour is preferred because it is somehow better meets the interests or objectives of the actor’ (De Bruijn 1999, p. 96).

In this research the individual level is explained through the theory of planned behaviour, which is a value expectancy theory. The assumption of such a theory is that the consequences of the behaviour they perform are evaluated by their expected outcomes, before actually performing the behaviour (Hutter, 1996). This is clearly visible in the concept 'attitude towards behaviour'. This can also be seen as one of the ways motivation works. When something is perceived as having a favourable outcome for the person, it is more likely that he or she will perform it. This makes it also a motivation factor (De Bruijn 1999).

A lot has been written about goals and motivation. An important writer is Maslow (1970). Maslow states that there are several goals people strive for, such as meeting physiological needs and safety, or on the other hand self actualisation. People share these fundamental goals, and these goals are organised hierarchically. First physiological needs need to be met, than safety needs, followed by needs for belongingness and love. The last two needs are first esteem needs and second the need for self-actualisation. Maslow (1970) further indicates that these fundamental goals are the same but that different cultures have different ways of reaching these goals 'apparently ends in themselves are far more universal than the roads taken to achieve them' (Maslow 1970 p.22). However not everyone agrees, even though the idea of an hierarchy in goals continues to exist. Goals do not need to be hierarchically ordered in a universal way, but they are similar (Strauss 1992). Motivation comes from wanting to reach a certain goal and perceptions people have about their own situation (De Bruijn 1999). But as not all people act the same way in the same situation, this would mean people do not have the same motives for acting out that behaviour. Meaning they have different perception of their own situation and how to reach their goal.

Goals can be organized hierarchically; there are the ultimate goals, the higher instrumental goals and the lower instrumental goals (De Bruijn 1999). For example a woman wants to attain a higher social status (ultimate goals) and there are different ways to get there. For example a higher social status can be achieved by having a good career in one society, and by having lots of children in another society. In this last situation fertility can be seen as a higher ultimate goal. However this is also a goal that needs to be attained, for example through marriage, which is then a lower instrumental goal.

In the previous paragraph different goals were shortly discussed, but goals do not influences motivation alone. An important concept that helps explaining individual behaviour is schema 'a conceptual structure which makes possible the identification of objects and events' (D'Andrade 1992, p 28). Important aspects of schemas are that they are structured, and that they hold information for the individual. They are 'learned internalised patterns of thought-feeling that mediate both the interpretations of on-going experience and the reconstruction of memories' (Strauss 1992, p 3). All people have schemas, however the same schemas do not have to be linked in the same way. The schemas can lead to different results. Can having career and having a family be combined? These are

two schemas, but for some people they might not be linked at all, and perceive it as having either of the two. You can either have a family or you can have a career, but not both (Strauss 1992).

Just as goals, schemas are hierarchically organized. Schemas helps to structure and organize, there are master motives such as love and work, then there are middle-level schemas such as getting married, finding a job and as last the lower schemas, such as memos and birthdays (D'Andrade 1992). Here it is visible that goals and schemas can be the same thing. All goals are schemas, but not every schema is a goal (specially the lower ones, such as writing memos and hold birthdays), as there are goals such as marriage, and there are also schemas for marriage (D'Andrade 1992). The motivational force of schemas is not the same. A schema such as love can create an action, such as getting married or finding a partner. However not all schemas have the same motivational force. It is by identifying schemas that also motivations can be identified (Strauss 1992). Because schemas are learned and function as goals, it can explain why not all goals are universal. Each individual has her own schemas that are taught to her in the context in which she lives.

Context

There are different forms of context all which are manifested differently: the historical context through time, the ecological and economic context through facilitating and constraining factors, the social context through institutions, and the cultural context through cultural meaning systems (Hutter 1996). Essential in the process-context approach is that the context influences the decision-making process that individuals use to decide which behaviour to perform or not to perform. For example the ecological or economic context influences the behaviour through constraining or facilitating behaviour. The social context is partly captured in the concept of subjective norm, which can be found in the theory of planned behaviour (Ajzen 2001). It is important to realise here that the immediate and social context 'differs over life course and is defined by society or cultural meaning systems, and reinforced by norms and values' (Hutter 1998, p.12). Important concepts for analysing the context which people find them in are institutions and cultural meaning systems. Institutions are 'clusters of behavioural rules governing human actions and relationship in recurrent situations' (McNicol 1994, p 4). When these are ignored sanctions will follow. On the other hand people are under social pressure to follow these rules. This leads to both formal and informal constraints (Hutter 1998). It is important to realize that people both create as well as follow rules. When rules have been followed for a long period of time they can be formally institutionalised and defined through rights and duties (De Bruijn 1999). A cultural meaning system is 'a system through which people adapt their environment and structure interpersonal activities (D'Andrade 1984 p.116 cited by Hutter 1998). Cultural meaning systems can also be seen as the shared schemas of individuals identified on the macro level (Hutter 1998). This comes back in the concept of attitudes towards the behaviour, as behavioural beliefs are influences by the individual's schemas, and schemas are part of a cultural meaning system. There are also other ways in which the context directly influences the behaviour of people. Besides institutions

and cultural meaning systems, these are also non-motivational influences. This is incorporated through behavioural control, here it is looked at how likely it is to perform this behaviour (De Bruijn 1999). At times there are resources needed, for example to buy contraceptives, but there also need to be availability. When there are no contraceptives than no matter how large the motivation is they just are not there available.

Interaction between Individual and Context

There is a two-way interaction between individuals and context. For example, people do not only follow rules but they also change them (Hutter 1996). Changing the social context through changing institutions. The connection between cultural meaning systems on the macro level and the behaviour on the micro level can be found in motivation goals and schemas. Even though every person has different perceptions and different goals, motivation to accomplish these goals depends on interaction with others. Not only directly but also through norms and values (Hutter 1996). However 'the stronger the relationship between a particular meaning system and the institutional context the stronger their influence can be on individual behaviour' (Hutter 1998, p.12).

Life course

The last concept is important because it places individuals within a time frame. Survey data gives mostly information on the current state of affairs. In a life course approach the lives of individuals are segmented into separate careers (De Bruijn), such as educational and reproductive careers. In a reproductive career all life events associated with reproduction are placed. Such as menarche, marriage, first birth, second birth and menopause. By looking at the different reproductive careers it is possible to look at changes among generations (Hutter 1998).

3.2 Conceptual Model

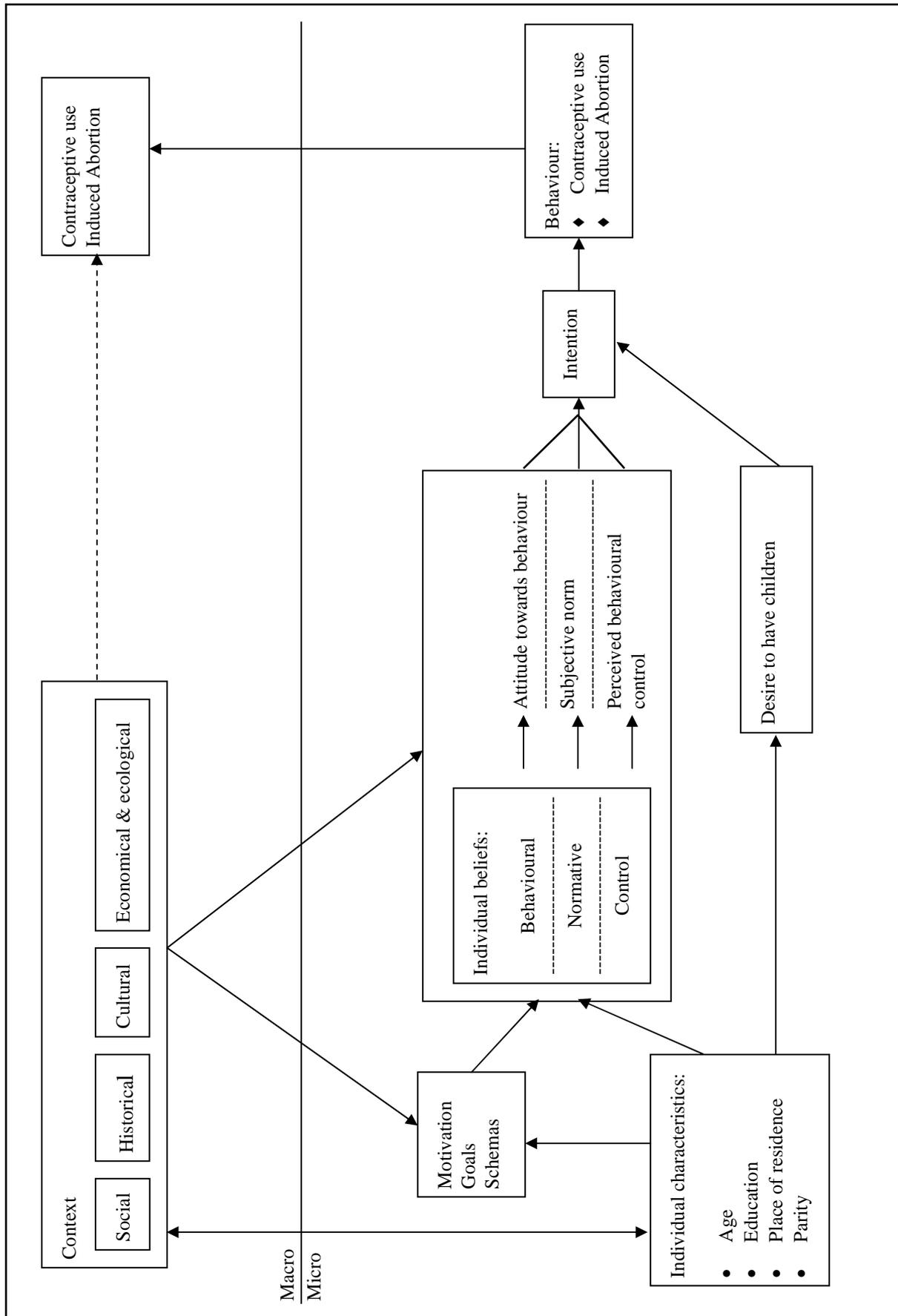
In this section of the chapter the conceptual model is presented that has been drawn up, for this research, using the theories that were presented in the previous section. The model (figure 3.2) is divided into a macro and a micro level. In the macro level the context is found, but also the outcomes of the behaviour concerning the proximate determinants of fertility. The proximate determinants presented in the model are the proportion of women having an induced abortion and the contraceptive prevalence rate, as these are measured for the whole population. The theory of Bongaarts and Potter stated that socio-economic and environmental factors influence the proximate determinants, or in other words the context influences the proximate determinants. The values of these proximate determinants are explained through the micro level. Here the choice process of the individual presented based on the

theory of planned behaviour of Ajzen (1991) can be found. The theory of planned behaviour is incorporated into the process context approach to explain how the context and life course influences individual behaviour. This model explains the decision-making process women use concerning marriage, pregnancy and contraceptive use to explain the proximate determinants and how the context influences them.

In this model the context influences the motivation goals and schemas of individuals, as these are imbedded into the institutional and cultural context on a macro level. Because individuals are born into a context there is also a direct link between context and individual characteristics. Not all individual women live in the same context. The context and the individual characteristics influence the beliefs individuals have concerning contraceptive use and induced abortion. For example the age of the woman, as age will give the first idea about where the woman might be in her reproductive career. A woman of 40 years is more likely to have finished expanding her family than a woman of 25 years. But a woman of 40 years old might also have different ideas about family size than a woman of 25 years. Other characteristics that might influence the behaviour are: marriage, how many children she has (parity), her education and whether she lives in a rural or urban area. The individual characteristics can influence the behaviour in different ways. It influences the motivation, goals and schemas the woman has. As schemas on marriage and having children might have changed over the years. The characteristics can also influence the personal beliefs directly through for example the control beliefs. There might be difference in feelings of control between higher educated and lower educated women.

The individual beliefs, which are influenced by the context, influence the intention through the attitude towards behaviour, subjective norm and perceived behavioural control as explained by the theory of planned behaviour. The eventual behaviour that is performed (having an induced abortion, and use of contraceptives) influences the proximate determinants (contraceptive use and induced abortion) on the macro level. The proximate determinants influence the Total Fertility Rate (TFR) as described in the theory of Bongaarts and Potter (1983). There is one concept that has been added to the model, and that is the desire to have another child. The idea is that even though attitudes, subjective norm and behavioural control can influence the intention towards behaviour, there are still other ideas that can influence a particular behaviour. For example, on the one hand someone might have a very favourable attitude towards contraceptives use, a favourable subjective norm towards contraceptive use and she thinks she can perform the behaviour. On the other hand she might still have the desire to have children. If a woman wants another child the chance that she would still use contraceptives is very small, even if her attitude towards the behaviour, subjective norm and behavioural control is in favour of performing the behaviour.

Figure 3.2: Conceptual Model



4 Data and Methodology

This chapter consists of the conceptualisation and operationalization of the research. The first part starts with the research questions and conceptualisation. The research is based on the research questions and the conceptual model. Therefore a short reminder of the research questions is presented below in relation to the structure of the chapter.

Main research question:

- 1 How does the social and cultural context influence the proximate determinants of fertility, contraceptive use and induced abortion, in Cambodia?

The research presented here is two folded, having both a quantitative as well as a qualitative research. Both are trying to find answers on how the context and perceptions influence contraceptive use and induced abortion, and through this influence the fertility behaviour.

Two questions taken from the main research question:

- a How do attitudes and the subjective norm influence the proximate determinants of fertility contraceptive use and induced abortion in Cambodia?
- b How do women see their own fertility, what are their perceptions and how do they make their decisions?

The first question is answered through quantitative analyses on the Cambodian Demographic and Health survey, as well as through the qualitative research. The second question is answered by the qualitative research alone. In the rest of the chapter the following structure is used. First the concepts that are important for the research are discussed. After this, in section 4.2, the quantitative research is discussed and in 4.3 the qualitative research. Section 4.4 has a closer look at the ethical issues that needed to be addressed for the research. The last section, 4.5, is the reflection on the research done.

4.1 Conceptualisation

‘Conceptualisation is the mental process whereby fuzzy and imprecise concepts are made more specific and precise’ (Babbie 2004, p 122). Below all the concepts are individually discussed. In Chapter 3 a comprehensive model for this research was presented and the concepts that are discussed here were taken from this model. However not all concepts are relevant for the main research questions, and the main ones are discussed below. The ones that are important, to answer both research questions, are also identified by separate models in the following sections 4.2 and 4.3.

Context

A context can be perceived as ‘an environment of structured information’ (De Bruijn 1999 p.121). De Bruijn further states that ‘context must involve recognizable qualities to individual agents in order to influence their considerations’. People draw information from the context they live in. There are different relevant contexts. First there is the social context, which works through the immediate environment of the individual and through institutions. Secondly there is the historical context, which places a person within a certain time frame. Third is the ecological and economical context, which can be seen through enabling and constraining factors. Last is the cultural context that becomes evident through cultural meaning systems, schemas that are carried by large groups of people (Hutter 1998). For this research the focus is on the social and cultural context. The social context is presented firstly by the immediate social context, which influences the individual through opinions of others and how important these other opinions are to the individual (De Bruijn 1999). The immediate social context also comes back through the subjective norm in the theory of planned behaviour (Ajzen 1991). Secondly the social context is presented through institutions, which can be defined as ‘clusters of behavioural rules governing human actions and relationships in recurrent situations’ (McNicoll 1994, p 4-5). Institutions in the social context can be presented by both formal and informal rules. There are consequences to breaking these rules, whether this is done by authority or through social pressure. An important factor of institutions is that they are hard to change, even if the official/formal rules change (McNicoll 1994). The cultural context is explained through cultural meaning systems, which consists of ‘cultural schemas, which are shared by a group of people’ (Hutter 1998, p12). Here is also a link to the individual as all persons have schemas.

Schemas

A schema is a ‘conceptual structure which makes possible the identification of objects and events’ (D’Andrade 1992, p 28). Every person has schemas and they are organized hierarchically, starting with the master motives such as love, to middle level motives such as marriage, to lower level schemas, such as memo’s and birthdays (D’Andrade 1992).

Individual Characteristics

These are the characteristics of women that influence the beliefs and schemas women have concerning fertility. For this research the following characteristics are chosen, first the current age of the woman, as it gives an indication how far she is within her reproductive career. The second one is the number of children the woman has, also called parity. When she has many children the views concerning contraceptives could be different than if she still wants to expand the family. The third characteristic is the educational level of the woman. Educational attainment might give an indication to what kind of information she is exposed, whether she can gather information herself through papers and other

reading materials. This is similar for the place of residence, whether she lives in an urban or rural setting. How easy is access to information, or to contraceptives and other services?

Individual Beliefs

Individual beliefs give the first idea about the perceptions a person has concerning a particular behaviour. In this research three individual beliefs are identified. Behavioural beliefs say something about what someone thinks of the outcome of the behaviour. Normative beliefs give an indication of how the person thinks others view the behaviour. The control beliefs indicate whether the person thinks he is capable of performing the behaviour (Ajzen 1991).

Attitude Towards Behaviour

Attitude towards behaviour can be defined as ‘the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question’ (Ajzen 1991, p. 188). It is the combination of how the person herself views the behaviour together with the evaluation of possible outcomes (Ajzen 1991).

Subjective Norm

Subjective norm can be defined as ‘perceived social pressure to perform or not perform the behaviour’ (Ajzen 1991, p. 188). This exists out of the ideas a person holds about what others think, and the willingness to comply with the ideas of others (Ajzen 1991).

Intention

Intention is assumed to ‘capture the motivational factors that influence the behaviour’ (Ajzen 1991 p181). This results in the idea that when the intention becomes stronger the person will be more likely to perform that behaviour. Intention as shown in the model in chapter 3 is not measurable. This is because the outcome of the behaviour is measured, and the intention, as presented in the model, is an indication what someone intended right before either performing or not performing the behaviour. However as soon as behaviour is measured, there is a new intention that gives information about future behaviour, and this intention can be measured and is used in the research.

