



***Family Planning Survey:***  
***Contraception among married women of  
reproductive age in Cambodia***

# Final Report

Ministry of Health  
KfW Development Bank  
Domrei Research and Consulting  
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## Executive summary

The study was designed to meet the following objectives:

- Identify determinants for use and non-use amongst those who express a need for birth spacing, disaggregated by age, parity, economic status, location, etc. Particular attention paid to dropouts.
- Review product and brand perceptions of Diamond Lady, the public sector combined oral contraceptive, Protector, the public sector condom, injectables, IUDs and surgical sterilisation and the corresponding offer in the private sector.
- Make recommendations for how to increase modern contraceptive prevalence within each of the defined groups with specific recommendations for how to promote specific product types.

The survey instrument was divided into nine short sections. The bulk of the questionnaire consists of sections covering each of the five contraception methods offered in the public sector, injection, daily pill, IUD, condom and female sterilisation. The monthly pill was included for completeness and to take advantage of the opportunity to collect data from users of this little researched method. The contraceptive method sections used the same questions and codes to allow comparison of results between methods.

Interviewers and Field Editors were provided with six days of training covering ethical issues, contraception, side effects and reproductive health issues, data collection, interview techniques and pre-testing of the instrument. Training took place during December 2004.

Data collection was carried out over a two-week period in January 2005. Four teams made up of a supervisor; four female interviewers and one field editor collected the data. In the field, supervisors conducted spot checks, re-interviews or observed twenty percent of all interviews to ensure data quality. The field editor checked all questionnaires for clarity, completeness and consistency before leaving the village.

Supervisors checked and collated all data in clusters while in the field. On the teams return to Phnom Penh, data was delivered to the Research Director with a summary sheet for each cluster, the completed questionnaires, the records of field checks and any refusals or incomplete questionnaires. The Research Director checked and collated this information and delivered all data to the Data Entry Team. The data entry team used Microsoft Access for data entry. Double data entry was used to cross check and ensure consistency. Consistency checks were built into the design of the questionnaire and data entry form to ensure accuracy. Data was cleaned and analysed using Microsoft Access, EPI Info and Stata software. Clean data was returned to the Research Director and team for analysis.

Domrei designed and administered a structured questionnaire in January 2005 to a random representative sample of married women of reproductive age from 60 villages and urban clusters in four locations. Overall, 1,374 women were selected for interview and interviews were completed with 1,236 women. Phnom Penh (n=310) and in three provinces: Battambang (n=313), Takeo (n=305) and Kandal (n=308). The response rate was very satisfactory at 90%. Urban response rates (76%) were, as expected, lower than in rural villages (96%).

### **1) Determinants of use and non-use vary according to methods.**

- The daily pill and the injection are more popular among rural women. Women of higher parities prefer injections.
- Wealthy and educated women in Phnom Penh most frequently use the IUD. The monthly pill is preferred by poorer women in Phnom Penh
- The women least likely to use any modern method are the rural poor.
- Modern contraceptive prevalence (CPR) is as high in the three rural provinces as it is in Phnom Penh. This mostly due to a higher prevalence of the daily pill and injections.

### **2) Obstacles to the use of modern contraceptives**

- Awareness and geographical access are not an obstacle to contraception. Nor is cost for injections, pills and condoms.
- The IUD and female sterilisation are the only two methods for which cost is an obstacle. These two methods are currently out of the reach of the average Khmer woman. The per-month-of-protection cost of the IUD is three to five times more expensive than injections, daily and monthly pill.
- The single most important obstacle to increased contraceptive use is side effects. Whether perceived, somatised or real – and there are reasons to believe that some are indeed real – side effects are the first reason given for not trying a method and the first reason given for discontinuing a method.
- Perceptions of the various methods, and in particular of side effects are the same in the provinces and in Phnom Penh.

### **3) Method discontinuation**

- Average duration of use of before discontinuation is high (e.g. three to four years for the IUD) but a substantial proportion of users drop-out before their third month of use: in rural areas, over half the discontinuers of both types of pills dropped out after three months or less. A quarter of discontinuers dropped out of the daily pill after having completed only one cycle.
- On one hand, women recognise that the daily pill is affordable, and on the other, they complain about its side effects. The high rate of immediate discontinuation thus validates the idea that women stop because they have problems coping with the side effects associated with hormonal methods, not because these methods are too expensive.
- While respondents say they listened to family, friends and health staff when they chose a method, the vast majority of women who dropped-out say they decided on their own to stop.

### **4) Product perception**

- Female sterilisation was ranked as the most effective method. The daily pill was ranked as the least effective.

- Female sterilisation was ranked the least accessible method. The daily pill was ranked as the most accessible.
- The daily pill was ranked as the easiest method to use. The IUD was ranked as the hardest.
- The condom was ranked as the method with the least impact on health. The IUD was ranked as the method with the most.
- Injections and the IUD were ranked as the methods with the greatest long term impact on fertility, the daily pill with the least (sterilisation was excluded from this question)

### **5) Brand awareness and perception**

- Daily Pill: 84% of the respondents named OK brand, while only 6% in Phnom Penh and 19% in the provinces named Diamond Lady.
- Despite being less known, the Diamond Lady brand ranks higher than the competition in terms of price and side effects and in the rural areas, equals OK in terms of accessibility and effectiveness.
- Number One Condom is the most well known brand: 63% of women in Phnom Penh and 56% in the three provinces gave its name. OK condom is second (respectively 27% and 10%) and Protector third at 5%. Brand name synergy with the OK pill may have had an effect on awareness.
- Number One Condom ranked as the cheapest, most effective, most accessible condom. It also was ranked as having the most side effects.