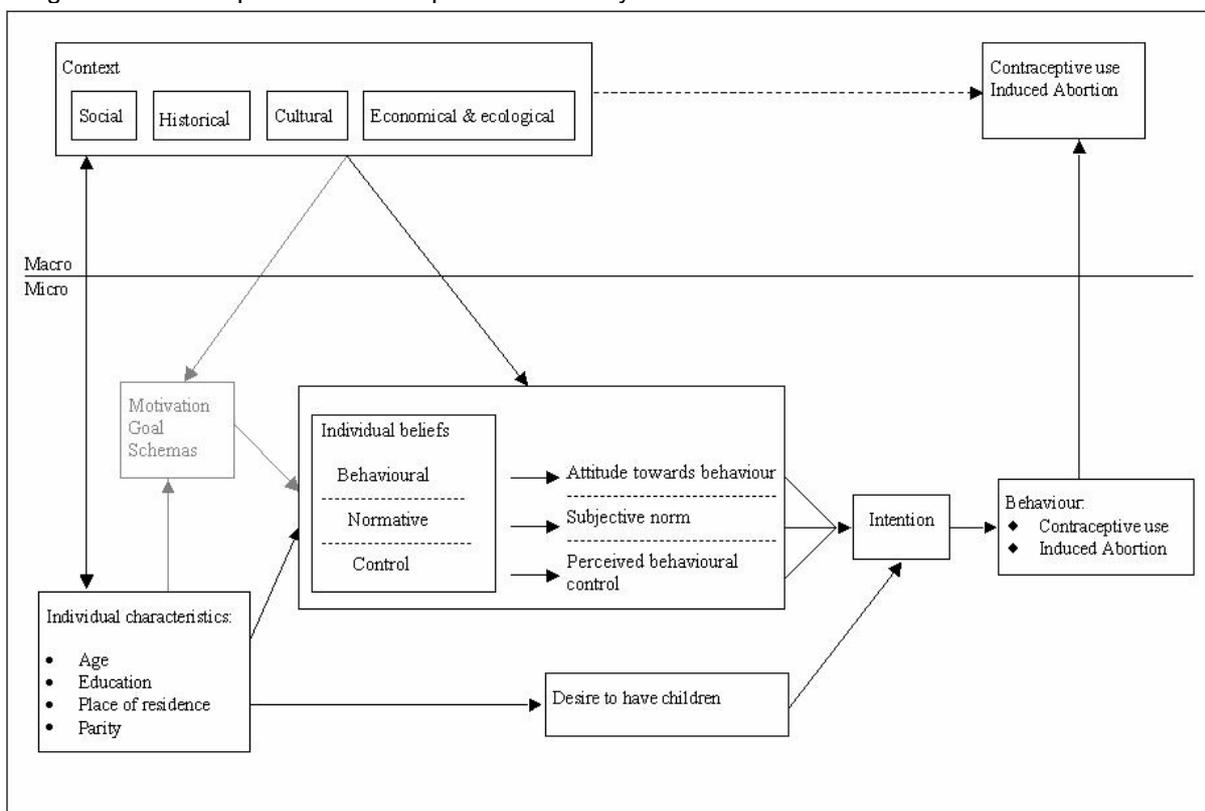
Proximate Determinants of Fertility

This is the term that is used by Bongaarts and Potter (1983) to identify the factors that influence fertility. The determinants that were identified are: marriage, onset of permanent sterility, postpartum infecundability, natural fecundability (frequency of intercourse), contraceptive use, spontaneous intrauterine mortality, and induced abortion. The research concentrates on contraceptive use, and induced abortion.

4.2 Quantitative research

In order to answer the first question, 1a, a quantitative analysis was performed on the data of the Cambodia Demographic and Health Survey of 2000. The concepts discussed in the first section of this chapter are specified to specific variables, and explanations will be given why these variables were chosen for each concept. The relevant concepts are presented in figure 4.1. The conceptual model presented in chapter 3 is a comprehensive model and encompasses the entire research. For clarity it is necessary to divide the model in two different ones for answering the two main research questions.

Figure 4.1: Conceptual model for quantitative analysis



The main difference between the model presented in chapter 3 and the one in figure 4.1 is that this last one shows how the first research question is approached. It looks at what the influences are of the context on contraceptive use and induced abortion. It does not look at perceptions of fertility relating to contraceptive use and induced abortion. This can be found in the second research question in section 4.3. The difficulty in this problem is attitude towards behaviour, subjective norm and behavioural control. This is because what can be measured are the beliefs the women have concerning factors that influence contraceptive use and induced abortion. However what needs to be kept in mind is that the beliefs are part of the attitude towards the behaviour, subjective norm and perceived

behavioural control. Therefore in the research, the beliefs are used as an indicator for these concepts; see the operationalization of the concepts in section 4.2.3.

The two main questions, derived from the first research question that this model tries to answer are:

1. How do the individual characteristics influence the proximate determinants of fertility contraceptive use and induced abortion?
2. How do attitudes and the subjective norm influence the proximate determinants of fertility contraceptive use and induced abortion in Cambodia?

These questions were once again made into smaller question to create a structure in the analyses and to help find answers to these two questions and the main question.

1. How do the individual characteristics influence contraceptive use?
2. How does the desire for another child influence contraceptive use?
3. How do the attitudes and subjective norm influence contraceptive use?
4. How do the individuals characteristics, attitudes, subjective norm and desire for another child combined influence contraceptive use?
5. How do the individual characteristics influence induced abortions?
6. Does the desire to have another child influence induced abortion?
7. How do the attitudes influence induced abortion?
8. How do the individual characteristics, desire to have another child and attitudes combined influence induced abortion?

To find the answers to these questions the Cambodia Demographic and Health Survey 2000 was used. Below more information on the data source is given. After this the data handling, and the operationalization of the variables are discussed. At the end of section 4.2 the statistical tests that were used on the data are discussed.

4.2.1 Data source: Cambodia Demographic Health Survey

Quantitative Analysis on the Cambodia Demographic Health Survey 2000 (CDHS) is done in order to understand how different factors influence contraceptive use and induced abortion on a macro level using micro data. The CDHS is a survey held in Cambodia in 2000, with the purpose of giving information on the health status and demographic status of the country. For this thesis the raw data had been collected from MeasureDHS in order to be analysed. The data of the Cambodian Demographic and Health Survey were collected in 2000 and published in 2001 by the Ministry of Planning. Contained in the CDHS were files for four different questionnaires: the household questionnaire, the woman's questionnaire, the woman's status questionnaire and the domestic violence questionnaire. The part of the survey that was used for this thesis is the woman's questionnaire. This survey was held

among 15,351 women, all between the ages 15 and 49, in 12,475 different households. The sample of the population was stratified; each province or group of provinces would have 900 women interviewed, regardless of the actual population size of the provinces. However the division over urban and rural was proportional to the division with the population in that province. All in all, the response rate over the entire CDHS was 97.9 percent (Ministry of Planning 2001).

4.2.2 Data Handling

The CDHS might hold over 15,000 cases in the woman's file, but not all of these could be used in the analyses. The analyses were done only on the sample of married women with one child. The reason for choosing this sample is because the CHDS is done on all women above 15 years old. Almost one third of the women is unmarried without children. Most children are still born within marriage, as premarital relations are culturally not acceptable. Most contraceptives will therefore be used within marriage. When wanting to learn more about contraceptive use, such a large group of unmarried women without children would have a large impact on the analyses. Therefore the decision was made to exclude unmarried women. One more decision was made and this was to disregard the women who do not have a child. The main reason for doing this is that contraceptives are mostly used after the first child. The focus is therefore on the group that is most likely to use contraceptives, married women with at least one child.

Because of the extensiveness of the data file, of the woman's questionnaire, variables were selected that could be used for the analyses. Before working with the data from MeasureDHS the data is checked for quality. This is especially important in regard to missing and inaccurate data. To understand the data all variables selected from the CDHS were checked on missing data. Also relationships with other variables were checked, as at times the variables could be linked to another. For example, whether someone had the intention to use contraceptives in the future was only asked to women who were not currently using. Finding such relationships could be done through cross tabulations. Also the written report published by ORC Macro and the Ministry of Planning (2001) gave insight into the structure of the data.

4.2.3 Operationalization

Identification of the variables

In the table 4.1, see below, the different concepts are linked to different indicators. The indicators presented here are based on the indicators of the Cambodia Demographic and Health Survey 2000. All variables that were used are given here. After this table the different variables used for the analyses are discussed separately.

Table 4.1 Concepts and Indicators for the quantitative analyses

<i>Concept</i>	<i>Indicator</i>
Outcome variable:	
Contraceptive use	- Current contraceptive use - Intention to use contraceptives
Induced Abortion	- Having had an induced abortion
Independent variables:	
Personal Characteristics	- Current age - Highest educational attainment - Place of residence - Total children ever born
Desire for another child	- Wanting another child in the future
Attitudes	- Respondent's approval of contraceptives - Ideal number of children
Subjective Norm	- Husband's approval of contraceptives

Even though the indicators are presented above and come from the CDHS, this does not mean it was possible to use them as they were. Recoding was often needed, or variables needed to be compared to create a more appropriate variable. Below the different indicators are explained more thoroughly, indicating how they were calculated and recoded. A missing variable here is one representing the concept perceived behavioural control. No indicators could be found to represent it.

Outcome Variables:

Contraceptive use is measured by two different variables, current contraceptive use and intention to use contraceptives.

Current contraceptive use: The values were taken directly from the CDHS. There were two categories: 0 = 'not using' and 1 = 'using'.

Intention to use contraceptives: This is a variable that was calculated from two other variables: intention to use contraceptives for non-users, and the variable indicating current use. Intention to use contraceptives had 6 different categories: later, in 12 months, unsure about time, unsure about use, no intention and never had sex. A new variable was created by creating new values for 'current using' and then adding the values it to the values of intention to use. 'using contraceptives' becoming the 7th category. Intention to use contraceptives was then recoded into two different values, one nominal and one binary for the logistic regression. Following the new categories the old categories are placed between brackets.

Intention to use contraceptives (nominal): 4 categories: 1 = 'using', 2 = 'using later' (later and within 12 months), 3 = 'no intention' and 4 = 'do not know' (unsure about timing and unsure about use).

Intention to use contraceptive (binary): 2 categories: 0 = 'negative intention' (no intention, unsure about use, never had sex), 1 = 'positive intention' (using, use later, within 12 months, unsure about timing).

Induced Abortion: this variable is made out of two different variables, as there was not a variable that would indicate whether someone had an induced abortion or not. The two existing variables were 'ever having had a terminated pregnancy': yes or no, and 'the number of induced abortions'. The first question was asked to all women. The second question was only asked to women indicating they had had a terminated pregnancy, this was checked through a cross tabulation. This was done to make sure the questions about number of induced abortion was only asked to women having had a terminated pregnancy. A terminated pregnancy can be either spontaneous or induced, explaining the large number of zero induced abortions for the variable number of induced abortions. The new variable was computed by combining ever had a terminated pregnancy with the number of induced abortions. The result was recoded into a different variable. Induced abortion: 0 = 'no induced abortion' 1= 'at least one induced abortion'. The women who indicated they had a terminated pregnancy, but did not answer whether it was a spontaneous or an induced abortion, were excluded from the analyses.

Individual Variables:

Individual Characteristics: This contains 4 different variables: current age of the respondent, residence, educational attainment and total number of children ever had.

Age: this variable was defined in two different ways, one in ratio and one categorical variable:

Age (ratio) was taken directly from the CDHS

Age (categorical): The ratio variable was recoded into different categories: 1 = '<20 years', 2 = '20 – 24 years', 3 = '25 – 29 years', 4 = '30 – 34 years', 5 = '35 – 39 years', 6 = '40 – 44 years', 7 = '>44 years'

Residence: This variable was taken directly from the CDHS. The values are 1= 'urban' and 2 = 'rural'.

Education: This variable is defined in two different ways, one is a ratio variable and the other is a categorical variables. They are both taken directly from the CDHS.

Education (ratio): expressed in single years

Education (categorical): The given categories are: 0 = 'no education', 1 = 'primary education', 2 = 'secondary education', 3 = 'higher education'.

Total children ever born: Also this variable was used in two ways, the first a ratio variable, and the second one a variable adjust for categorical use.

Children ever born (ratio): values taken directly from the CDHS

Children ever born (categorical): women who had 10 or more children were grouped together in a category '10+' otherwise too many categories would be created in analyses with categories.

Attitudes: There are two different variables used in the analyses that give information about the respondent's attitudes that influence contraceptive use and induced abortion. The first attitude is 'approval of the respondent of contraceptives', and is the behavioural belief that says something about the attitude willing to use contraceptives. The second one is the 'ideal number of children' and is a behavioural belief that says something about how many children a woman wants herself. Both attitudes influence separately whether someone has intention to use contraceptives. And in case of ideal children also whether someone has intention to have an induced abortion.

Respondent's approval: This variable was taken directly from the CDHS. The categories were 0 = 'disapprove', 1 = 'approve', 2 = 'do not know'.

Ideal number of children: The 'ideal number of children' was adjusted for categorical use just like 'total children ever born'.

Ideal number of children (ratio): values taken directly from the CDHS.

Ideal number of children (categorical): women whose ideal number of children was 10 or more were grouped together in a category '10+'.

Subjective norm: This concept was measured through the husband's approval of contraceptives. The variable was taken directly from the CDHS. The categories were: 0 = 'disapprove', 1 = 'approve', 2 = 'do not know'.

Desire to have another child: even though the variable could be taken directly from the CDHS, with 8 different categories the interpretations became difficult, therefore the choice was made to reduce the number of categories to 3 different ones. Following the new categories the old categories are placed between brackets. 1 = 'yes' (wants within 2 years, wants in more than 2 years, unsure of time), 2 = 'do not know' (undecided), 3 = 'no' (wants no more, sterilised, declared infecund).

4.2.4 Methods of analyses

To examine the data collected from the CDHS 2000, a quantitative analysis was done. This is the 'numerical representation and manipulation of observations for the purpose of describing and explaining the phenomena that those observations reflect' (Babbie 2004, p 396). This is achieved through doing statistical analyses on the data.

At the beginning of section 4.2 different questions were posted that needed answering. They were followed by the discussion on the data source, data handling and operationalization. Below the different methods of statistical analyses are discussed. For the data processing and the analyses SPSS 12.0 was used. For explaining the statistical tests, logistic regression and loglinear model, the course sheets 'life history data analysis' (Van Wissen 2005) were used. This course was part of the master's course in Population Studies.

Descriptive analyses

The first thing to do when analysing data is to have a look at the possible answers of all the different variables. To do this, frequencies were taken. After the frequencies the variables were checked for associations, which is done through cross tabulations. To know something about associations between variables in a cross tabulation the Chi-square and measurements of associations were used.

The Chi-Square uses count data, which is presented in a cross tabulations or contingency table. The hypothesis used is that there is no relationship between the two variables. In order to see this is true the expected count is calculated based on this hypothesis. When there is no relationship the observed and the expected would be the same and the difference between the expected and observed counts would be zero (Norušis 2000). The greater the total sum of the differences the more likely there is a relationship. The sum of these differences is called the Chi-square. The value of the Chi-square might give an indication whether there is a relationship between the variables, but it says nothing about the strength. A measurement of association that gives an indication of this strength is the Phi Coefficient. The Phi coefficient can take a value between 0 and 1. The closer the value is to 1 the stronger the association, the closer the value is to 0 the weaker the association. The Phi Coefficient is a value based on the Chi-square, however when working with nominal variables it is not always clear how this association is manifested in the data, and should therefore be used with caution (Norušis 2000). Saying that there is an association is not the same as saying what kind of association there is.

Logistic Regression

Besides stating whether there are relationships, predictability is also an issue. A test that works with predictabilities is the logistic regression. The logistic regression looks at whether something can be seen as a function of different variables. It starts with a binary variable, for example, current contraceptive use. Contraceptives either are or are not being used. This division leads to a proportion, such as 75 percent of the women have said they do not use contraceptives. When a prediction is made there is a 75 percent chance that the correct prediction was made when saying a woman is not using. For logistic regression this is called the odds, the probability of success (using contraceptives) divided by the probability of no success (not using contraceptives).

Because in logistic regression the outcome variable is seen as function of other variables, the test tries to answer whether the other variables cause a significant change in the odds. Does it help to know

other variables? Do the variables help to predict better whether someone uses contraceptive or not. The formula used for logistic regression is:

$$\frac{P}{1-p} = e^{\beta_0} + e^{\beta_1 x}$$

This formula is similar to a linear regression $y = c + bx$. The c or e^{β_0} is a constant variable and the bx or $e^{\beta_1 x}$ is the increase when x increases with one unit. When doing a logistic regression the values for e^{β_1} are calculated. When $e^{\beta_1} > 1$ than the odds increases or the chance to have a successful event increases. When $e^{\beta_1} < 1$ the odds decreases and the chance to have a successful event also decreases. When $e^{\beta_1} = 1$ there is no change in odds. If the odds increases from $\frac{1}{4}$ to $\frac{1}{3}$ than the probability of a successful event increases from 20% to 25%. When there is a significant change caused by the variable in the odds than adding the variable is useful (DeMaris 1995). For this thesis the variables were tested on $p = 0.05$ significance level.

Logistic regression is used in univariate as well as multivariate analysis. In univariate analyses only one variable is added to see if it causes a change in probability of predicting correctly whether it is a successful or an unsuccessful event. In a multivariate analysis several variables are added to see if they cause a change in the probability of predicting correctly.

Loglinear models

The last of the statistical test is the loglinear model. The loglinear model is based on cross tabulations and the Chi-square. The difference is that it can test for more than two variables to see if there are associations or interactions between them. However the variables for a loglinear model need to be categorical as it works with count data.