### **6) Recommendations**

- Investigate the quality and cost of IUD services in both private and public sectors
- Train private and public health providers on the side effects of each method so that they can provide coherent and accurate information on these effects when they advise new clients. Improve counselling skills.
- Launch an information campaign targeting clients of family planning services to:
  - Inform women of the benefits and drawbacks of each method, including those that are not promoted by the MoH but that are on the market.
  - Inform women on the side effects associated with all methods so that they can (1) be reassured (2) know what to do if they feel side effects (3) make informed choices on the method that is “best for their bodies”
  - Inform women of the amount they should pay for IUD, on insertion procedures and follow-up conditions

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## Abbreviations

|      |                                     |
|------|-------------------------------------|
| CDHS | Cambodian Demographic Health Survey |
| CEB  | Children ever born                  |
| CI   | Confidence Interval                 |
| CPR  | Contraceptive Prevalence Rate       |
| DDF  | Department of Drug and Food         |
| EDB  | Essential Drug Bureau – DDF/MoH     |
| HIV  | Human Immuno-deficiency Virus       |
| IUD  | Intra-Uterine Device                |
| KfW  | Kreditanstalt für Wiederaufbau      |
| MoH  | Ministry of Health                  |
| OR   | Odds Ratio                          |
| STI  | Sexually Transmitted Infection      |



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# INTRODUCTION

## 1. Family Planning in Cambodia

With the rebuilding of the Cambodian health system over the past several years, the demand for and provision of birth spacing services has grown rapidly. Over a relatively short time the modern contraceptive prevalence rate increased from 7 in 1995 to 16 in 1998 and to nearly 19 in 2000.

The Ministry of Health (MoH) has set an ambitious goal to increase the contraceptive prevalence rate to 30% by 2005. In addition, the MoH would like to increase the contraceptive method mix and ensure that women have access to a range of birth spacing products and can select the method that is most suitable for them.

According to the 2000 Cambodia Demographic Health Survey (CDHS), 32 percent of married women reported having tried a modern contraceptive method. Injectable contraceptives were the most widely reported method at 15 percent and the daily pill was second at 10 percent. Other reported methods include the monthly pill at nearly six percent, the IUD at just three percent and the condom at almost two percent.

The CDHS reports that among married women, the injectable is the most widely used contraceptive method at 7.4 percent followed by the daily pill at 4.5 percent, the monthly pill at 2.7 percent, the IUD at 1.3 percent and the condom at 0.9 percent. Urban women tend to use the daily pill, IUD and condom more frequently than rural women, while women in rural areas report the injectable as the most common modern birth spacing method used.

Although there has been an impressive increase in the modern contraceptive prevalence rate since 1995, the unmet need for birth spacing remains high at 32 percent. The MoH plans to address this issue by:

- Investigating why there is such a high level of unmet need and drop-outs;
- Reviewing product and brand perceptions;
- Developing promotion strategies for various target groups and products.

## 2. Research Objectives

KfW has a particular interest in this issue due to their long-term support for contraceptive supply and programming in the region. Based on a successful project in Vietnam, KfW has expressed interest in supporting further promotion of birth spacing methods to increase the contraceptive prevalence rate in Cambodia. The following specific objectives have been identified for the research:

1. Identify determinants for use and non-use amongst those who express need for birth spacing, disaggregated by age, parity, economic status, location, etc. Particular attention should be paid to dropouts.
2. Review product and brand perceptions of *Diamond Lady*, the public sector combined oral contraceptive, *Protector*, the public sector condom, injectables, IUDs and surgical sterilisation and the corresponding offer in the private sector. (Data should be disaggregated by above groups)

3. Recommendation how to increase modern contraceptive prevalence within each of the defined groups with specific recommendations for how to promote specific product types.

## METHODS AND DATA

### 1. Sample Methodology

The sample was designed to meet the survey objectives. This required a sample that included enough women of reproductive age that:

- Knew about each method to estimate with reasonable precision<sup>1</sup> the main reasons and determinants of contraceptive use, non-use and discontinuation disaggregated by age, parity, economic status, location, etc.
- Had heard of the *Diamond lady* and *Protector* brands to estimate brand perceptions among married women, disaggregated by age, parity, economic status, location, etc.

It should be noted that these two sampling objectives both require either a large sample representative of all women in Cambodia or a smaller, statistically more efficient sample in which women have a greater probability of having heard of and having tried modern contraceptive methods. Because the budget was limited, the second approach was preferred. We thus chose to:

1. Interview currently married women, as they are likelier to have tried family planning methods and are more open to discussing contraception,
2. Over-sample Phnom Penh where a greater variety of modern contraceptives are available and
3. Purposely select three provinces where the CDHS estimated high contraceptive prevalence rates.

It is usually assumed that there are major differences in the supply and the demand of modern contraceptives between rural and urban areas, as well as differences in educational attainment and wealth, so we drew two separate samples, one in cities (urban stratum), another in rural villages (rural stratum). The urban sample was designed to be proportionally larger than the rural sample to take into account greater heterogeneity in socio-economic status. Most analyses are conducted separately in each stratum. Additional details concerning sample size requirements and selection are presented in Annex 1.

### 2. Questionnaire Design

The instrument was divided into nine short sections. The bulk of the questionnaire consists of sections covering each of the five contraception methods offered in the public sector, injection, daily pill, IUD, condom and female sterilisation. The monthly pill was included for completeness (third most common contraceptive in 2000) and to take advantage of the opportunity to collect data from users of this little researched method.