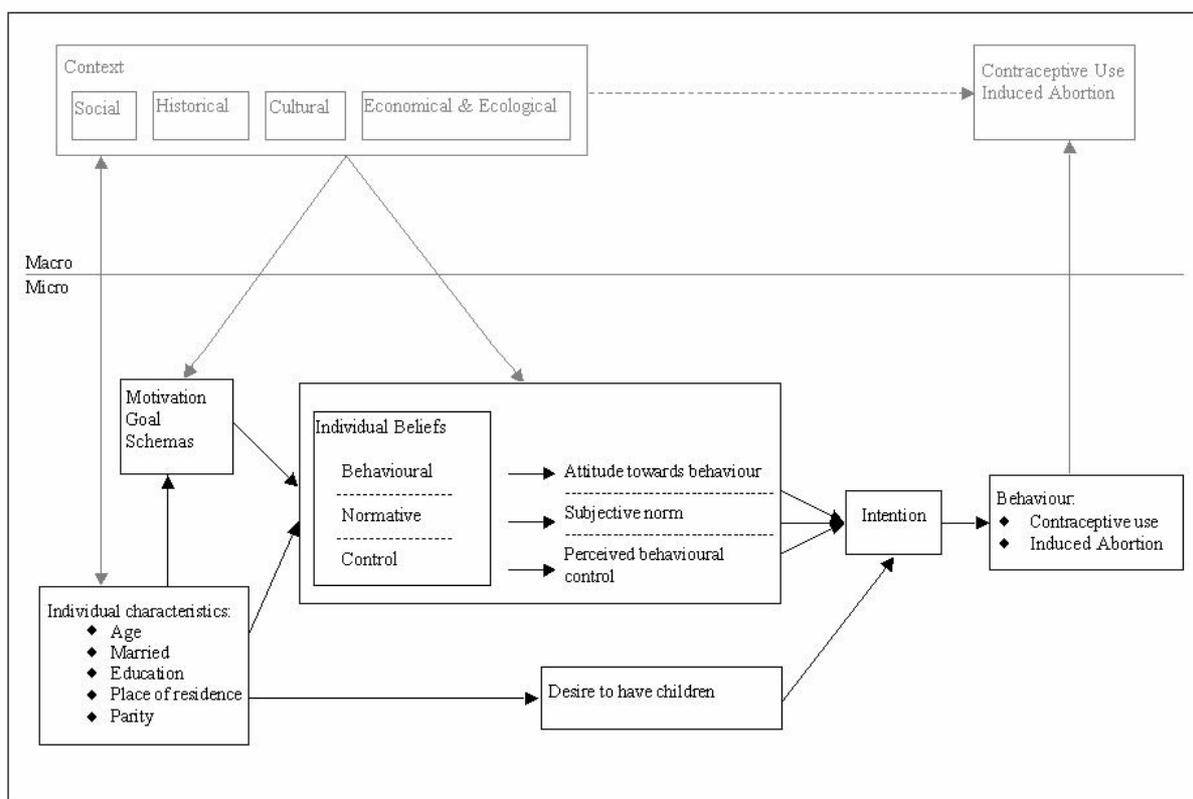
An interaction that a loglinear model could detect would be a 4-way interaction. For example: high educated, older women in urban areas use more contraceptives than low educated, young women in rural areas. This shows an interaction effect between education, age, residence and contraceptive use. It also means there are interactions between each trio and duo of these variables. Interactions are important to know, because even though a variable might be taken as an independent, it might not always be the case.

4.3 Qualitative Research

In order to find an answer to this question, it was needed to do qualitative research, which in this case consists of in-depth interviews conducted in Cambodia. In this section of the methodology chapter a closer look is given to the operationalization of the used concepts for the interviews, the list of

questions, the selection of the respondents, and the actual fieldwork, the fieldwork area as well as the data collection. However before this is all presented, a closer look at the model, and the sub-questions that are used to answer the research question. The model that is needed to answer the research question is the highlighted part of figure 4.2. For the second research question the emphasis is on the individual and what she herself thinks. Only few women are interviewed and it is not enough to make statements about the entire population, or the macro level. This is the main difference with the quantitative analysis, even though the CDHS holds micro data. Because the CDHS is for such a large group it can generalize answers for the entire population. In the qualitative research only a few individual women were asked about their perceptions, to receive a clearer idea about their perceptions on contraceptives. The quantitative part of the research gives an indication of what factors influence contraceptive use and induced abortion, but it does not explain *why* these factors influence contraceptive use. To find out the reasons and ideas behind this, the beliefs of the women need to be taken into account, which are influenced by local schemas.

Figure 4.2: Conceptual model for qualitative research



4.3.1 Operationalization

In section 4.1 the concepts that are used in this research were described however it is necessary to go a little more in-depth, concepts are transformed into questions that will return into a list of questions to be used for conducting the interviews.

Individual beliefs of the women

- Should people use contraceptives, and why?
- How many children should a person have, and why?
- Does the husband think people should use contraceptives?
- Who should make the decision about whether there is going to be another child, and why?
- What are the main reasons for people not wanting to use contraceptives?
- What are the main reasons for people having an abortion?

Attitude towards behaviour

- Do the women use contraceptives, and why (not)?
- What is the ideal number of children to have in a family, and why?

Subjective norm

- With whom do the women talk about contraceptives?

Perceived behavioural control

- Where can the women buy or receive contraceptives?
- What can women do when they are pregnant but do not want the child?

Intention

- Do the women think they will use contraceptives (again) in the future?

Social context

- Who are the women talking to the most beside their husband about issues relating to having children, contraceptives and induced abortion?

There is one more concept that has not yet been discussed, and that are the schemas. Where the first research question aimed at identifying what influences contraceptive use and abortion, the second one used a broader perspective, looking at how women see their own fertility. In order to do this there are also questions added about menarche, going back to the start of the woman's reproductive career. The reason for doing is because the entire reproductive career is taken into account. Decisions concerning contraceptives and induced abortion are placed within the entire reproductive career. The start of the reproductive career for a woman is menarche, the first menstrual period.

Menarche:

- What are the practices concerning menarche, and why do these happen?

Menstrual period:

- What are the practices concerning the menstrual period and why do these happen?

Another questions added to this is the perception of the fertile period

- When it is the best time for a woman to get pregnant?

4.3.2 List of Questions

In order to find answers to the previous proposed questions in-dept interviews with Cambodian women were held. An in-dept interview differs from a survey in that they do not have a structured list with questions, but it is based on the discussion of open questions, rather than closed ones (Babbie 2004). The final list of questions can be found in appendix A, however it is was not the original drawn up. Before going to Cambodia a list of questions was formulated, but it was not certain if these questions were culturally acceptable. Therefore before the first pilot interview the list was discussed with the interpreter. Also a pilot study was done, to see in what ways the questions needed to be changed.

The list of questions was build up in three sections. The list started with some easy and neutral questions, such as educational attainment, and when the woman married. This was to give some time to the woman to get comfortable, and also to wait for neighbours to leave, as the women tended to be very curious about what was happening. In this first section also a pregnancy history was drawn up, asking when she was pregnant, if she had a miscarriage or an induced abortion, and later on in the interviews if she had used contraceptives, between pregnancies. The second part tried to follow a natural flow with questions, starting at the beginning of the reproductive career with questions about menarche. Continuing with questions about whether she knew when a woman could get pregnant, how many children she wanted, and what she could do to have the when children she wanted them. This line of questions led naturally to questions about contraceptives, and perceptions about them. The following point was induced abortion, which was asked about in a more general way by asking what a woman can do when she is pregnant but does not want to have the child. After this the third part was the build off of the interview, by starting once again more general questions. First by asking the woman what she thought could be reasons for women to have an induced abortion, and reasons for not using contraceptives. Then to asking questions about whether she thought it was easier for her to talk about contraceptives compared to her mother, and why this was the case. Following with a question on whether she thought the relationship between men and women was changing, and if it was changing what these changes were. The last question was about her children, and what she would like for her child or children in the future.

Questions that were added because of the pilot studies, were about decision making, who should make decisions on whether there is going to be another child, as some women would answer the question,

'How many children would you like?' with answers along the line of 'my husband would like ... children'.

4.3.3 Selection of the respondents

The in-depth interviews in Cambodia were conducted with married women between the ages 20 to 45 years, who had at least one child. In total 20 interviews were done, in order to hear the women tell about their perceptions. The pilot study was conducted with 5 women. To find eligible women contacts at the Mother and Child Health (MCH) clinic were used. Together with bilingual staff members or the interpreter, women were approached and asked whether they wanted to participate in the interviews. Later on, through the interpreter, women outside the clinic were approached. This because of the idea that women who go to the clinic already know where to find certain services, and women outside might not.

4.3.4 Location of the fieldwork

The research was conducted in Sihanoukville, most commonly known among the local people as Kampong Saom, Cambodia's main coastal town. Of the 20 interviews 16 interviews were done in Sihanoukville, while 4 were done in another, smaller town Ream located about 20 km inland from Sihanoukville. The town of Sihanoukville was chosen because it has a MCH clinic, which could be approached through established contacts, the town of Ream was chosen because the interpreter had contacts and it would give the possibility to interview women who live further away from a MCH clinic.

Most of the women were interviewed at home; however this was not always possible. Not all their houses were possible to be found, due to lack of street names and house numbers. If the person could not be reached, or the woman said the house would be impossible to find, the interviews were conducted somewhere else. The location could be chosen by the interviewee and in all cases was done outside the MCH clinic but still on the hospital grounds. However they were conducted away from waiting patients, so the interviews would be undisturbed, which was always the case of the interviews conducted nearby the clinic.

4.3.5 Data collection and processing

In this section the actual collection of the data through an interpreter is discussed. Because of a language barrier, all the interviews needed to be conducted with the help of an interpreter, as the interview needed be held in the local language Khmer. The initial idea was to let the interpreter do the interview by herself. However, because female interpreters and translators are hard to find, the

researcher conducted the interviews, while the interpreter did the translations. It has to be remarked, that over time the interpreter started doing more and more, as a routine of asking questions was established. The interpreter understood more about the questions that were asked and could anticipate the following question. With the result that the researcher often did not have to finish asking the main questions because the interpreter knew what they were after having done the interviews a number of times. At the start of the interview the woman was reminded she was free to stop the interview at any time through an verbal consent form, see appendix B. Most interviews lasted between 45 minutes and an hour. The total time did not increase much, but the translations were going better. Because of the presence of a translator, it was easier for the researcher to pay attention to other important things, such as tone of voice, and body language and could make notes, which made it easier to continue asking questions. It has to be said that not all interviews were done undisturbed, sometimes a husband would come home unexpectedly which usually made it more difficult to continue, but also other family members and neighbours could have an disturbing effect on the interviews.

All the interviews were taped, and because of time constraints, the interviews had to be written out in English. In which case only the English part of the interviews was written down, when an answer was unclear the interpreter was consulted, by listening to the tape. Most times the transcripts of the interviews were written on the same day or otherwise the day after.

After the transcripts had been written they needed to be analysed through a qualitative analysis. This is the 'non-numerical examination and interpretation of observations, for the purpose of discovering underlying meanings and patterns of relationships' (Babbie 2004, p. 370). A method that can be used for this is a cross case analysis, in which different cases are compared for similarities and patterns. A way of doing this is looking at different variables, and trying to find out what explains it. Another way is the grounded theory method, where the observations lead to a theory (Babbie 2004). In this case the different answers were compared for similarities and patterns, by comparing answers from different questions and of the same questions for different women.

For writing the results no quotes were used for the reason that the interpreter was not always capable of translating what was said literally. In those cases the researcher would describe what she meant. Even though the message was passed on, quoting literally in these circumstances would not be accurate.

4.4 Ethical issues

There are several ethical issues that needed to be addressed during this research. The most important ones involve the second part of the research, where in-depth interviews needed to be conducted with women in Cambodia. Ethical issues regarding the first part of the research is the data gathering.

MeasureDHS addressed these issues when they collected the data in Cambodia. However care is taken with the data handling to make sure that the variables are not manipulated or lead to certain outcomes and interpretations. The ethical issues that needed to be addressed were voluntary participation, no harm to the participants, confidentiality and anonymity, sensitivity of topics, location of interviews and interpreters and translators (Babbie 2004).

The respondents were approached at the Mother and Child Health clinic in Sihanoukville. There they were asked to participate in the research by giving an interview. Patients could decide for themselves if they wanted to do it or not. Before the interview itself, the participant was given more information about how the interview would proceed and about what she could do. She was informed that she was free to stop the interview at any given moment or refuse to answer questions if she decided to. A verbal consent form (Appendix B) was formulated. After the women read all the information (or it had been read to them) they could consent to or refuse to do the interview. A verbal consent was chosen as only an interview was conducted, no harm could be inflicted on the respondents and no drugs or devices were used on them. Signing papers, especially by illiterate people is difficult, because they are not sure if they are really signing what they are told. This was avoided by just asking for a verbal consent.

Important for the respondent herself were the issues of confidentiality and anonymity. Confidentiality is assured when 'a research project guarantees confidentiality when the researcher can identify a given person's response but promises not to do so publicly' (Babbie 2004, p.64). Anonymity can be interpreted to mean that it 'is guaranteed in a research project when neither the researcher nor the readers of the findings can identify a given response with a given respondent' (Babbie 2004, p.65). Anonymity was achieved by not mentioning the names during the interview, and also by not putting a name on the interview transcripts. Names were kept separate until all interviews are conducted, after which it was not necessary anymore to know the respondents' names or any other details for the research. In addition, the interviews have only been used for this research, and will not be used for any other purposes. This has also been explained to the respondent before she was asked to voluntarily participate in the interviews.

Something that is very important to realize is that the topic of the research is sensitive. Talking about fertility, having children and contraceptives will be personal for the respondents. The interviews can also touch upon sensitive issues such as induced abortion. This is why it is important to create a relationship of mutual understanding and agreement with the respondents. This is to make sure that she understands that the interest is only in what she can tell about her reproductive career, and that she is also free to stop the interview and refuse to answer questions.

The last issue that needed to be addressed was the location and the interpreters or translators. In order to make the respondents feel comfortable, the interviews were preferably conducted at the respondents home, rather than at the clinic. For finding interpreters women from outside the clinic were asked, so that participants would feel more comfortable in telling their story. Rather than when they will see people from the clinic again, knowing they have heard their story. Also, only women conducted the interviews. It has already been said that sensitive topics were touched upon that only women share, therefore, it is easier to talk to another woman who can share in these experiences.

4.5 Reflection on the research

This section reflects mostly on the experience of doing fieldwork in another country, and mainly in another culture. However before that a few lines will reflect upon the quantitative analyses.

4.5.1 Quantitative analyses

Even though this form of analyses looks pretty straight forward, it does not mean that no problems were faced. Many times analyses had to be redone, because variables were used incorrectly, some times new variables had to be calculated, which resulted that some parts of the analyses had to be redone. Deciding on what variables can be used the best, and which test would be the best to use to make sure that the results would be interpretable might have been the hardest question to answer. This was mainly a problem for the indicators representing the attitudes towards the behaviour. In the end there was chosen for two indicators. They however represented two different behaviours. The behavioural belief ‘approval of contraceptives for the respondent’ says something about the actual attitude towards contraceptive use. However it more a summary of other behavioural beliefs such as thinking the behaviour is good or beneficial. The behavioural belief ‘the ideal number of children’ says something about having another child. It says something indirectly about contraceptive use and induced abortion. There are different ideas that influence ‘having another child’. Currently wanting to have a child is based on the difference between the ideal number of children and the current number of children. If you do not want another child, because the ideal is equal or less than the current number of children, than decisions need to be made either to prevent pregnancy (contraceptive use) or to terminate the pregnancy (induced abortion). Therefore the behavioural belief ‘the ideal number of children’ is taken into account. Of course there are also other beliefs that can influence contraceptive use, or induced abortion or both, such as the ideal number of children for the husband, or approval of induced abortion for respondent and husband. The CDHS did not have indicators that measured these beliefs. Other beliefs that could not be found in the CDHS were once representing control beliefs. Another variable that needs to be discussed is the variable ‘desire to have another child’ in relationship

to induced abortion. The variable induced abortion is a measurement about what happened until the moment of measurement. This means induced abortions can have happened in the past, and women might desire a child now. Because two different forms of measurement over time are used, interpretations needed to be done with care.

4.5.2 Qualitative research

The most important part of the research to reflect upon is the fieldwork in Cambodia. Going abroad and going to a different culture make it more difficult to calculate what will happen. The main preparation for being able to do the research in Cambodia was receiving approval of the National Ethical Committee (NEC) in Cambodia, and to receive this an extended proposal was needed. However when approval was granted, the research could be done in Cambodia.

Upon arrival in Cambodia the first issue was starting to become acquainted with the Cambodian culture and its people. The first two weeks were completely aimed at this, learning some basic Khmer phrases so movement was possible, as well as making first contact with the organizations that would help and could give the necessary information. Upon arrival at the final destination, some time was devoted to receiving approval of all the right institutions. It is important in Cambodia, even though the NEC had given its approval, the head of the provincial health department was asked for his permission, as well as the director of the hospital and clinic. It is when people are not asked for permission that they might make trouble for the researcher. Early on the impression was given that status is important in Cambodia. Asking permission is something that should not be forgotten.

Finding an interpreter was the next step, and it became clear that this was not easy. Educational attainment is low in Cambodia, and finding a woman able to speak English as well as had a background in reproductive health was not possible. It was therefore necessary to approach students at one of the English schools. Through the school it was possible to contact some women, and interview them. Because the interpreter had no background in reproductive health, it became even more important to train her and explain clearly what the idea behind the research was, and what all the questions meant. It was not until the first trial interview that another aspect of Cambodian culture became noticeable. Not losing one's face is important in Cambodia, therefore when a person does not understand something she will not continue with asking questions. This is because the person does not want to give the other person the feeling that he or she explained something poorly. The opposite is also there, not just questions are not asked, giving feedback is also not easy. Time and effort should be taken for explaining the problems with care to the person, and in this case the interpreter. However over time the working relationship improved and with that the quality of the research being done.

There was one other problem that was hard to tackle and that was the shyness of the interviewees. Even though they did not have a problem answering the questions, the answers were always as short as possible, and elaborations were hard to be found. It took a while before the realization came that the

women did not continue after the interpreter had translated the answer. By informing the women before hand that interruptions for translation were needed, and encouraging them to continue the women opened up more. Besides having to learn to work with an interpreter and overcoming shyness, there were two other difficulties that were addressed. The first one being disturbance of the interviews, at the start of the interviews there were almost always neighbours present unless the interview was done near the MCH clinic. Sometimes it was possible to just talk about another topic, or to make a break in the interview. At one occasion when the husband came home early the woman became very conscious of the fact he was around, and the interview was finished without being able to talk about induced abortions. Sometimes when neighbours did not want to leave it was possible to ask them if they thought it was all right to leave and return once the interview was completed. However asking them to take the children outside because of the tapings worked well, and the neighbours stayed outside with the children. Asking this did not seem to be a problem nor to be perceived as rude. However the Cambodians are tolerant of foreigners and 'cultural' mistakes are easily forgiven, under the pretence 'they do not know better'. The last problem that was faced during the interviews was that the equipment stopped working at one of the last interviews. Fortunately notes were taken during the interviews. However it was not possible to repair the tape recorder, and during the last interview it was necessary to take notes. It shows that it is important to have enough working equipment present at the interviews.