The contraceptive method sections use the same questions and codes to allow comparison of results between methods. Some sections are shorter due to differences

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<sup>1</sup> i.e. with a level of statistical significance set at 0.05

in the method itself (i.e. no dropouts for sterilisation) or in the number of brands commonly available in Cambodia (IUD).

There are 127 questions overall, with skip codes for women who are not aware of or have not tried a particular method. Interview length varied depending on the woman's contraceptive knowledge and history. This ranged from 23 questions for a woman with no knowledge or experience with modern contraception to 127 questions for a woman who had used five different contraceptive methods before undergoing sterilisation. The average interview length was around 30 minutes.

Parallel design was used for the questionnaire in English and Khmer languages. The instrument was continually tested and revised during development. In designing the questionnaire, Cambodian cultural issues were considered paramount. The questionnaire was designed by a Cambodian team in Khmer and translated into English on completion. Before finalisation, the questionnaire went through twelve major revisions and was pre-tested during three field trials with approximately 100 married women in Phnom Penh and Kampong Speu province. The English translation is appended to this report.

### **3. Training and fieldwork**

Interviewers and Field Editors were provided with extensive training covering contraception, ethical issues, side effects and reproductive health issues, data collection, interview techniques and pre-testing of the instrument. Training took place over six days during December 2004.

Data collection was carried out over a two-week period in January 2005. Four teams made up of a supervisor; four interviewers and one field editor collected data in allocated areas. Simple field reporting forms were used to assist the interviewers and supervisors manage data in the field. In the field, supervisors conducted spot checks, re-interviews or observed at least twenty percent of all interviews to ensure data quality. The field editor checked every questionnaire before leaving the village.

Each supervisor checked and collated all data in clusters while in the field. On the teams return to Phnom Penh, data was delivered to the Research Director with a summary sheet for each cluster, the completed questionnaires, the records of field checks and any refusals or incomplete questionnaires. The Research Director checked and collated this information and delivered all data to the Data Entry Team. The data entry team used Microsoft Access for data entry. Double data entry was used to cross check and ensure consistency. Consistency checks were built into the design of the data entry form to ensure accuracy. Data was cleaned and analysed using Microsoft Access, EPI Info and Stata software. Clean data was returned to the Research Director and team for analysis.

### **4. Data analysis methods**

Urban and rural results are computed separately, except when the number of observations is too small to allow for statistical analysis of urban/rural differences. Urban and provincial level totals are self-weighting (cf. sample methods). Rural totals are weighted to take into account the differences in population sizes and thus the different sample probabilities for each province. The odds ratios (OR) of the determinants of use and non use are estimated by logistic regression analysis, and are

presented with their confidence intervals (CI). Level of significance is set at 95% unless specified otherwise. The software package Stata version 8 was used for descriptive statistics, graphs and multivariate regression analysis. Some simple summary statistics are also available on the Access database.

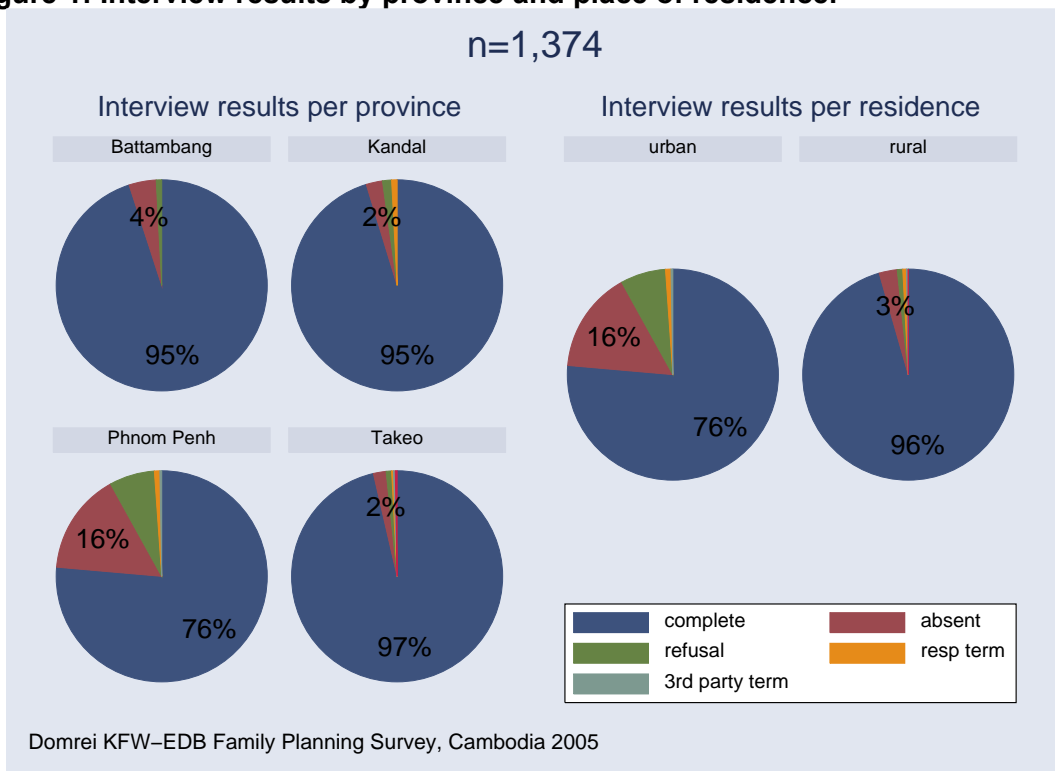
# RESULTS

## 1. Description of Sample and Data

### 1.1. Response rates

The response rate was very satisfactory. Urban response rates (76%) were, as expected, lower than in rural villages (96%). Refusals in Phnom Penh are, like in any other city, due to increased suspicion of strangers and higher absentee rates as better transport means people are likely to work/study further from home.

**Figure 1: Interview results by province and place of residence.**

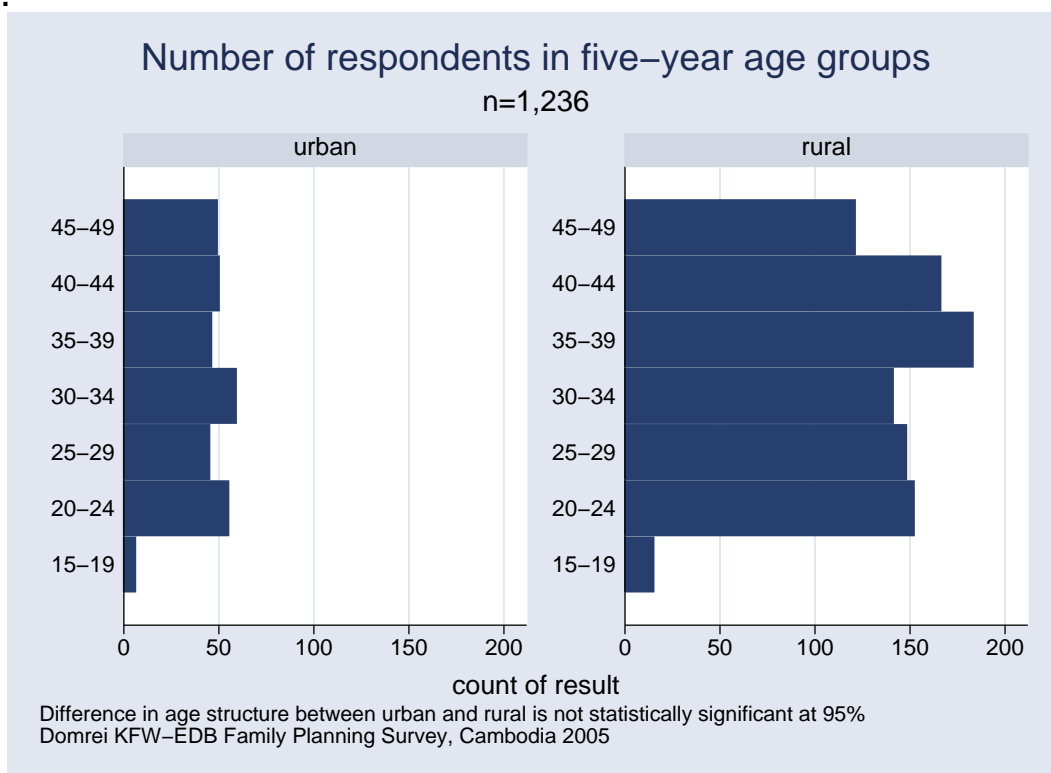


### 1.2. Respondent characteristics

Contraceptive behaviour is usually associated with age, wealth, education, place of residence (urban or rural) and parity (number of children ever born – CEB). Moreover, these variables are often correlated among themselves (e.g. women who live in cities are on average wealthier, better educated and have fewer children).

Indeed, only one of these variables, age, is not correlated to the place of residence. Our urban and rural samples of married women are similar in term of age structure (see Figure 3). **There is no statistically significant difference in the age structures between the urban and rural samples.**

**Figure 2: Age structure of urban and rural samples, married women ages 15 to 49.**



Not surprisingly, the proportion of women aged 15-19 in both samples is small. The main reason for this is that most girls in this age group are not yet married, and were therefore not eligible respondents.

To analyse the relation between contraceptive behaviour and socio-demographic characteristics, we categorised respondents by age groups, educational levels, wealth and parity groups. For reasons of statistical efficiency, each one of these categorical variables is broken down into three groups of comparable sizes.

Wealth categories were defined using the following indicators: housing type, assets, animals and toilets. Interviewers were also asked to observe and rank each household (poor, less poor, better-off). Points are attributed for each answer and a wealth score is computed for each respondent by adding these points. Scores ranged from 0 to a maximum of 14 points. The two cut-off points were then selected so that no category was smaller than 25% in either of the two strata (see Figure 3).