During the trial interviews it became clear that interviews with men were also desirable, mainly to understand the difference between what women think about certain subjects and what men think. Whether the women were correct about what they think their husbands are thinking. Even though a start was made with these interviews, it became clear that doing these interviews with a female translator was not the best, and a male translator could not be found on such a short notice. It might be interesting to do male interviews in further research. After all the interviews were done, a first report with preliminary results was written in Cambodia. This was to make sure no information was lost in the time between the data gathering and the analyses done in the Netherlands.

5 Contraceptive Use and Induced Abortion

This chapter is devoted to the answering of the first research question, which is:

1. How does the social and cultural context influence the proximate determinants of fertility, contraceptive use and induced abortion, in Cambodia?

In order to answer this question, it was split into two separate questions, which will be analysed and discussed in this chapter. They are:

- a. How do the individual characteristics influence the proximate determinants of fertility contraceptive use and induced abortion?
- b. How do attitudes and the subjective norm influence the proximate determinants of fertility contraceptive use and induced abortion in Cambodia?

The chapter will follow the following structure. The first part of the chapter is devoted to a description of the sample. The background characteristics of the women will be discussed, as well as the outcome variables. After this, in section 5.2, current contraceptive is explored. In section 5.3 the intention to use contraceptives is discussed. At the end of each section a model for predicting contraceptive use is presented and discussed. In section 5.4 the two models for current contraceptive use and intention to use contraceptives are compared and discussed. Following contraceptive use, attention is given to induced abortion to see what factors influence this in section 5.5. At the end a short summary of the results is given in section 5.6.

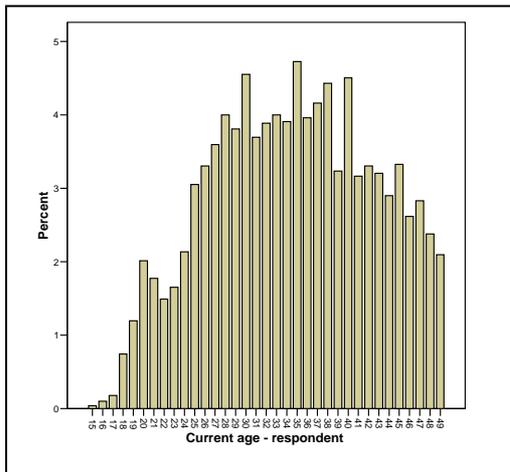
5.1 Description of the sample

The group that has been selected for the analyses are the women who are ever married, meaning having been married before or currently married. Another characteristic that these women share is that they all have at least one child, in total there are 9,924 women included in the analyses. Below the current age, the number of children or parity, the place of residence, educational attainment and age at marriage will be discussed for this sample. After this, time is given to contraceptive use and induced abortion, where the outcome variables are discussed. In the last part of the section a closer look is given to the variables representing attitudes and subjective norm.

5.1.1 Individual characteristics

In this section the age of the respondents, the number of children, the place or residence, the educational attainment and age at marriage for the sample are presented and discussed.

Figure 5.1: Age of the Respondents



Age

In figure 5.1 the ages of the respondents are presented. As can be seen, the left side holds very few people because the average age of marriage is 20. It still takes some time for the first child to be born, as can be seen by the rapid increase of women eligible for the analyses in the higher ages. The average age of the women in this sample is 34.6 years and median age is 35 years.

Parity

The average number of children women had is 4.13 children, however, not all women have finished childbearing. For example the young women who just married and had their first child (see figure 5.2). The median is 4, meaning that 50% of all the women have at least 4 children, and 25% of the women have 6 or more children.

Figure 5.2: Number of children ever born

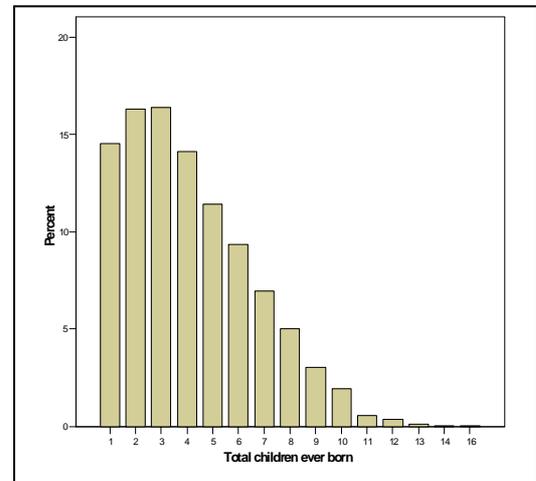
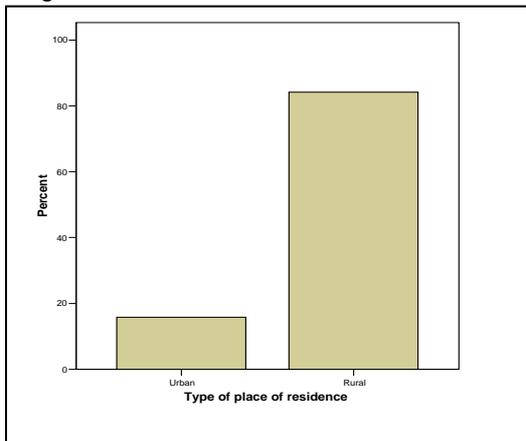


Figure 5.3: Urban or rural residence



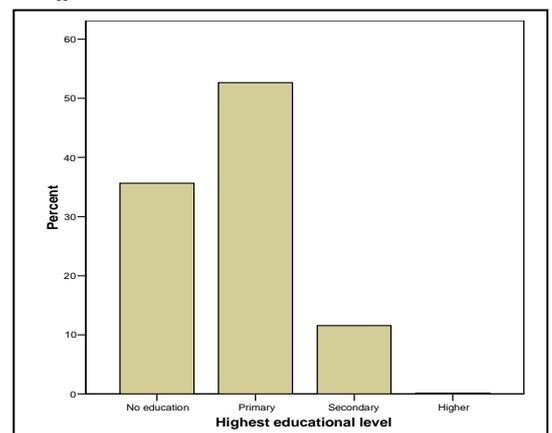
Place of residence

Cambodia is mainly a rural country, 84.2 % of the women still live in rural areas, while 15.8% lives in urban areas. The percentage of woman living in rural areas is high in comparison to many other countries.

Educational Attainment

Educational levels are low in Cambodia: 35% of the women indicated they had received no education. When educational attainment is checked for age of the respondents, it is evident that younger women nowadays attain a higher level of

Figure 5.4: Educational attainment

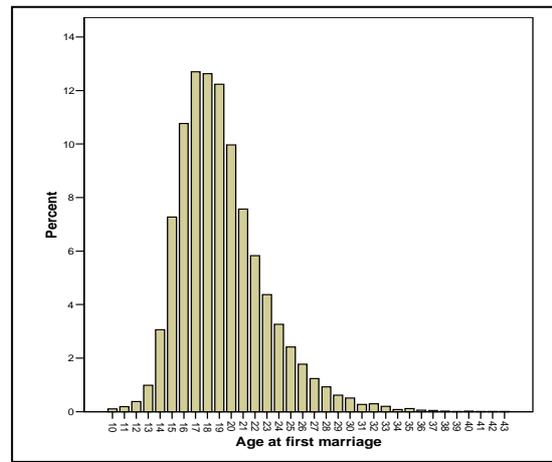


education. The difference is mainly in the number of women who say they had no education. The number of women who finished primary school seems to be similar for all age groups, around 50%. The group with no education seems to vary across the age groups, showing no visible patterns, however the age group with the highest percentage no education is the highest one 45 to 49 years with 45%. However for this analysis only women who are married with children are selected. Especially in the younger age groups there are still a lot of women who are not married. Therefore when looking at the entire group age 15 to 49 regardless of marriage, it is more apparent that the younger age groups have more education. More women have finished primary school and secondary school.

Age at marriage

The average age of marriage in Cambodia is 20 years (Ministry of Planning 2001) but for this sample 19.3 years. When having a closer look at the distribution of the given answers, it shows that half of the women is married by the age 19, 25% by the age 17, and 75% by the age 21. It therefore seems that women do marry at younger ages than is expected by the average alone and therefore it is important to look at the spread of the age of marriage around the average.

Figure 5.5: Age at marriage



The main difference between the sample presented above and all women in the Cambodian DHS is firstly the average age of the respondents. For this sample it was 34.7 while it was 29.7 for the population. The difference is caused by the fact that all women 15 years and older were selected to participate in the CDHS, while average age for marriage is around 20. This results in the average age of the sample to be somewhat higher than of the entire population caused by the exclusion of the younger women. Another main difference is the average amount of children per woman, for this sample it was 4.13 while it is 2.67 for the entire CDHS. Here the difference is also explained because in the sample women were selected on being married and having at least one child, and the entire CDHS included all women 15 years and older, which contains a large group of unmarried women without children.

5.1.2 Outcome variable for contraceptive use

In this section attention is given to the outcome variables for contraceptive use and induced abortion. Contraceptive use has different indicators. The first is ever having used contraceptives, the second current use of contraceptives, and the last one intention to use contraceptives.

Figure 5.6: Ever used contraceptives

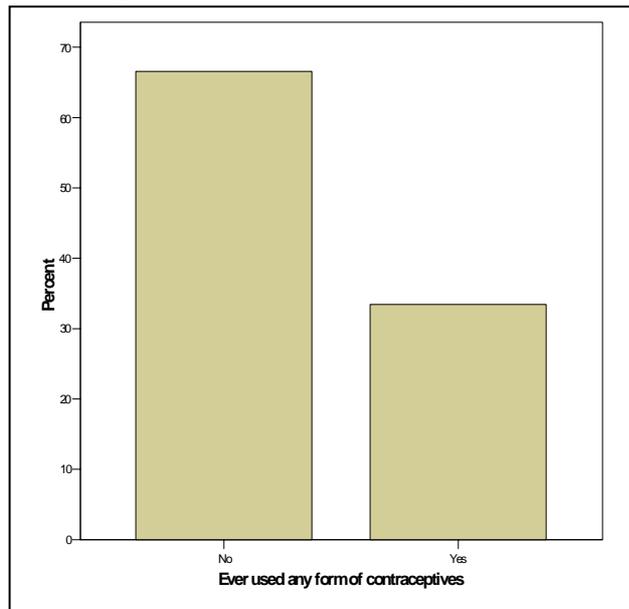


Figure 5.7: Current use contraceptives

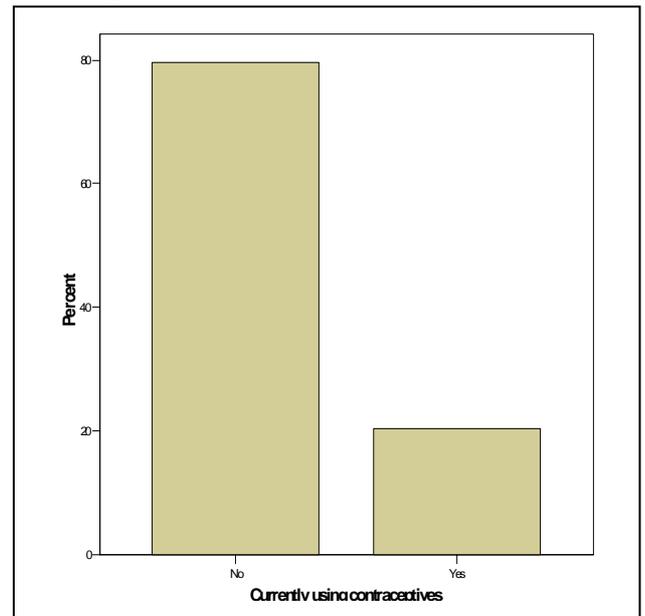
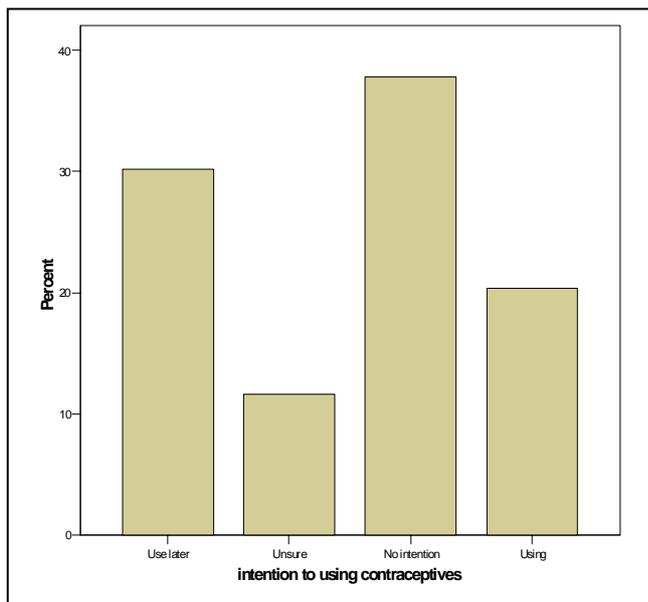


Figure 5.8 Intention to use contraceptives



Above three different figures of outcome variables are presented all trying to say something about contraceptive use. The different figures give information over different time frames. The first one is about having ever used contraceptives (figure 5.6) and it gives information about the past until the moment of measurement. One in three women has said to have used or is using contraceptives. Figure 5.7 shows that 20.4% of women are currently using contraceptives. The last figure, 5.8, gives an indication about current use and future use. It incorporates all those people from figure 5.7

who are currently not using and whether they intend to use contraceptives in the future. For further analyses attention is given to current contraceptive use, and to intention to use contraceptive use in the future

When it comes to contraceptive use the method of contraception is not taken into account. Women could be using either a modern or traditional forms of contraceptives. For the analyses all forms are taken into account as either using or not using. The methods of contraceptives and what influences the decision regarding them is not analysed in this thesis.

The last outcome variables are the ones on induced abortion, however information on induced abortion is not easily found. The sample gives information about how many women had a terminated pregnancy, which can either be a spontaneous abortion or an induced abortion. In total 20.2% of the women in the sample said they had a terminated pregnancy. However it does not tell directly who of these women had a spontaneous or an induced abortion. However there was a question asked to all the women who said they had a terminated pregnancy, how many induced abortions they had. Of all the women having a terminated pregnancy, see figure 5.9, 65.5% said they a spontaneous abortion or miscarriage, while 34.5% had at least one induced abortion. In figure 5.10 it shows that in total 6.2 % of all the women in the sample said they had an induced abortion, or 607 out of the 9924 women. However one percent of the women who said they had a terminated pregnancy did not indicate whether this was a spontaneous or and an induced abortion.

Figure 5.9: Spontaneous or Induced Abortion

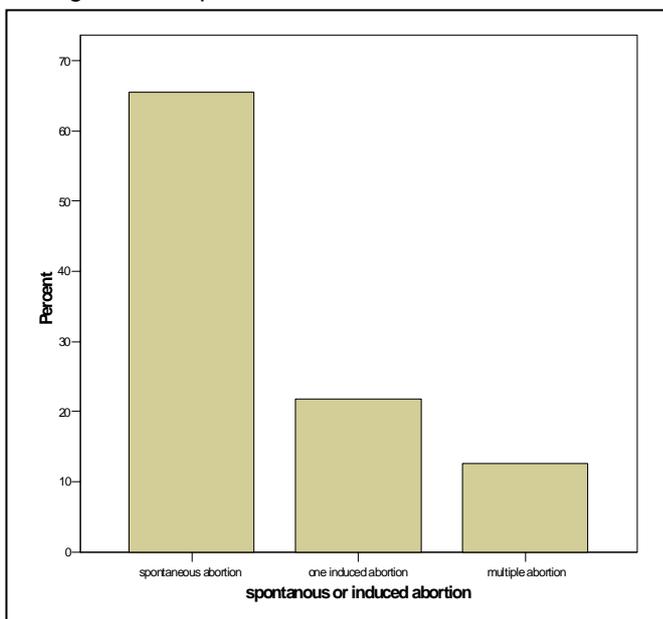
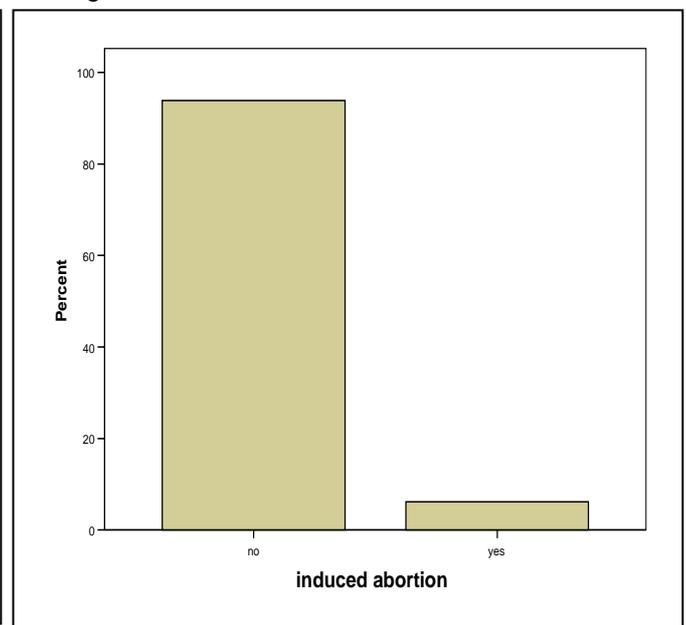


Figure: 5.10: Induced Abortion



5.1.3 Attitudes and subjective norm

In the above section the background variables and the outcome variables were discussed. This leaves one group not discussed, the attitudes towards contraceptives and the subjective norm or rather the approval of contraceptives by respondent and husband. This will only be discussed in relevance to contraceptive use, as there were no similar indicators found in the Cambodia Demographic and Healthy Survey for induced abortion. The approval of contraceptives by the respondent can be seen as an attitude while the approval of the husband can be seen as an indicator for the subjective norm. Another idea that might influence the subjective norm is the immediate social context of the women, with who do they talk about contraceptives? One other attitude that might influence contraceptives use is the ideal number of children, especially in relation with the number of children they have. Will

people who have more children than they desire be more likely to use contraceptives than women who have fewer children than they desire? The ideal number of children is taken as an attitude that can influence contraceptive use.