**Figure 3: Distribution of sample into age, wealth, educational and parity groups for disaggregated analysis**

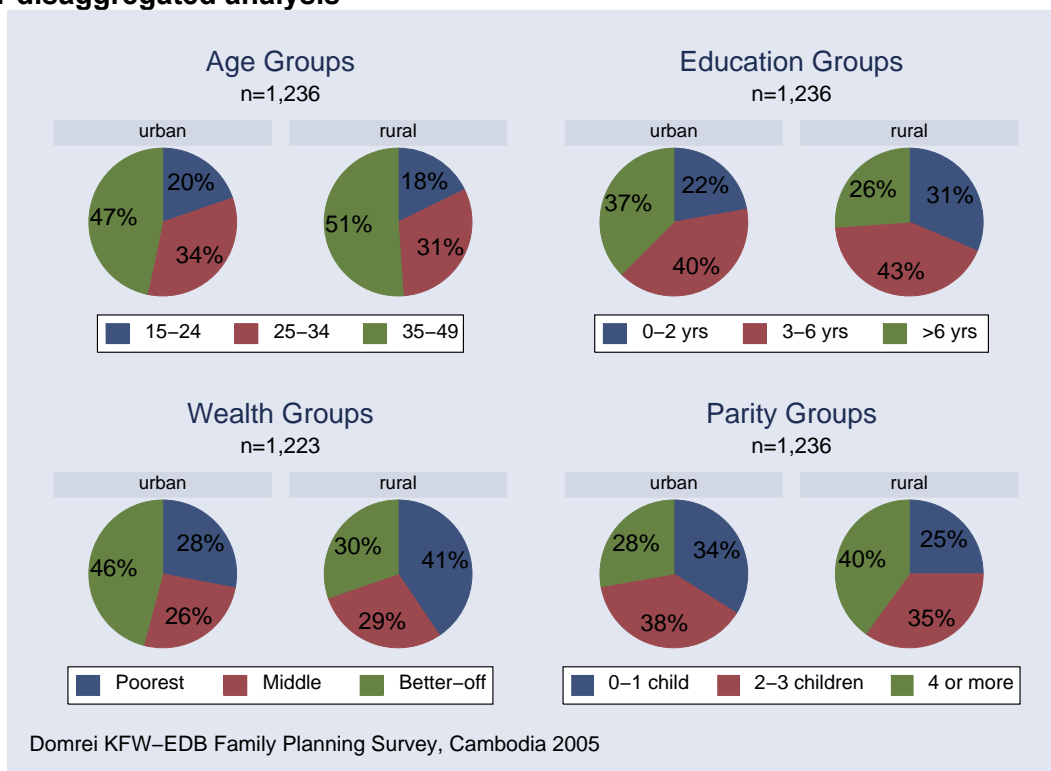
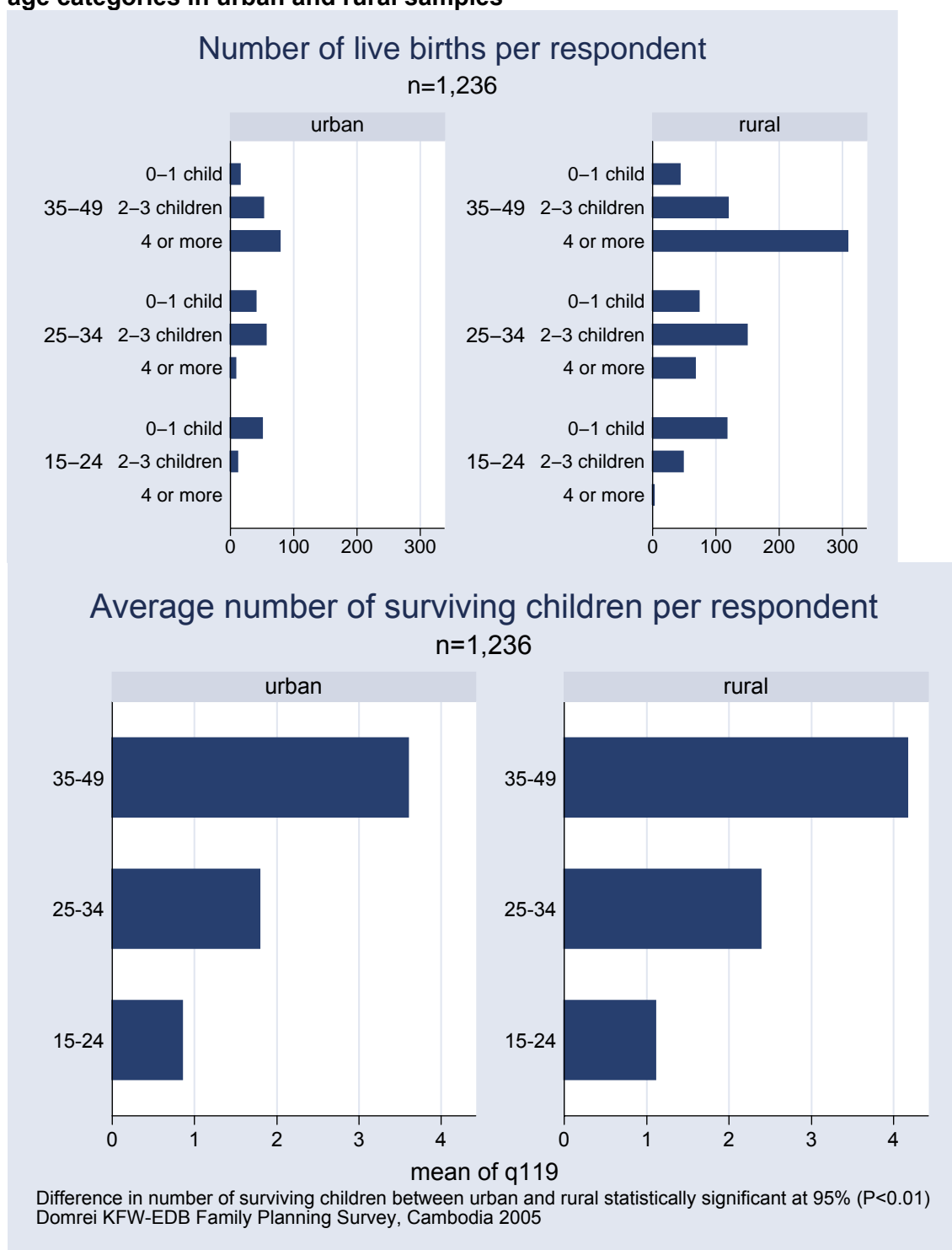


Figure 3 shows the breakdown for each characteristic in each stratum. The differences between the urban and rural samples are logical and paint a consistent picture of urban and rural differences. Contrary to the age grouping, wealth, educational attainment and parity groupings show, as expected, substantial and statistically significant<sup>2</sup> differences between the urban and rural samples. Not surprisingly, women in Phnom Penh live, on average, in wealthier households, reached higher grade levels in school and have fewer children (see also Figure 4). Better access to education coupled with higher incomes and better funded/equipped schools explain higher urban education rates.