The first part looks at how the respondent thinks about family planning, which can be seen as an attitude towards contraceptives. A question also asked to the respondent is whether she thinks her husbands would approve or disapprove of contraceptive use. This is an indication of subjective norm, as it gives information about what she thinks other people (in this case husband) think about contraceptives. These two (husband and wife) are discussed together as it can give a comparison

Table 5.1: Approval of Contraceptives for husband and wife

	<i>Disapproves</i>	<i>Approves</i>	<i>Don't know</i>	<i>Total</i>
Wife	8.6	77.1	14.4	100
Husband	11.7	67.4	20.9	100

between the two. Table 5.1 shows that a larger proportion of women, than their husbands, approve of contraceptives, or more correctly than what they think is their husband's

opinion. Because the outcomes appear to be very similar, they are checked for correlation between them. There is looked at whether the women who say they disapprove, also say their husband disapproves of contraceptive use. And if women who approve think their husbands also approve. The cross tabulation gives a Chi-square of 5283.817 with a phi coefficient of 0.783. This indicates there is a strong relationship between what the woman thinks and what she thinks her husband thinks.

While being on the subject of approval and disapproval of contraceptives a little more time will be spend on it. In the CDHS data was collected about the reasons for not using contraceptives. For the women in the sample these reasons were compared for the women who disapprove with the ones who approve and to see whether there were differences in reasons for not using contraceptives

Woman disapproves:

- Health concerns
- Subfecund, infecund
- Respondent opposed
- Wants more children
- Infrequent sex

Woman Approves:

- Subfecund, infecund
- Health concerns
- Infrequent sex
- Fear side effects
- Wants more children

As can be seen the reasons for not using contraceptives are similar, even if the order is not the same. In the category of women disapproving of family planning it shows as 3rd reason that they oppose, which seems logical. In the group of women approving of contraceptives fear of side effects is on the 4th place, which can also be seen as health concerns. However it is a little more specific as just naming

health concerns. For both groups it shows that health concerns and related subjects are the main reason for not using contraceptives.

Something related to the subjective norm concerning what the husband thinks is the immediate social context. To whom do the women talk about family planning? This is important to know as the people they talk to the most would be most likely to be able to influence their behaviour. Even though not a lot could be found in the data, a little can still be said about it. The women were asked to say whether they talked to certain people about contraceptives. Of the women, 26.8% said that they talked to their neighbours and friends about contraceptives. The second group the women talked to were their husbands, which was 16.4%. When this last variable was looked at more closely through another question, the answer was that 37.8% had never talked to their husband, 49.9% had talked once or twice with him and 12.2% had talked more than once or twice with their husband about contraceptives. This indicates that contraceptives are not talked about a lot within marriage. Another group the women mentioned they talked to were their sisters, which was 9.6%.

One more aspect that needs to be looked at, in relation to contraceptive use, is the question whether the ideal number of children influences contraceptive use. To get a better idea about this, the answers of the women were compared with the number of children they had. For example 61.3% of the women had less than five children, however in reality, 70.6% of the women said they wanted less than five children. This would be an indication that women have more children than they desire, which leads to the idea that if women have more children than they want they might be more likely to use contraceptives or have and induced abortion.

5.2 Current contraceptive use

Contraceptive use can be determined by different factors, such as age, educational attainment, place of residence and the number of children the woman has. Besides these individual background characteristics contraceptive use is also influenced by attitudes towards contraceptives, the subjective norm and whether the woman wants to have another child any time soon. First the influences on current contraceptive use will be explored. The influences on the intention to use contraceptives are discussed in section 5.3.

5.2.1 Individual characteristics

The first research question is how the Individual characteristics influence the current use of contraceptives. There are different influences on contraceptive use, but it is not always known what

factors influence current contraceptive use the most. Below, table 5.2 presents the different individual characteristics and how they relate to contraceptive use.

Table 5.2: Current use of contraceptives by individual characteristics

		N	<i>Current use Contraceptives</i>	
			No %	Yes %
Age	<20	225	84.9	15.1
	20-24	900	83.6	16.4
	25-29	1763	79.0	21.0
	30-34	1990	74.0	26.0
	35-39	2036	75.0	25.0
	40-44	1695	79.4	20.6
	>44	1223	93.0	7.0
Residence	Urban	1572	72.4	27.6
	Rural	8352	81.0	19.0
Education	None	3537	85.0	15.0
	Primary	5226	78.9	21.0
	Secondary	1150	66.7	33.3
	Higher	11	63.6	36.4
Parity	1	1440	87.8	12.2
	2	1620	78.4	21.6
	3	1626	76.2	23.8
	4	1400	74.6	25.0
	5	1133	79.3	20.7
	6	928	77.9	22.1
	7	689	79.8	20.2
	8	495	80.4	19.6
	9	300	88.0	12.0
	10+	293	85.3	14.7
Total		9924	79.6	20.4

The first background characteristic of the women in the sample is their age in relationship to current contraceptive use. It shows that use of contraceptives first increases with age, and later on declines again with age. Reasons for this could be that younger women first want to have a few children before starting to use contraceptives. Other women might never have started using contraceptives and after a certain age might be less likely to do so. The second variable is residence, and whether the woman lives in an urban or rural setting. The first indication is that more women in urban areas use contraceptives than in rural areas. A reason for this could be that contraceptives are better provided in urban areas. For example the reproductive health clinics that provide contraceptives are in urban areas. The third background characteristic is educational attainment. Here it shows that with increase in level of education contraceptive use increases. The last characteristic is the number of children a woman has. First contraceptive use increases with the number of children, but as the number increases further

contraceptive use declines again. It could be that most women do not start to use contraceptives after they had their first few children, while women who have many children never used contraceptives.

To have an indication of the relationship between the different background factors and the outcome variable ‘current use of contraceptives’ a logistic regression is done with all the factors separately. This will give an indication which factors will help to predict contraceptive use better. Table 5.3 gives the outcomes of the univariate logistic regression and there are some surprising results. The first three are all significant, meaning that it can be said there is an influence on ‘current use of contraceptives’. Adding these background characteristics causes a significant change in the predictability or predicting whether someone uses or does not use contraceptives. However parity does not.

Table 5.3: Univariate Analyses: current contraceptive use by personal characteristics

<i>Variable</i>	<i>Exp(B)</i>	<i>Sig. (0.05)</i>
Age in years	0.984	0.000
Education in years	0.127	0.000
Residence	1.624	0.000
Parity	1.004	0.669

The column $Exp(B)$ gives an indication about the strength of the relationship. An $Exp(B)$ of 1 says there is no difference, no significant change in the probability of correctly predicting using and not using contraceptives. An $Exp(B)$ smaller than 1 says that the change in probability of correctly predicting using or not using is in favour of not using. This is the case with the age of the woman. With an increase in age, the probability of predicting correctly that she is not using contraceptives increases. When the $Exp(B)$ is greater than 1 the change in the chance is in favour of the probability of using contraceptives. For example knowing that someone lives in an urban area gives you greater probability of correctly predicting that someone is using contraceptives than if someone was living in a rural area. The only variable that does not cause a change in this probability is the number of children the woman has. This is made clear by the significance probability of 0.669. This indicates that there is a chance of 2 out of 3 that these values of parity do not create a significant change in probability of correctly predicting using or not using contraceptives.

5.2.2 Attitudes, subjective norm and the desire to have children

The individual background factors was the first group of factors that influence contraceptive use, the second group of factors that was selected were the variables indicating attitudes, subjective norm and the desire to have children. In table 5.4, below, the variables representing attitudes are: the ideal number of children and respondents approval of contraceptives. The variable representing subjective norm is the husband’s approval of contraceptives. The last variable is the desire for more children.

Table 5.4: Current use of contraceptives by attitudes, subjective norm and desire

		N	<i>Current use Contraceptives</i>	
			No %	Yes %
Ideal number of children	0	9	77.8	22.2
	1	138	82.6	17.4
	2	1430	77.9	22.1
	3	2124	76.6	23.4
	4	3100	77.5	22.5
	5	1783	82.9	17.1
	6	664	85.7	14.3
	7	159	83.0	17.0
	8	102	83.3	16.7
	9	24	95.8	4.2
	10+	102	94.1	5.9
Respondent approves	No	849	95.4	4.6
	Yes	7644	74.6	25.4
	Don't Know	1425	97.2	2.8
Husband Approves	No	1005	91.8	8.2
	Yes	5807	67.6	32.1
	Don't know	1800	96.9	3.1
Desire for more children	No	5323	76.7	23.3
	Yes	1923	82.5	17.5
	Don't know	2678	83.4	16.6
Total			79.6	20.4

It seems that contraceptive use is fairly the same for all numbers of ideal children. However when the number starts to increase over eight children, the use of contraceptive seems to decline quickly. The second variable is saying something about the respondent's approval of contraceptives. Here it shows that there are more women who approve of contraceptives that use contraceptives, than women who disapprove. The respondents were also asked about what they thought their husband's approval was. Here it seems that more women whose husband approves of contraceptive use contraceptives. These two variables indicating approval can also be compared. For example there is a larger proportion of women using contraceptives who indicate they think their husband approves of contraceptives, than women who agree themselves. The last variable is the desire for more children. It seems that more women who do not want any more children use contraceptives than women who do want any (more) children. Still quite a large group 17.5% of the women who do want another child use contraceptives. This could be explained by the fact that all women who want to another child are included in that category even if it means for a period longer than 2 years.

These numbers give an indication whether there might be a relationship between each of these variables but it does not say whether it is a significant relationship and how strong these relationships

might be. In table 5.5 the results of the univariate logistic regression are presented. This table looks a bit different from table 5.3, which is mainly because the variables used this time were mostly nominal or categorical variables, except for ideal number of children. For the other three variables the categories were compared to the last category, in this case the option 'Do not know'. Ideal number of children shows a slight negative effect on the probability of correctly predicting using or not using contraceptives. This means that with the increase of the ideal number of children the probability to predict correctly is in favour of not using contraceptives.

Table 5.5: Univariate analyses: Intention to use – attitudes, subjective norm and desire

Variable		Exp (B)	Sig.(0.05)
Ideal Number of children		0.890	0.000
Respondents approval	Disapproval	1.667	0.026
	Approval	11.783	0.000
Husbands Approval	Disapproval	2.767	0.000
	Approval	14.734	0.000
Desire	No	1.526	0.000
	Yes	1.062	0.446*

* Not significant: $P > 0.05$

The respondents approval shows two positive Exp(b)s. The probability to predict correctly contraceptive use, based on approval or disapproval of the respondent, increases in comparisons to the option 'do not know'. However the Exp(b) is much larger for approval than disapproval, which means the probability of correctly predicting whether someone uses contraceptives is higher when you know someone approves. This is the same for the variables on husband's approval of contraceptives.

What is different between the respondent's approval and the husband's approval is that the husbands approval with an Exp(B) of 14.734 shows a stronger impact on the change in probabilities. This is because the Exp(B) of 14.734 is higher than the Exp(B) of 11.783 of the respondents approval. The last variable is the desire to have another child. Here it shows that the answer 'yes' is not significant, but this is in comparison to the option 'do not know'. The answer 'no' is significant, and shows that the change in probability of correctly predicting contraceptive use is higher for this answer than for 'do not know'. However the overall impact of using desire for predicting contraceptive use is still significant.

5.2.3 Logistic regression models for current contraceptive use

In the sections above the different variables and their relationships to current contraceptive use have been discussed. However it gives no information about possible interaction between the variables and current contraceptive use. For example there might be an interaction between age of respondent, number of children and current contraceptive use. To find out more about interactions a loglinear model is used, to do this all categorical variables were used.

In total there are nine variables and when they are compared for interactions there is a long list of found interactions in the loglinear model but interpreting them is difficult. Therefore the groups of variables are once again divided into two groups, on the one hand the individual characteristics and on the other hand the attitudes, subjective norm and the desire to have another child. For both groups interactions were found with current contraceptive use. Below the list of interactions from the loglinear model is presented for both groups.

Individual characteristics:

- Current use*Parity*Age
- Current use*Parity*Education
- Current use*Residence*Education
- Current use*Age*Residence
- Current use*Age* Education

Attitudes, subjective norm and desire:

- Current use*Desire*Ideal number of children,
- Current use*Husbands approval*Respondents approval
- Current use*Husbands approval*Desire
- Current use*Respondents approval*Desire

The reason for looking at interactions is also that maybe a variable is not significant on its own, such as the number of children, but in comparison with other variables it may have a significant impact. For example the list for interactions for individual characteristics shows there is an interaction between current use, number of children (parity) and age of the respondent. This could mean young women, with few children are less likely to use contraceptives.

Multivariate logistic regression gives the possibility of looking at the influence of variables when they are all taken together, and see if they can change the probability of predicting the correct outcome. Below there are three different models presented. The first one is the model based on all individual characteristics. The second one is the model based on all the attitudes, subjective norm and desire for another child. The last one is based on all the variables taken together to come to one conclusive model.

Individual characteristics

The answers given here are different than the answers that were given when all the variables were checked separately in a univariate logistic regression. In table 5.6 the outcome of this logistic

regression is presented. The values of $Exp(B)$ are changed because the variables are not completely independent from each other. When the values are given the others are taken into account. That is why when a variable is taken out all other values change.

Table 5.6: Multivariate analysis: current contraceptive use – individual characteristics

<i>Variable</i>	<i>Exp(B)</i>	<i>Sig.(0.05)</i>
Age in years	0.971	0.000
Education in years	1.127	0.000
Parity	1.109	0.000
Residence (Urban)	1.406	0.000

Education in years seems to have the largest impact on change in probability of predicting correctly whether someone is using contraceptives or not. This might not be clear because the value of residence is greater. Residence is an ordinal variable, and when location and education are compared, education causes the greatest change in the probability of predicting correctly when removed from the model. In fact residence causes the smallest change of all the variables when removed from the model. Therefore it has the least impact on the probability even though all of them are significant. Going from the strongest to the weakest impact on the probability the order of the variables is: education, number of children, age of the respondent and residence.

Attitudes, subjective norm and desire for another child

This is the second group of variables that was presented in this section. Again the attitudes are the ideal number of children and the respondent's approval of contraceptives. Subjective norm is the husband's approval of contraceptives. The last variable in this group is the desire to have another child. Table 5.7 gives the results of the multivariate logistic regression for these variables.

Table 5.7: Multivariate analysis: current contraceptive use – attitudes, subjective norm and desire

<i>Variable</i>	<i>Exp(B)</i>	<i>Sig.(0.05)</i>
Desire		0.000
Desire(yes)	0.997	0.975
Desire(no)	1.586	0.000
Ideal number of children	0.908	0.000
Husband's approval		0.000
Husband (disapproves)	3.117	0.000
Husband (approves)	9.335	0.000
Respondent's approval		0.000
Respondent (disapproves)	0.799	0.385
Respondent (approves)	2.577	0.000

The variable that is most prominent is the husband's approval of contraceptives as perceived by the respondent. With an $Exp(B)$ of 9.335 it increases the probability of predicting correctly that the respondent uses contraceptives. The variable 'husband's approval' is the strongest of the variables

presented here, while the ideal number of children is the weakest. This last one creates the smallest change in the probability of predicting correctly.

All variables

In the end all variables are put in one model, to see what variables influence current contraceptive use, whether it is one of the individual characteristics, or the attitudes and subjective norm. Table 5.8 gives the logistic regression for all the variables. The variable ‘parity’ was excluded from the final model, as it did not cause a significant change in the probability of predicting correctly whether the respondent uses contraceptives or not. The variable that causes the largest change is the husband’s approval, second is the desire to have another child, and third is education in years. The variable that causes the smallest change is the age of the respondent. It is interesting to see that of all the factors that influence contraceptive use that it is the husband’s approval as perceived by the respondent that seems to have the largest impact.

Table 5.8: Multivariate analysis: current contraceptive use – all variables

<i>Variable</i>	<i>Exp(B)</i>	<i>Sig.(0.05)</i>
Desire		0.000
Desire(yes)	0.888	0.180
Desire(no)	1.686	0.000
Ideal number of children	0.950	0.019
Husband’s approval		0.000
Husband (disapproves)	3.001	0.000
Husband (approves)	8.972	0.000
Respondent’s approval		0.000
Respondent (disapproves)	0.806	0.407
Respondent (approves)	2.425	0.000
Age in years	0.990	0.000
Education in years	1.088	0.024
Residence (urban)	1.377	0.000

Not in list: ‘Parity’ $p > 0.05$

5.3 Intention to use contraceptives

In the beginning of the chapter three different variables were presented that gave information on contraceptive use. The last one was the variable that gave an indication about future use. Intention is a variable that is defined in different ways, as it is an ordinal variable. For the logistic regression a binary variable is used. The ordinal variable had the categories: ‘using’, ‘later’, ‘no’ and ‘do not know’. The first of these two were grouped as having a positive intention to using contraceptives in the future while the latter two were grouped as having no intention to use. The people of the category ‘do not know’ who indicated they did not know about the timing of contraceptives, were taken into the

group who has a positive intention. First the individual characteristics will be discussed in relationship to intention to use contraceptives, after that the attitudes, subjective norm and the desire to have a child. At the end the multivariate models will be discussed.

5.3.1 Individual characteristics

Table 5.9 gives an overview of the individual characteristics and the intention to use contraceptives. When it comes to age there seems to be a relationship, younger women mainly say they intent to use contraceptives at a later date. While the older women say that they have no intention to use contraceptives. As for residence, it is visible that more urban women are using, and that for the women who do not use contraceptives more rural women are unsure about use than urban ones.

Table 5.9: Intention to use contraceptives – individual characteristics

		N	<i>Intention to use Contraceptives</i>			
			Using	Later	Unsure	No
Age	<20	225	15.1	44.4	16.9	23.6
	20-24	900	16.4	47.7	14.2	21.7
	25-29	1761	21.1	43.6	12.5	22.9
	30-34	1989	26.0	37.1	11.4	25.4
	35-39	2035	25.1	27.3	11.5	36.1
	40-44	1694	20.6	17.5	10.7	51.2
	>44	1313	7.0	8.5	9.0	75.6
Residence	Urban	1572	27.6	26.7	8.8	36.9
	Rural	8345	19.0	30.9	12.1	38.0
Education	None	3535	15.0	29.4	15.1	40.5
	Primary	5222	21.2	30.0	9.8	39.0
	Secondary+	1160	33.4	33.7	8.8	24.1
Parity	1	1440	12.2	36.4	17.3	34.1
	2	1620	21.6	31.8	13.6	33.0
	3	1624	23.8	32.2	10.9	33.1
	4	1398	25.4	30.6	9.6	34.4
	5	1132	20.7	29.4	9.4	40.5
	6	927	22.1	26.4	10.5	41.0
	7	688	20.2	26.0	9.7	44.0
	8	495	19.6	22.6	8.3	49.5
	9	300	12.0	25.0	11.7	51.3
	10+	293	14.7	21.5	7.2	56.7
Total		9917	20.4	30.2	11.6	37.8

Education shows that higher educated women are more likely to intent to use contraceptives, but also that they are less likely to have no intention of using it in the future. In the table 5.9 higher education and secondary education were taken into one. One of the last variables to look at is parity, the number

of children a woman has had so far in her reproductive career. The largest proportion of women using contraceptives is the ones with four children, and it is women with few children that have the intention of using contraceptives at a later date. Also women with two or less children seem to be most unsure about whether intention to use contraceptives in the future, even though after that it seems to be about ten percent no matter the number of children a woman has. The women with most children are also the ones who say that they have no intention of using contraceptives in the future.

To have an indication of the relationship between the different background factors and the outcome variable ‘intention to use of contraceptives’ a logistic regression is done with all the factors separately. This will give an indication which ones will help to predict contraceptive use better. Again the background factors are judged on their own. Table 5.10 presents two different analyses. On the left side there is the univariate logistic regression and on the right side the Chi-square and the Phi coefficient taken from the cross tabulation on the categorical variables. The logistic regression is done on the binary variable of intention and it shows all have a significant change in the probability of correctly predicting whether a respondent has a positive intention or not to use contraceptives. However it does not say which variable might show the strongest relationship with intention to use if more categories are used. The Chi-square together with the Phi-coefficient can give an indication. It makes use of the categorical variable of intention to use contraceptives. The larger the Phi coefficient is the stronger the relationship between the variable and the intention to use contraceptives. Table 5.10 shows that age in categories shows the strongest relationship with intention while residence shows the weakest relationship.

Table 5.10: Univariate analyses: intention to use – individual characteristics

<i>Variable</i>	<i>Exp(B)</i>	<i>Sig.</i> <i>(0.05)</i>		<i>Chi-square</i>	<i>Phi</i>
Age in years	0.924	0.000	Age in categories	1373.563	0.372
Education in years	0.104	0.000	Education in cat.	284.201	0.169
Residence	1.190	0.002	Residence	68.020	0.083
Parity	0.943	0.000	Parity	311.082	0.177

5.3.2 Attitudes, subjective norm and the desire to have children

The background characteristics were not the only variables. In table 5.11 the attitudes, subjective norm and desire for another child are shown for intention to use contraceptives. For the Ideal number of children it seems that the amount of people who is unsure is constant, however the category ‘Later’ seems to increase first and after that decrease, which would give an indication that women who want two to five children are the ones who want to use contraceptives later, while women who have an high ideal number of children prefer not to use contraceptives. For the variable respondent’s approval it

shows that if the respondents approves there is a larger proportion in the category later than if they disapproved. Also it shows clearly that the women who disapprove also have no intention of using contraceptives. For the husband's approval it shows even stronger than if the women think their husbands approve they will use or have the intention to use later. More than when they think the husbands disapproves. The last variable is the desire for another child and it shows that even though a large proportion of women who do not want a child they do not intent to use contraceptives. The group that indicates that they would want a child has a large proportion of women who want to use contraceptives later.

Table 5.11: Intention to use Contraceptives by Attitudes, Subjective norm and Desire

		N	<i>Intention to use Contraceptives</i>			
			Using %	Later %	Unsure %	No %
Ideal number of children	0	9	22.2	22.2	11.1	44.4
	1	138	17.4	22.5	19.6	40.6
	2	1429	21.3	34.8	12.0	31.0
	3	2123	23.4	34.4	8.5	33.6
	4	3099	22.5	29.9	11.6	35.9
	5	1782	17.1	29.6	11.6	41.8
	6	663	14.3	25.6	17.0	43.0
	7	158	17.1	22.8	10.8	49.4
	8	102	16.7	17.6	12.7	52.9
	9	24	4.2	29.2	12.5	54.2
	10+	102	59	13.7	14.7	65.7
Respondent approves	No	849	4.6	12.0	7.2	76.2
	Yes	7640	25.4	35.9	7.6	31.1
	DK	1424	2.8	10.9	35.5	50.8
Husband Approves	No	1004	8.2	21.2	6.4	64.2
	Yes	5804	32.1	38.5	5.8	23.6
	DK	1800	3.1	20.3	27.0	49.6
Desire for more children	No	5317	23.3	25.6	6.1	45.0
	Yes	1922	17.5	42.8	10.9	28.9
	DK	2678	16.6	30.4	22.9	30.1
Total			20.4	30.2	11.6	37.8

Table 5.11 shows information about the attitudes and the intention to use contraceptives but it says nothing about the relationship between the variables. Once again univariate logistic regressions were done. Besides this, information is also provided through the Chi-square and the Phi Coefficient to say something about the association between intention and the variables. Table 5.12 gives the outcomes of these analyses. On the left side the results from the logistic regression are presented and on the right side the Chi-square and Phi coefficient. All variables influence the intention to use contraceptives separately from each other. The approval of the husband as well as the respondent's own approval

both increases the probability of correctly predicting they have a positive intention towards contraceptive use. The variable ‘desire’ seems strange, as the desire for another child increases the probability of predicting correctly that she has a positive intention. This could be because a large proportion of women who want another child said they want to use contraceptives later. The Phi coefficient on the far right gives an indication of the strength of the relationship between the separate variables and the intention to use contraceptives. It is surprising to see that husband’s approval has a stronger relationship with intention than the respondent her own approval.

Table 5.12: Univariate analysis: intention to use – attitudes, subjective norm and desire

<i>Variable</i>	<i>Exp (B)</i>	<i>Sig.(0.05)</i>		<i>Phi</i>	<i>Chi-square</i>
Ideal Number of children	0.852	0.000	Ideal number	0.152	221.339
Respondent’s Approval		0.000	Respondent’s Approval	0.457	2068.230
Disapproval	1.257	0.057			
Approval	9.970	0.000			
Husband’s Approval		0.000	Husband’s Approval	0.482	2002.647
Disapproval	1.359	0.001			
Approval	7.870	0.000			
Desire		0.000	Desire	0.280	778.505
No	1.083	0.094			
Yes	1.711	0.000			

5.3.3 Logistic regression models for intention to use contraceptives

The relationships and influences of the separate variables have been discussed, but not the interactions between the different variables. In order to find information on the interactions a loglinear model was created. Using all variables gives long interactions that are difficult to interpret. In order to find some interactions the individual characteristics are grouped together, and attitudes, subjective norm and the desire to have another child are grouped together. Both groups were checked separately for interaction with intention to use contraceptives. The different interactions found in these two groups are:

Individual Characteristics:

- Intention* Education*Parity
- Intention*Parity*Age
- Intention* Residence*Education
- Intention*Age* Residence
- Intention*Age* Education

Attitudes, subjective norm and desire:

- Intention*Husbands approval*Ideal number of children
- Intention*Husbands approval*Respondents approval
- Intention*Husbands approval*Desire
- Intention*Respondents approval*Desire

It shows that quite a lot of variables together have an interaction with the intention to use contraceptives. An example is the interactions between husband's approval, respondent's approval and the intention to use contraceptives. If the husband approves of contraceptives and the respondent approves as well then there is more chance that the respondents has a positive intention to use contraceptives. More chance than if just the husband approves or just the respondent approves of contraceptives. Keeping the interactions between the variables in mind it is time to look at the multivariate logistic regression for intention to use contraceptives. In total three different multivariate logistic regressions were done. First looking to the individual characteristics, followed by the attitudes and subjective norm, and last all the variables in one logistic regression model

Individual characteristics

The answers given here are different than the answers that were given when all the variables were checked separately in a univariate logistic regression. In table 5.13 the outcome of this logistic regression is presented.

Table 5.13: Multivariate analysis: Intention to use – individual characteristics

<i>Variable</i>	<i>Exp(B)</i>	<i>Sig.(0.05)</i>
Age in years	0.895	0.000
Education in years	1.097	0.000
Parity	1.199	0.000
Residence (Urban)	1.163	0.013

The values of Exp(B) have changed, in comparison to the univariate analyses, because the variables are not completely independent from each other. When the values are calculated all the others in the quotation are taken into account. Just looking at the list it appears that the variables 'parity', the number of children, has the largest impact on the probability to correctly predict whether someone has a positive or a negative intention to use contraceptives. However it is the age of the respondent that causes the most significant change in the probability to predict correctly the intention to use contraceptives. Parity is the second variable, also causing a significant change in probability. The variable that has the least impact is the variable 'residence', which is visible in this table with a significance probability of 0.013. The value 0.013 is smaller than 0.05 and therefore the variable still makes a significant change in the probability of predicting correctly.

Attitudes, subjective norm and desire for another child

This is the second group of variables that was presented in this chapter. Again the attitudes are the ideal number of children and the respondent's approval. Subjective norm is the husband's approval. The last variable in this group is the desire to have another child. Table 5.14 gives the results of the multivariate logistic regression for these variables.

Table 5.14: Multivariate analysis: Intention to use – attitudes, subjective norm and desire

<i>Variable</i>	<i>Exp(B)</i>	<i>Sig.(0.05)</i>
Desire		0.000
Desire(yes)	1.776	0.000
Desire(no)	1.128	0.040
Ideal number of children	0.835	0.000
Husband's approval		0.000
Husband (disapproves)	1.518	0.000
Husband (approves)	4.337	0.000
Respondent's approval		0.000
Respondent (disapproves)	0.834	0.212
Respondent (approves)	3.860	0.000

The variable that is the most prominent one is the husband's approval of contraceptives as perceived by the respondent. With an $Exp(B)$ of 4.337 it increases the probability of predicting correctly that the respondent has a positive intention towards contraceptives. The variable 'Husband's approval' is the strongest of the variables presented here, while the desire for another child is the weakest. This last one creates the smallest change in the probability of predicting correctly.

All variables

In the end all variables are put in one model to see what variables influence current contraceptive use, whether it is the background factors, or the attitudes and subjective norm. Table 5.15 gives the logistic regression for all the variables. The variable 'residence' was excluded from the final model, as it did not cause a significant change in the probability of predicting correctly whether the respondent has a positive intention towards contraceptives or not. The variable that causes the largest change is the age of the respondent, second is the husband's approval, and third is the respondent's approval. The variable that causes the least change is the education in years of the respondent.

Table 5.15: Multivariate analysis: Intention to use – all Variables

<i>Variable</i>	<i>Exp(B)</i>	<i>Sig.(0.05)</i>
Desire		0.000
Desire(yes)	0.888	0.180
Desire(no)	1.686	0.000
Ideal number of children	0.950	0.019
Husband's approval		0.000
Husband (disapproves)	3.001	0.000
Husband (approves)	8.972	0.000
Respondent's approval		0.000
Respondent (disapproves)	0.806	0.407
Respondent (approves)	2.425	0.000
Age in years	0.990	0.000
Education in years	1.088	0.024
Location (urban)	1.377	0.000

Not in list: 'Parity' $p > 0.05$

5.4 Current use versus intention to use contraceptives

In the sections 5.2 and 5.3 the influences on current contraceptive use and intention towards contraceptives use were analysed and discussed. In this section the two logistic regression models for all variables are compared. Even though the same variables were used in both analyses they did not have the same effects. Below a list is made for both analyses in which the variables are ordered from strong to weak.

Current contraceptive use:

1. Husband's approval
2. Desire for another child
3. Educational attainment
4. Respondent's approval
5. Location
6. Ideal number of children
7. Age of the respondent
8. Parity *

Intention to use Contraceptives:

1. Age of the respondents
2. Husband's approval
3. Respondent's approval
4. Parity
5. Desire for another child
6. Ideal number of children
7. Education
8. Location *

* Not significant in the analysis

There are some interesting findings, for example for both current use as well as the intention to use contraceptives the husband's approval (either perceived or known) seems to be very important. This would indicate that husbands should be a target group when giving information out on contraceptives. This is because the husband's approval influences having a positive intention towards contraceptives as well as using contraceptives. There also seem to be a few major differences, which is caused directly by the result of one variable not being significant in both analyses. The number of children (parity) does not seem to have a significant effect on current contraceptive use, while parity does seem to have an effect on intention to use. The last one was a positive one, meaning that with a higher number of children the probability of having a positive intention increased. This might be an indication that even though women have more children there is not a larger proportion using contraceptives but they do have more intention for wanting to use it. The other variable that gave an interesting outcome was whether someone was living in a rural or an urban area (residence). There seems to be no difference in residence for the intention to use contraceptives or not. Yet there are more women in urban areas using contraceptives. The difference in influence could be that women who live in urban areas have easier access to contraceptives than woman in rural areas.

5.5 Induced Abortion

In the previous two sections respectively current contraceptive use and intention to use contraceptives were discussed. In this section a closer look is given to induced abortion. In the background chapter, chapter 2, the proximate determinants were discussed based on a report from the Ministry of Planning (2002). This report argues that the abortion rates might be underestimated using the data from the CDHS from 2000. However this is the only large data set available, and is used but with reservation in mind, as reliability is questionable. Also the CDHS written report mentions that the number of induced abortion is most likely to be higher due to underreporting (Ministry of Planning 2001). The CDHS gives information on number of induced abortions, which was asked to the women who indicated they had a terminated pregnancy. On the basis of these two variables the third one was calculated, whether someone had an induced abortion. Even though only few women indicated they had an induced abortion, time is taken here to see whether there are any influences on having an induced abortion. For the analyses on induced abortion only the individual characteristics, the ideal number of children and whether the women have a desire to have another child are used. This last variable is hard to interpret as induced abortion gives information about the past, while the desire to have another child is measured. However it might still be interesting to see whether women who want more children had an induced abortion in the past. It would lead to the question why would women, who want more children, have had an abortion? Even though this question cannot be answered, it is interesting to see whether it can be asked.

Below in table 5.16 the results of the comparison between the variables and induced abortion are presented. Even though there is only a small proportion of women who said they had an induced abortion there still seem to be a few patterns visible. The first one seems that with ageing the proportion of women who have had an abortion increase. A larger proportion of women in urban areas have had an abortion. Also education attainment seems to increase the proportion of women having had an abortion. Although for the category 'higher' education, there was only one woman who said she had an induced abortion. It also seems that with the increased number of children women have, a larger proportion has had an induced abortion. As for the desire to have another child it shows that a larger proportion of women, who say that they do not want another child, has had an induced abortion. But that still quite a large proportion 5.9% of the women, who want more children, have had an induced abortion in the past. The last category is the ideal number of children. Here induced abortion seems the same for all values. However for the category, 0 children, there is a higher percentage of 22.2% but that might be caused by fewer cases in this category.

Table 5.16: Induced abortion by individual characteristics, attitudes and desire

		N	<i>Induced Abortion</i>	
			No %	Yes %
Age	<20	225	100	0
	20-24	899	97.2	2.8
	25-29	1750	95.5	4.5
	30-34	1974	93.5	6.5
	35-39	2013	92.3	7.7
	40-44	1695	91.9	8.1
	>44	1300	93.4	6.6
Location	Urban	1553	92.0	8.0
	Rural	8284	94.2	5.8
Education	None	3517	95.2	4.8
	Primary	5161	93.1	6.9
	Secondary	1148	92.9	7.1
	Higher	11	90.9	9.1
Parity	1	1435	96.7	3.3
	2	1612	94.7	5.3
	3	1613	94.0	6.0
	4	1382	92.7	7.3
	5	1116	93.7	6.3
	6	923	92.3	7.7
	7	680	92.4	7.6
	8	490	91.8	8.2
	9	295	92.2	7.8
	10+	291	93.1	6.9
Desire	Yes	1908	94.7	5.3
	No	5265	92.3	7.7
	Do not know	2664	96.2	3.8
Ideal number	0	8	87.5	12.5
	1	138	97.1	2.9
	2	1423	93.0	7.0
	3	2099	93.8	6.2
	4	3072	93.5	6.5
	5	1765	94.6	5.4
	6	660	94.5	5.5
	7	158	95.6	4.4
	8	102	94.1	5.9
	9	24	87.5	12.5
10	102	94.1	5.9	
Total		9837	93.8	6.2

To see whether these variables have a significant impact on having an induced abortion, logistic regression was performed on them. Below in table 5.17 the univariate logistic regression that was done is presented. It first of all shows that all the variables, except for ideal number of children, have a

significant influence on the probability to predict correctly whether a woman has had an induced abortion or not. Desire shows that no desire for another child seems to have the most influence on the probability if someone has had an induced abortion, more so than if someone has the desire to have another child. Living in urban areas also seems to make a shift in the probability of predicting correctly that someone has had an induced abortion. The last variable ‘ideal number of children’ did not cause a significant change in probability of having had an induced abortion.

Table 5.17: Univariate analyses: Induced abortion – all variables

<i>Variable</i>	<i>Exp(B)</i>	<i>Sig. (0.05)</i>
Age in years	1.034	0.000
Education in years	1.052	0.000
Residence	1.417	0.000
Parity	1.082	0.000
Desire		0.000
Desire (yes)	1.433	0.013
Desire (no)	2.142	0.000
Ideal number	0.966	0.246*

* Variable not significant $P > 0.05$

What needs to be kept in mind with the variable ‘desire to have another child’ is a measurement that says something about the current moment, while having an abortion is a measurement that says something about the past until this moment. This can explain why there is still 5.3% of the women who had an induced abortion, even though they currently want to have a child, although it cannot explain *why*.

It might be that these variables are not independent from each other and that there are interactions among them, influencing induced abortion together. In order to find out if there are interactions between the variables a loglinear model was build. The interactions between the different individual characteristics and induced abortion are:

1. Induced Abortion*Age*Education
2. Induced Abortion*Parity*Age
3. Induced Abortion*Parity*Residence
4. Induced Abortion*Parity*Education

Even though the interactions are not taken into account into the last model, the multivariate logistic regression, it is something that should be kept in mind. In order to see how the different variables influence induced aborting all the different variables were placed together in a logistic regression. In

table 5.18 it shows that all variables have a significant influence on the probability of predicting correctly if a woman has had an induced abortion.