<sup>2</sup> Pearson Chi2 : Pr < 0.001 at 95%

**Figure 4: Differences in parity and average number of surviving children between age categories in urban and rural samples**



Anecdotal evidence suggests that since the data collection for DHS 2000 – in early 2000 the demographic profile of Phnom Penh has evolved – the number of factories and factory workers has increased markedly, to 220,000 workers mostly in and around Phnom Penh. Around 90% of these workers are female. Most migrant women come to Phnom Penh to work, not to get married and get pregnant. We can thus assume that fertility in Phnom Penh is declining, and that the demand for modern contraceptives in the city should, as a result, increase. If fertility decreases in the absence of a

corresponding increase in contraceptive prevalence, then there are strong reasons to believe that many women prefer abortion to modern contraception as a method of birth control.

## 2. Levels of contraceptive use

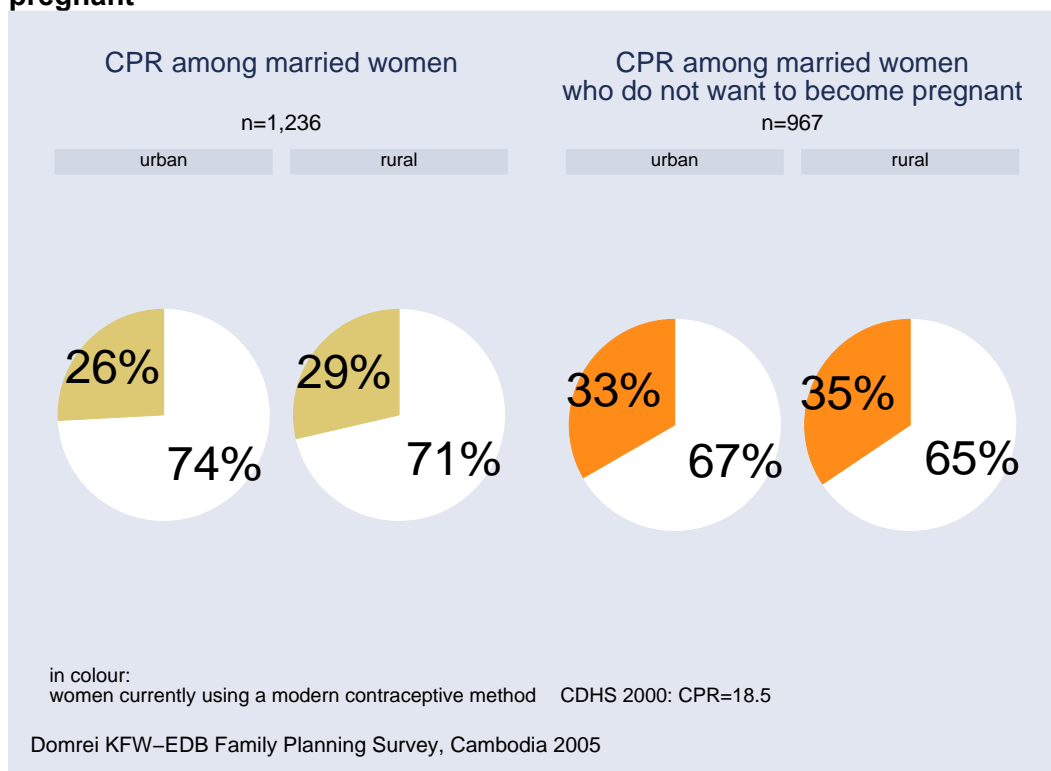
In this section, we present levels of current modern contraceptive use among married women of reproductive age. The reader will note that this study does not consider “traditional” birth control methods, and that comparisons of CPR and unmet need with DHS and other surveys need to consider this. The reader will also keep in mind that the sample was designed to maximise the proportion of women who have experience in modern contraception, so the rural contraceptive prevalence rates should only be compared to those computed for the same three provinces and interpreted as an “optimistic” indication of contraceptive use in rural Cambodia.

### 2.1. Current use of modern contraceptive methods

#### a) CPR and unmet need

Current CPR remains low in both Phnom Penh and in the combined rural provinces, and, therefore, the “unmet need for modern contraceptive methods” is high (Figure 5).

**Figure 5: Current Modern Contraceptive Prevalence Rate (CPR) among married women and among married women who say they do not want to become pregnant**



It is remarkable that the levels of CPR and unmet need are similar in Phnom Penh and in the three combined provinces. This was not the case five years ago. Compared to the prevalence estimated by the DHS in 2000, CPR did not increase in Phnom Penh