Table 5.18: Multivariate analysis: Induced Abortion – all variables

<i>Variable</i>	<i>Exp(B)</i>	<i>Sig.(0.05)</i>
Age in years	1.027	0.000
Education in years	1.065	0.000
Residence (urban)	1.324	0.011
Parity	1.068	0.004
Desire		0.000
Desire (yes)	1.801	0.000
Desire (no)	1.906	0.000
Ideal number of children	0.923	0.016

In a short list below it is shown which of the variables have the most significant impact on the probability continuing to the one who has the weakest impact:

1. Desire for another child
2. Educational attainment
3. Age of the respondent
4. Parity
5. Residence
6. Ideal number of children

The variable desire causes the largest change in predicting correctly. However this is measured from the category 'do not know'. The difference between yes and no seem to be minor. Which would mean that knowing someone wants another child or not, does not seem to help predict much better, only in relationship to 'do not know' it would. Of the individual characteristics it shows that education has the strongest influence on the probability, the more years a woman has gone to school the greater the probability of predicting correctly that she has had an induced abortion. The second background characteristic is age of the respondent. The older a woman becomes the greater the probability of predicting correctly that she has had an induced abortion.

5.6 Summary

In this chapter contraceptive use and induced abortion were discussed. Contraceptive use was discussed through two different outcome variables. The first one was 'current contraceptive use' and the second one was 'intention to use contraceptives'. For both outcome variables the influences of the same variables, individual characteristics, attitudes, subjective norm and ideal number of children were discussed. The influences on the outcomes variables were different. The probability of correctly

predicting if a woman was using contraceptives was strongest influenced by husband's approval of contraceptives and the desire to have another child. For the probability of correctly predicting if a woman had a positive intention towards contraceptives the greatest influence was the age of the respondent, with increasing age the probability increased in favour of having a positive intention. The second influence was the husband's approval. If he approved than the possibility of correctly predicting that the woman had a positive intention increased. The interesting outcome was that the husband's approval seemed to have a stronger impact than the respondent her own approval on both current use as well as the intention to use. Another interesting outcome was that residence was not significant for intention to use contraceptives but was for current use. This could be an indicator that contraceptives are easier attained in urban areas.

The last subject that was analysed in this chapter was induced abortion. Even though abortion is most likely underreported, it was still possible to see if the individual characteristics might influence induced abortion. For abortion there were fewer variables as there were no indicators for approval of induced abortion, for either respondent or husbands. However desire to have another and the ideal number of children could be used in this case. The desire to have another child seem to cause the largest change in the probability to predict correctly, but the change was caused by the group 'do not know' and not either 'yes' or 'no'. The individual characteristics of the respondents that seem to have the most impact on induced abortion were age of respondent and educational attainment. With increase of age and education the probability of correctly predicting a respondent had an induced abortion increases.

Even though this chapter gives an indication about which factors influence contraceptive use and induced abortion it does not tell how this influences the outcomes. Whether there are underlying beliefs that cause this change. Why does the husband's approval have more impact than the woman her own approval? In chapter 6 the perception on fertility, contraceptive use and induced abortion are discussed.

6 Perceptions on fertility, contraceptive use and induced abortion

The results presented in this chapter, are the results of the qualitative research that was done in Cambodia. It tries to work out how the social and cultural context influences the proximate determinants of fertility in Cambodia on the one hand, and to see how women view their fertility on the other hand. The research question that this chapter tries to answer is:

1. How does the social and cultural context influence the proximate determinants of fertility, contraceptive use and induced abortion, in Cambodia?
 - a. How do attitudes and the subjective norm influence the proximate determinants of fertility contraceptive use and induced abortion in Cambodia?
 - b. How do women see their own fertility, what are their perceptions and how do they make their decisions?

This chapter uses a different approach to the first question, than the previous chapter. The chapter tries to answer this first question by focusing on the second sub-question. Women are asked about perceptions are and how they make the choices concerning their fertility. However the first is also addressed as contraceptive use and induced abortion are also discussed in the interviews. The list of questions used for the interviews can be found in Annex A. In this chapter the results of the interviews are both presented and discussed

The chapter follows a thematic approach. Section 6.1 will shortly discuss some background information of the interviewed women. Secondly, in section 6.2, perceptions on fertility are discussed through answers about menarche and the menstrual period. Section 6.3 discusses the fertility preference of the women, after which contraceptives are discussed in Section 6.4. Induced abortion is discussed in 6.5. Lastly the social context of the women is discussed in section 6.6. At the end of the chapter there is a short discussion of the entire chapter.

6.1 Background data of the interviewees

In total 20 interviews were done with women from Sihanoukville and Ream. Sihanoukville is a large town on the Cambodian coast. Ream is a smaller town 20 kilometres north of Sihanoukville. Sihanoukville and Ream can both be regarded as urban areas, mainly because of Ream being so close to Sihanoukville (see chapter 4.3).

All women selected were married and had at least one child, as has been discussed in Chapter 4.3. The range of the age of the interviewees was 24 to 43 years old. Average age of marriage in Cambodia is 20 (Ministry of Planning, 2001), therefore the age of 24 lays close to the age at which women will have their first child, also 43 lays relatively close to age that marks the end of the reproductive career, 49 years. Also the spread between these two ages was good enough to make a representation for the entire reproductive ages:

24-29 years old: 8 interviewees

30-39 years old: 7 interviewees

40-43 years old: 5 interviewees.

The number of children varied per woman, with the younger women having fewer children than the older women. However the number varied between 1 and 5 children, with the average over the entire group being a little below 3 children. A few women were pregnant at the time of the interview. Most of the families were also nuclear families, which is more common in urban areas than in rural areas.

Through asking about the number of pregnancies they have had, besides asking how many living children they had, the women surprisingly easy told whether it was a miscarriage or an induced abortion if a difference in the two numbers was found. This might have to do with the fact that having an induced abortion is legal in Cambodia, reducing the need for secrecy around it. However induced abortions became legal in 1997, which means it has only been legal for the last ten years. Of the 20 women interviewed, seven said they had at least one induced abortion, and three of these said they had multiple induced abortions.

Two other numbers that can be measured for the two group of respondents. The average age of marriage was 20.5 years, which is about the average for Cambodia. The average age of menarche is 16 years old. However no data from other surveys are available to compare. Of the 20 interviews, 16 were done in Sihanoukville, and 4 were done in Ream. However one of the four interviews done in Ream was with somebody from Takeo province. As she was the only woman currently living in a rural area, no further reference is made to it. She cannot be taken as a representative for all women living in rural areas. As for educational background, it was found that it was relatively low. Because of changes in the educational system (Ministry of Education 2006), however at least half of the women finished primary education.

6.2 Start of the reproductive career, perceptions on fertility

Most striking was the information that most of the women had no prior knowledge about having the menstrual period before menarche. When asking about what they did specifically during the first

period they would often mention that they did not 'take care' because they did not know what to do. However there were a lot of other answers after this initial one, showing varying practices. Practices associated with first period were staying inside the house, no bathing or showering for the first three days, only washing the body by hand, and making a mixture of turmeric and wine and coating the skin with it. This last practise was done for protection as the skin was said to be weak during this time. Another practice mentioned was drying the first blood as it could be used for medicine later. This medicine was for 'protection against evil that could be done to you' by other people. However there did not seem any explanations as to why certain women did do certain practise and not others. Other than their mother telling them what to do when they were still young.

Only few women mentioned that menarche marked a change in their lives, a transition into womanhood. It also did not mark a change in their relationship with men. A reason why menarche does not mark a social change concerning their relationship with men could be that almost half of the women had menarche at high ages (17 to 20 years), causing this change in relationships to possibly occur before menarche. Another explanation could be that there is a difference between women who spend their teenage years in the countryside and the women who spend their teenage years in city, as women who said it marked a change in their relationship with men had all been living in the countryside in their teenage years before moving to Sihanoukville.

As for practices associated with menstruation in general, these also seem to vary. Some women would say they do not do anything different, and 'take care' the same way they always do. Others seem to 'take care' through taking hot showers if they were not busy. Many women said they would not take a bath and it was explained that 'not take a bath, otherwise it [skin] becomes wrinkled and not smooth anymore'. As for practices with food, some of the women would say they eat the same as others, but a large group of women would mention they avoid food with 'bad smell' such as cheese. When asking why they did this, it was to make sure that their bodies and blood did not smell during their periods or 'to make sure that other people do not smell it'. If they did follow certain practices their mothers had often told it to them. When looking for relations between the answers women gave about their practice, according to age and residence or previous residence nothing could be found.

6.3 Children

The number of children women had at present time varied between one and five, however the ideal number of children in a family did not vary that much. Most women said they thought that the best number of children to have in a family was four. When asking about why four children was a good number, two answers were given. On the one hand it was said that four children would still be all right financially. The children could still be provided for and the family could 'make business' or earn

enough money to provide for the family. Providing for the family would be more difficult with many children. Another reason that was given was that the children 'would take care of you when you are old'. This became strongly apparent when talking to a lady who had four children, but had already lost her two eldest children. She was trying to get pregnant because she and her husband were afraid that there would not be enough children to take care of them when they are old. 'I need four children' she stressed.

When asking women whether they had any knowledge of the fertile period there were two main answers given, either that the best time for a woman to get pregnant is ten days after the period, or that it is five days after the period. However when continuing to ask women about this, it became visible that even though women might say ten days after the period, they do not really know what it means. At times the answer was changed 'it is three days after the period, not ten days' others answered it is during the ten days after the period, or the time after the tenth day up to the next period. Almost all women who answered the fertile period was the tenth day after her period, said that the doctor had told them. As for the five days after the period, different answers were given such as 'I counted by myself' as one woman said, while another one could not remember why, or who told her. Some women said they had never talked about it, and even after probing said they did not know. However most women did have an idea about when the fertile period is, even if it is a wrong one or did not understand. Almost half of the women thought it was something with the 10th day and the other half thought it was around the menstrual period.

Here the results show that half of the women knew it had something to do with the 10th day after the end of the period, however what it actually meant was not clear to most of the women. The importance for knowing the fertility period is when a couple decide to use periodic abstinence as their method of contraception, but does not know when it is. In that case the method is not going to be effective, especially in case of believing that the fertile period is the two weeks surrounding the menstrual period. This can lead to undesired pregnancies. However it does seem a change is occurring. Even though the women might not understand the information that is passed on to them about their fertile period, they at least seem to have more information than a few years earlier, as then only one in ten woman seemed to indicate it was in the middle of the cycle (Beaufils 2000).

Another question on the list was how many years should there be between two children. Almost all women said that there should be three to five years in between. To make sure that the first child would be 'big enough', but also to make sure that 'the family can get better'. This last reason means that women can work and earn some money before the next pregnancy. This would lead to a need for birth spacing. It became apparent that none of the women used contraceptives before their first child,

indicating that contraceptives are not used for determining when the first child is to be born but spacing the following children. More is discussed about birth spacing methods in section 6.4.

Interesting results were found when asking about who should make the decision whether there is going to be another child. Early on in the research, when asking questions such as, how many children would you like, women would often say ‘my husband needs ... children’ indicating that what their husbands want is more important. During the pilot study an extra question was added, ‘who do you think should make the decision whether there is going to be another child?’ The answers on the question were: herself (7), husband (5), together (8). Checking for changing gender roles, the answers were compared with the age of the respondent, however no relation could be seen. It could be the case that even when a woman says the decision should be made together, she clearly states how many children her husband needs, and not how many she wants or needs.

When asking specifically what the roles of the women were in the household and if there had been any changes in comparison to their mothers. Most women immediately said, that women now could go to work, and that before they would have to stay at home taking care of the family. Also it was mentioned that they believed they could more easily talk to their husbands, in comparison to their mothers.

6.4 Contraceptives

In the section above, the ideal number of children and the amount of years women wanted in between were discussed. This leads ultimately to the questions, how can you make sure there are so many years between your children? And how can you make sure you have no more than the ideal number of children? The first remark that needs to be placed is that a large amount of women interviewed had used or were using contraceptives at the time of the interview. As soon as the women were asked how they could make sure there was three to five years in between two children, all of the women gave the name of a modern method of contraception, usually the one they (had) used first. Most women could name four to five modern contraceptives, daily pill, condom, injectable, IUD and norplant, even if the last one tended to be described with words such as chip, implants, and ‘thing under the skin’. A few women mentioned that they ‘follow the doctor’ and were using withdrawal or periodic abstinence to prevent pregnancy. When asking the women why people do not want to use contraceptives all of the women gave health reasons. There are so many perceived side effects associated with contraceptives, that each different method was discussed, asking what the women knew about the side effects of each and where this information came from. Below a short list is composed with the most common answers.

Method: Daily pill:

- Feeling unwell (tiredness, sickness)
- The body feeling hot,
- The womb dries up like 'shrinking flower under the sun'
- Dark spots on the face

Method: Condom:

- Infection to the womb

Method: 3 Month Injectable:

- Constant bleeding
- No bleeding
- Feeling sick

Method: Norplant:

- Cannot carry heavy things as it is very dangerous
- It can come out of the arm, and make the woman bleed a lot.

IUD:

- Womb cancer,
- Touches the penis during sexual intercourse,
- Hurts inside, causes the woman to bleed.

Many of the side effects are true side effects according to the staff from the MCH clinic in Sihanoukville. They gave information about the side effects about whether they were perceived or actual true side effects. It is important to know that the side effects do not happen to all of the women. A very strong perceived side effect is the womb cancer associated with the use of IUD, as several women mentioned this side effect. When asking for the reason why having no period was a problem with the injectable, some women mentioned it was not a problem, but others said that it means that the blood stays inside the body. The blood can make something 'grow up' in the body, making them fatter, or cause spots in their faces. Spots or darkening in the face is seen as negative development because the skin needs to stay fair.

When considering the health concerns it is important to realize that the way the women see their body is different from the 'western' biomedical view of the human body. The representation of the body that is relevant for reproduction is that the body is perceived to exist out of the elements, earth, air, fire and water. In order to be healthy all elements need to be in balance (Ministry of Health and RACHA

2000). It is from this idea that by heating the body, pregnancy can be prevented (Sadana and Snow). This can be seen when the reasons for not using specific contraceptives are compared. Often answers that were given in the interviews would indicate that the body was hot or heated up, which confirms previous research (Ministry of Health and RACHA 2000, Sadana and Snow 1999). It would therefore be important that attention is given to the way women perceive their own bodies when contraceptives are being discussed. For example, the injection stops the menstrual flow, and questions arise about where the blood stays.

Interesting is that most perceptions about side effects are passed on by female relatives and neighbours and are not necessarily experienced by the women themselves. Little information was gathered from the clinics or doctors. When asking women for reasons why they thought people do not use contraceptives none of the women mentioned the costs of the contraceptives or the availability of the contraceptives to be an issue. The most common reason was that it was 'not good for the health'.

When asking whether women should use contraceptives all but two women said yes. When asking why they should use, most women said that they otherwise would have too many children, and that they would not be able to provide for them as children cost a lot of money. The two women who had said 'no' gave the following answers 'should let nature decide whether there is going to be another child', and 'it is better to follow the doctor', in this case meaning the practice of withdrawal.

6.5 Induced Abortion

The latest trends in Cambodia are low contraceptive use and high abortion rate. Of the women participating in the interviews almost one out of three women had had an induced abortion. When asking about the reasons why they had an abortion two main reasons were given. On the one hand there were the health problems concerning the pregnancy, they were feeling very sick, and decided it was better to have an abortion. On the other hand, there were financial considerations; there was not enough money in the family to support to have a child at that time. Having an induced abortion was considered cheaper than having the child and caring for him/her over the long run. Research done on induced abortions confirms that the main reasons for having an induced abortion are having too many children, and needing to provide for the family as children cost too much money (Ministry of Health 1998).

Most women can tell two different things on how to have an abortion, on the one hand they can go to a clinic or hospital to have an induced abortion, which is what the women did who participated in the interviews and had an abortion. On the other hand there was the knowledge of alternative ways, such as the pill that could be bought secretly on the market or to drink a wine with papaya. This last one

would only cause the woman to bleed, and have a spontaneous abortion. However none of the women had tried that, even though they could mention it. When asking women whether they thought women should have induced abortions, different answers were given, however all along the line that it was up to the women themselves to decide.

6.6 Social Context

While conducting the interviews questions were continuously asked about who gave that particular information to them. This was done to find out whether a doctor passed it on or if it had been a neighbour or friend. These questions were asked to see how the social context influenced the information the women had, and to see how this influences their decisions.

It seemed that the immediate social context influences the choice process the most, mainly because the (perceived) side effects were passed on from mouth to mouth by neighbours and female relatives. Also a lot of information seems to be given by clinic staff / hospital staff. Both the people within the woman's immediate social environment as well as the doctors seemed to have passed inaccurate information to the women, such as the information that an IUD could cause cancer. It could also be that it is not made sure, by the doctors and medical staff, that the woman also understands the given information. This was visible with the question on the fertile period. Women could tell when they were most fertile, but they did not know what the answer truly meant, when asked for further explanation. However one point should be made here, sometimes wrong information was said to be passed on by doctors, this can mean three things though. The first being that wrong information was indeed passed on by medical staff. Secondly that the woman misunderstood what the medical staff said, and lastly that the woman could not remember where they got the information from and simply said that it was the hospital. Argumentation for the second one is that when women were asked about whether they knew when the fertile period was. The women often did not understand what the answer exactly meant when further questions were asked, which could be an indication that they misunderstood what the doctor meant but did not ask further questions

Even though the women seem to be able to choose what contraceptives they used, it is still under the influence of the husband. However all women mentioned they could talk to their husband about contraceptives and having another child. All in all the main influences on the decision making through the immediate social context are the neighbours, as they pass on a lot of information about contraceptives, including a lot of wrong information.