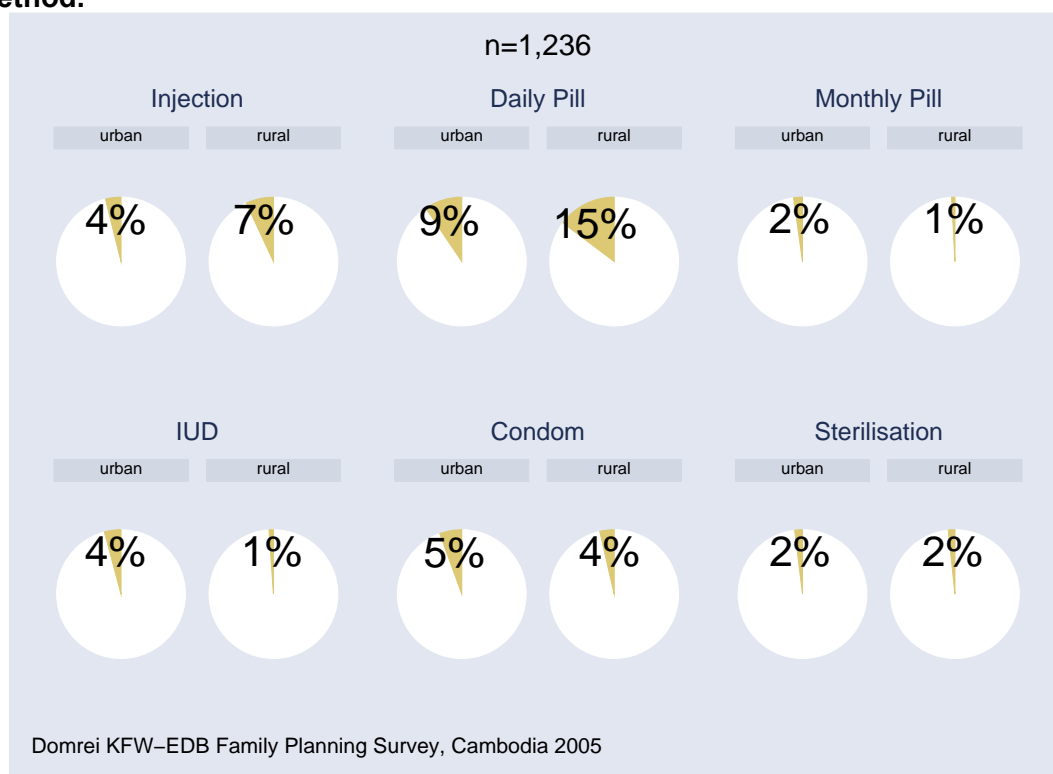
whereas it increased substantially in the three provinces, particularly in Kandal and Takeo (Table 1).

**Table 1: Modern Contraceptive Prevalence Rates per Province.**

| Province   | n   | %    | [CI at 95%]   | CDHS 2000 (%) |
|------------|-----|------|---------------|---------------|
| Battambang | 313 | 33.2 | [28.0 - 38.5] | 29.0          |
| Kandal     | 308 | 26.3 | [21.4 - 31.3] | 16.5          |
| Phnom Penh | 310 | 25.8 | [20.9 - 30.7] | 27.4          |
| Takeo      | 305 | 27.2 | [22.2 - 32.2] | 20.1          |

Figure 6 presents the proportion of married women who are using each method. The most frequently used methods are the daily pill, followed by injectables, condoms, and in Phnom Penh the IUD.

**Figure 6: Current contraceptive use among married women (15-49 years) per method.**



The striking difference between the methods used in Phnom Penh and the rural areas concerns injections, the daily pill and the IUD. Injections and the daily pill are more prevalent in rural areas, the IUD is more common in Phnom Penh. The increase in use of the daily pill in the rural areas is responsible for the increase in CPR in the rural sample (see Table 2).

**Table 2: CPR per method - comparisons with CDHS 2000**

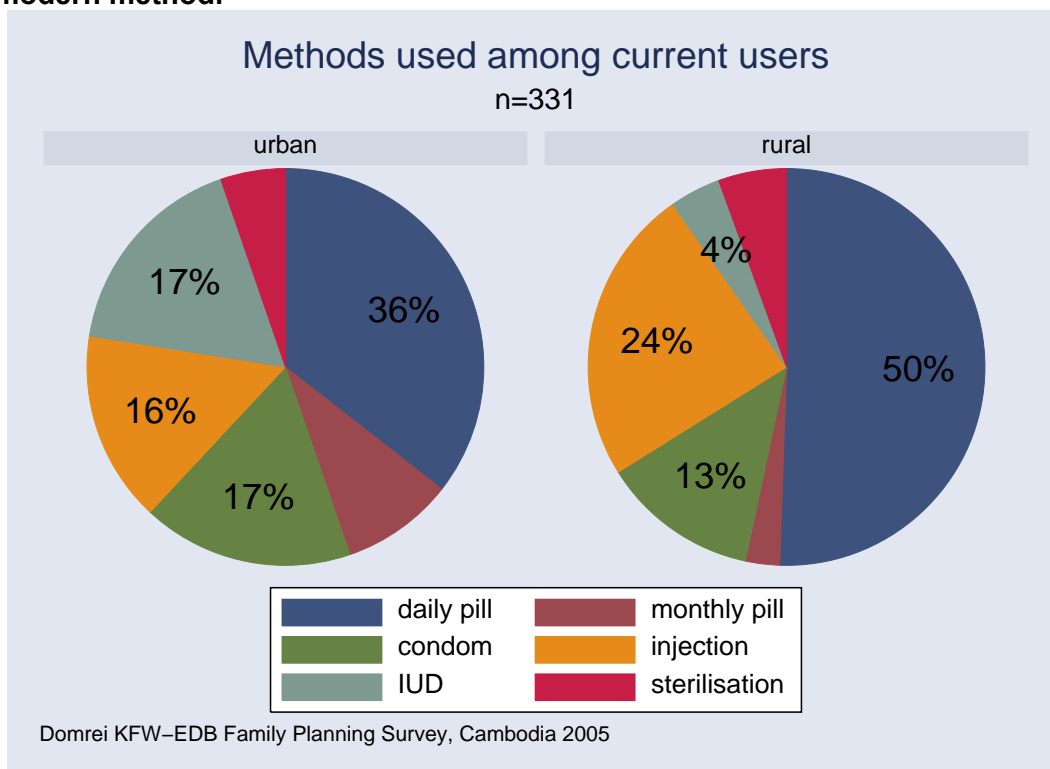
|               | Battambang |      | Kandal |      | Phnom Penh |      | Takeo |      |
|---------------|------------|------|--------|------|------------|------|-------|------|
|               | 2000       | 2005 | 2000   | 2005 | 2000       | 2005 | 2000  | 2005 |
| Daily pill    | 8.8        | 16.3 | 3.5    | 10.4 | 6.5        | 9.4  | 6.5   | 19.0 |
| IUD           | 2.4        | 1.3  | 2.0    | 1.6  | 5.1        | 4.2  | 0.9   | 0.7  |
| Injections    | 8.1        | 6.7  | 7.0    | 8.4  | 4.6        | 3.9  | 9.7   | 5.3  |
| Condom        | 0.6        | 6.1  | 0.8    | 3.6  | 3.8        | 5.5  | 0.7   | 1.0  |
| Sterilisation | 3.4        | 2.6  | 1.6    | 1.6  | 4.1        | 1.9  | 0.7   | 1.0  |