6.7 Discussion

The start of the reproductive career of a woman is marked by menarche, the first menstrual period of a woman. The results from the interviews tell that this event in a woman's life is unclear. The young woman does not know what happens to her, as other women have not told her that this will happen to her. When asked what she did when it happened the woman often replied that she did nothing because she did not know how to take care of herself. This might explain why not all women look upon this as a transition of childhood to womanhood, as this transition might be addressed to different changes in a woman's life. When looking for answers about menarche in research done in Cambodia, no answers can be found. However this does raise an interesting notion and that is how women perceive their fertility, and how do they think how their bodies work. This notion was touched upon through the idea of the fertile period. The perceptions of the body are different from the biomedical view that is used in the western world. One of these perceptions is the idea how a woman becomes pregnant. The importance for knowing the fertile period is when a couple decides to use periodic abstinence as their method of contraception but does not know when it is. In that case the method is not going to be effective, especially in case of believing that the fertile period is the two weeks surrounding the menstrual period, and it leads to undesired pregnancies. However there does seem to be a change occurring. Even though the women might not understand the information that is passed on to them about their fertile period, they at least seem to have more information than a few years earlier, as then only one in ten woman seemed to know it was the 10th day after the end of the menstrual period (Beaufils 2000).

Another result of having a different 'body view', one in which the elements need to be balanced is that most of the side effects that were associated with contraceptives are perceived to have an influence on the balance of the elements in a woman's body. The body is perceived as heated up, which prevents pregnancy. This is both said in the interviews as well as in the literature (Sadana and Snow 1999). However health reasons are not the only reasons why women might decide not to use any contraceptives. There are several reasons why women might not feel the need strong enough to use it. Such reasons can be, a lack of information, having not enough decision-making power, afraid of losing their husbands if there are no children (Beaufils 2000). The last idea is that a man is less likely to leave his children than his wife.

In the interviews there was a slight indication that the opinion of the husband was important. In the answers the women gave there were remarks made about what the husbands want. Literature confirms that the opinions of the husband are important, as it can change the woman's behaviour (Ministry of Health 1998). However no information in other research done in Cambodia could give information on how other persons such as neighbours and friends could influence the behaviour of the women. Also

no research was done about the accuracy of the information health workers distribute about contraceptives. This is important as the women indicated that information comes from the doctor. They also indicated this when the information was inaccurate. This could also mean that the women themselves are not making sure they understand what the doctor or health worker says about contraceptives

In the section on induced abortion the reason for an induced abortion as mentioned by the respondents are confirmed by other research. There is however something linked between induced abortion and contraceptive use. Earlier in the chapter it became clear that many women have a wrong idea about the fertile period and are not using contraceptives, or are using contraceptives incorrectly. Previous research suggests that a large amount of women who have an induced abortion are using a method of contraception, often abstinence, but with lack of knowledge of the fertile period (Beaufils 2000).

6.8 Summary

The most striking information found is that many women do not even know about a woman's menstrual cycle until they experience menarche. However a lot of women did tell that a lot of things they do are because their mothers had told them. These could be practices about washing as well as food. Although half of the woman could tell the fertile period was something with the 10th day after the period ended, few knew exactly what that meant.

When it comes to having the desire for having children, it seems that the husband's opinion is important. Women would answer the question about how many children they would like with the number their husbands would like. The most striking information about contraceptives is that so many women fear contraceptives could cause problems for their health. And, that most of the information is based on what friends and neighbours tell them. Last but not least there was induced abortion. It became apparent that a large group had them, and the main reasons for an induced abortion were finances and health concerns.

7 Conclusion and Recommendation

In chapter 5 and 6 the results of the quantitative analyses on the DHS and the qualitative research in Cambodia were presented. The outcomes were discussed separately, however there are a few topics that overlap. Therefore not only a conclusion is needed but also a discussion of the results. After the conclusion and discussion the recommendations resulting from this research are given. The research questions this thesis tries to answer are:

- 1 How does the social and cultural context influence the proximate determinants of fertility, contraceptive use and induced abortion, in Cambodia?
 - a How do attitudes and the subjective norm influence the proximate determinants of fertility contraceptive use and induced abortion in Cambodia?
 - b How do women see their own fertility, what are their perceptions and how do they make their decisions?

In section 7.1 the answers to questions 1a and 1b are given and discussed. The main research question is answered in section 7.2 and the recommendations follow in section 7.3.

7.1 Conclusion and Discussion

First the questions 1a. and 1b. are answered separately. After the answers there is a discussion, in section 7.1.3, about a few points that were addressed by both quantitative and qualitative research. There were also topics addressed by question 1b that influences contraceptive behaviour and induced abortion.

7.1.1 Answer to research question 1a

How do attitudes and the subjective norm influence the proximate determinants of fertility, contraceptive use and induced abortion in Cambodia?

Answers to this question were found both in the quantitative analyses and qualitative research. The first answers come from the quantitative analyses. Contraceptive use was defined by current use and intention to use contraceptive use. Even though both were checked for the same influences, the impact of these influences was different. The individual factors that influenced contraceptive from strong to weak were: educational attainment, parity, age and residence. For the intention to use contraceptives the order of these influences was: age, parity, education and residence. Both current contraceptive use and intention were also checked for influences from attitudes, subjective norm and the desire to have

children. For current contraceptive use the influences from strong to weak were: husband's approval, desire for another child, respondent's approval and the ideal number of children. For intention to use contraceptive it was: husband's approval, respondent's approval, ideal number of children and the desire to have another child

When all influences are taken together and compared for strength the difference becomes noticeable. The strongest three influences for current contraceptive use are: husband's approval, the desire for another child and educational attainment. For intention to use contraceptives the strongest three were: age of the respondent, husband's approval and respondent's approval. For both current use and intention the husband's approval of contraceptives seem to be one of the major influences. The main difference between current use and intention to use contraceptives lies in the variables that had no influence. For current contraceptive use this was the number of children a woman had, where it could be expected that with increase number of children the proportion of women who are using would also increase. When looking at the intention to use contraceptive there is a significant influence, the more children the larger the probability for the woman having a positive intention. Which could indicate that women want to use contraceptives for limiting number of children. Another influence that created a difference between current use and intention was the residence of the women. Urban areas showed a larger proportion of women using contraceptives in comparison to rural areas, however the intention to use contraceptives was the same for both urban and rural areas. This could mean that women in urban have easier access to contraceptives even though both groups want it the same.

The second part of the first question addresses induced abortion. The problem with induced abortion is the underreporting of the event. However even with the data that was provided it still gave some information about induced abortion. For this analysis less variables were used, as there were no variables about the approval of induced abortion by either the respondent or the husband. Of the individual characteristics age of the respondent and educational attainment had the largest influence. When also the 'desire for another child' and the 'ideal number of children' were taken into account the three strongest influences were: the desire for another child, age of the respondent and educational attainment. It is interesting to see that residence of the respondent, in comparison to the other influence, seem to have less influence on the probability of someone having an induced abortion than it is to use contraceptives. This could be an indication of induced abortions being easier accessible than contraceptives.

The qualitative research also provides answers to this question. However the answers from the qualitative research cannot be generalized in the same way as the answers from quantitative analyses because of the difference in the amounts of respondents. The qualitative research only contained 20 interviews. The qualitative research showed two important answers in relevance to the quantitative analysis. Many women mentioned that most information they received came from neighbours and female relatives, although health workers and doctors also give information to them. In the decision

making process the husband seems to play an important role. Women indicated that their husbands wanted so many children, or should make decisions whether there was going to be another child.

7.1.2 Answer to research question 1b

Research question 1b: How do women see their own fertility, what are their perceptions and how do they make their decisions?

The second question aims at identifying perceptions and influences on the decisions the women make regarding her fertility, contraceptive use and induced abortion. The decisions are influenced by the perceptions and ideas the women have about certain aspects of her fertility. Starting from the beginning of the woman's reproductive career, the identified perceptions and ideas are:

- Menarche: young women do not know what happens beforehand, and do not know what to do when it does happen. Most of the information they do have comes from their mothers.
- Menstrual period: different practises are associated with this period, mainly having to do with bathing and keeping the skin in a healthy condition. Also certain kinds of 'smelly' food are avoided such as cheese.
- Fertile period: More and more women seem to know when the fertile period is, but they do not always know what it exactly means, till the 10th day, after the 10th day or only on the 10th day.
- Parity: Women seem to slightly have more children than they desire, even though the desired number of four children is still quite high.
- Contraceptive use: The main reasons for women not to use contraceptives are fear of side effects and health concerns. Though many side effects are indeed true side effects it does not mean that they all are. A strong perceived side effect is that certain forms of contraceptives can cause cancer.
- Induced Abortion: The main reasons for women to have an induced abortion seem to be related to finances. Women have to work to generate an income, or having another child is too expensive over the long run and the family cannot provide for the child. Having an induced abortion is seen as something to the woman needs to decide for herself.

It is in these perceptions that cultural schema's for Cambodia can be identified. There are schemas concerning how the body works: The body is build up out of elements. Fertile period is around the menstrual period, or is around the 10th day after the end of the menstrual period. Heating the body prevents pregnancy. The skin is weak during menstrual period. There are also schemas on information gathering, neighbours and friends are approached for information on methods of contraception.

7.1.3 Discussion of the answers found by research questions 1a and 1b.

There were topics that were touched upon by both the quantitative analyses and qualitative research, such as the husband's approval and influence of others on contraceptive use. Incorporating the beliefs and schemas found in the qualitative research into the results of the quantitative analyses can give an indication of how beliefs and schemas influence the outcomes of these analyses.

Fertility Preference

In the interviews the number of children women had at varied between one and five. The ideal number of children in a family did not vary that much. Most women said they thought that the best number of children to have in a family was four. It is interesting to see that this number would contradict the findings of the Ministry of Health (2004) that the ideal number is on average 3.1. It was said that the information is based on the CDHS. When compared to the data from the CDHS, an desired number of children of 3.9 was found for married women. Having said this, the ideal number for all women between 15 to 49 years, and not only the women married with children is 3.6, which might indicate a slight decline in desired number of children over time. However the CDHS indicated that at present 50 percent of the women want more than three children and 25 percent more than four. This is a substantial proportion and might be an indication that families of four children might be indication of a cultural belief on family size.

If indeed the desired number is slightly less than four children, and women on average have the desired number of children, spacing children might be more important. A more interesting number is the amount of years that a woman wants to have between two children. This would give an indicating a need for spacing births with contraceptives. The interviews indicated an interval from three to five years, and the KAP study indicated 4.4 years (NCRHP 2000). This last study also indicated that 55% of the women have their next child within 3 years. This would indeed indicate that women have a need for contraceptives for spacing.

Influence of husband on contraceptive use

Something that was discussed in both chapters was the influence of the husband approval. In the quantitative analyses this was subjective norm with the indicator 'husbands approval of contraceptives'. The woman could either know this for sure or it was her own perception of her husband's approval. One of the most important questions asked at the beginning of this thesis was how the social context influences contraceptive use. In the interviews quite a number of questions were aimed at providing an overview to help answer this question. One of the questions was: who should make the decisions on whether there should be another child? The answers on the question were: herself (7), husband (5), together (8). However in some cases it happened when a woman said the decision should be made together, she clearly stated how many children her husband needed, and not how many she herself wants or needs. Something similar was found in the CDHS, here the question

was not asked who should make the decision on another child, but it was about the correlation between approval of contraceptives in current use and the intention to use contraceptives. For both outcome variables the approval of the husband had a stronger impact on predicting whether someone uses contraceptives or had a positive intention towards contraceptives. This could be an indication that women find the opinion of their husband more important than their own. It is also an indication of the subjective norm being important in comparison to the attitude towards contraceptive use of the woman herself or even individual characteristics. Even though the quantitative analyses and qualitative research confirmed each other, more research will be needed to understand the dynamics between husband's approval and wife's approval.

Influence of others on contraceptive use

Another aspect of the social context that was looked at it was who influences the decision to use a method of contraceptives other than the husband. Two answers were found, both confirming each other. The CDHS shows that the people who the women talk to the most about contraceptives are neighbours. The women talk to them more than to their husbands. During the interviews questions were asked to find out where the women received their information from, often neighbours and friends were mentioned. This is an indication that the immediate social context plays an important role, because when discussing side effects, most information came from neighbours. This is important because mouth-to-mouth information can quickly spread information, also about perceived and inaccurate side effects.

Relationship between Contraceptive use and Induced Abortion

During the interviews it became clear that every woman knew what to do when she had an unwanted pregnancy. The CHDS calculated that almost 10 percent of the women would have had an induced abortion at the end of their reproductive careers, and that 6.2 percent of all women in the sample had an induced abortion. Research done in Cambodia suggested that a large amount of women who have an induced abortion are using a form of contraceptives, often periodic abstinence, but with lack of knowledge of the fertile period. Of the women who participated in the interviews there were also women who had an abortion while using contraceptives, but they did not understand how this could happen. This shows a lack of good information on contraceptives, but maybe even more so that women are not checked for understanding the information that is provided.

7.2 Answer to the main research question

How does the social and cultural context influence the proximate determinants of fertility, contraceptive use and induced abortion, in Cambodia?

The social and cultural context influences the proximate determinants of fertility in several ways, and in particular contraceptive use. A strong influence found in the social context is the subjective norm. The husband's approval of contraceptives is more important than the woman her own approval, for both current use and intention to use contraceptives. Also most information, on methods of contraceptives, comes from neighbours and friends in the immediate social context. The cultural context influences contraceptive use and induced abortion through cultural schemas of the woman's body, such as fertile period, but also on the working of contraceptives through heating of the body. Perceived side effects of contraceptive are often related to views of the body and the working of contraceptives. These perceived side effects could be a reason for the low use of contraceptives. It is in the cultural context that a link is established between contraceptive use and induced abortion. Inaccurate information about the woman's body can lead to inaccurate use of methods of contraceptives. This can lead to unwanted pregnancies and eventually to an induced abortion.

7.3 Recommendations

Based on this research there are a few recommendations that can be made:

- More research needs to be done about the perceptions women have regarding their own fertility. Women seem to have a lack of knowledge about their own bodies, which in relationship to contraceptive can prevent them from using them, or use them incorrectly.
- More research needs to be done on the roles of the husband in decisions regarding contraceptive use, as approval of the husband of contraceptives seems to be important.
- More research needs to be done on the spread of contraceptives especially in reference to the spread of induced abortion, as women who use contraceptives still have induced abortions.
- Information on methods of contraception and accurate use of them should be given to women who go for an induced abortion.
- Women with a large number of children seem to have more intention to use contraceptives and should be better informed about their options and could be a target group in policies addressing methods of contraception.
- Research needs to be done on what information the policy makers and health workers have concerning contraceptives, as they could pass on inaccurate information. It is necessary to find out more about the flow of information to the women.

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Appendix A List of questions

Introduction

This research is done for the purpose of finding out the perceptions women have concerning pregnancy and having children. This is a research that I do for the University of Groningen as part of my Master thesis. I have a special interest in the opinion of married women who have at least one child. The questions I will ask will be about these topics. Everything you will tell me, will only be used for this research, and will not be passed on to anybody else. Also your name will not be used, as to make sure that no one can identify you with any answers that will be written down in it. You voluntarily consent to this interview as was agreed upon in the consent form.

Background information

No. of Interview:

Age:

Number of children:

Urban or rural residence:

Education:

Education husband:

Occupation husband:

List of questions:

Introduction questions

- 1 Can you tell me something about with whom you live?
Probe: Parents, in laws, other relatives
- 2 What do you do during a day
Probe: how often leave the house, meeting other people
- 3 What do your children do during the day?
- 4 Who are the people you talk to the most?
Probe: Family, Neighbours, how often, what exactly

- 5 Can you tell me when you were pregnant?
Probe: pregnancy history, probe: all pregnancies, live children
- 6 Can you remember when you had your first period (bleeding)?
Probe: When, Did changes occur in relationship with men, special ceremony
- 7 Are there certain practices you do when you are period/menstruation?
Probe: abstinence, foods, drinks, why, who told them
- 8 When did you get married?
Probe: What age, major changes, arranged

Questions about having children

- 9 What is the best number of children to have?
Probe: Sons and daughters, husbands opinion
- 10 Would you at this point like to have any more children?
Probe: How many more, sons, daughters, what does husband want
- 11 Who should make the decision whether there is going to be another child?
Probe: herself, husband, why
- 12 With who do you talk about pregnancy and having children?
Probe: husband, mother, mother-in-law, friends, other relatives
- 13 Do you know when the best time it is for a woman to get pregnant?
Probe: Information source
- 14 What would be the best time between children, and why?
Probe: Information souce

Questions about contraceptives

- 15 What possibilities does a woman have to have the children when she wants to?
Probe: traditional, modern methods

- 16 Do you know any contraceptives?
Probe: know how to use them.
- 17 Where can a woman go to get contraceptives?
Probe: pharmacist, clinic, health workers
- 18 Do you know any adverse effects of contraceptives?
Probe: all forms of labour possible, Health problems
- 19 What do you think about contraceptives? Should women use them?
Probe: self, other, husband
- 20 With who do you talk about contraceptives?
Probe: Husband, mother, mother in law, other relatives, friends
- 21 Do you know what a woman can do when she is pregnant but does not want the child?
Probe: did friends tell about it, or family
- 22 What do you think are the reasons for women to choose for an abortion?
- 23 What do you think are the reasons for women not wanting to use contraceptives
Probe: herself, neighbours
- 24 What reasons would you have for using contraceptives?
Probe: stopping, or spacing, use in future?
- Build off question**
- 25 What do you think is the role of the women in the family?
Probe: Role of men, change in relationship, mother and father
- 26 Can you tell me something about the future of your children? (build off)
Probe: Education, profession,

Appendix B Patient information and verbal consent form

You have been asked to participate in an interview. The interview is part of a research about the perceptions of women on fertility, and the choices they make regarding having children. I do this research for my Master Thesis at the University of Groningen, in the Netherlands. I kindly ask you to tell me your story, because I am interested in what Cambodian women think about pregnancy and having children. All the information that you give before and during the interview, will be treated confidentially, none of the information will be given to others. Also during the interview or in the final report your name will not be used to ensure that nobody will be able to know what you told to me when they read the final report.

As for the interview you are free to stop the interview at any given moment, and there is no obligation to answer a question you do not want to answer. In order to listen carefully to what you have to say it will be convenient to tape the interview, as I can concentrate on what you tell me rather than writing everything down while we talk. I kindly ask you to consent to this.

If you have any further questions do not hesitate to ask now.

Thank you very much for your time.

By taking part in the participate the woman verbally agrees to

- To having read the above information, or had it read to her
- To voluntarily participate in the interview
- That she has the right to end it at any given time, and can refuse to answer questions
- That the interview will be taped with a tape-recorder