source: CDHS 2000, Domrei KFW-EDB Family Planning Survey, Cambodia 2005

**b) Contraceptive mix**

Figure 7 presents the methods currently used among women who say they are currently using a modern method. A third of current users in Phnom Penh and half of rural current users are using the daily pill.

**Figure 7: Distribution by method of married women (15-49 years) currently using a modern method.**



In recent years, Reproductive Health (RH) NGOs have invested in various programs that strongly promote two contraceptive options: the daily pill and the condom. The effect of this is stronger in rural areas, where there are fewer sources of contraception and less information to make a choice. Consequently, the urban graph shows that women are using a greater variety of different methods, while the rural picture shows that 87% of the contraceptive mix comes from three methods, with injectables losing ground to the daily pill and the condom.

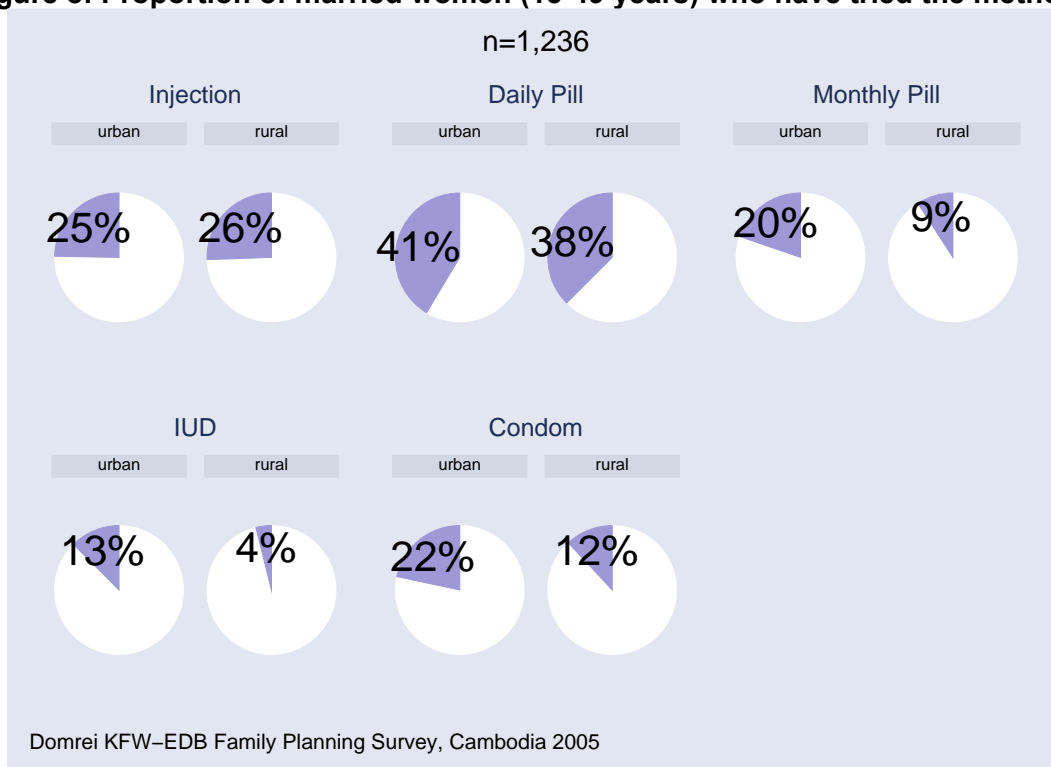
We will see later the obstacles to greater use of the IUD in the rural areas. Suffice to say now that in these provinces women are restricted to three choices, two of which, are hormonal methods that represent 74% of the total mix.

The contraceptive mix in rural Cambodia is more the result of Government/donor policies than that of women's choice, and thus presents a skewed picture of women's preferences. Restricted choice may explain rumours on side effects: an indication of women's frustration of having to inject or ingest foreign substances that affect their bodies.

## 2.2. Past and current use among all women

Past use (Figure 8) is a reflection of two related phenomena: 1) women's first hand experience with modern methods and 2) past trends in the supply and promotion of modern contraceptives in Cambodia.

**Figure 8: Proportion of married women (15-49 years) who have tried the method.**



Almost four women out of ten have tried the daily pill, and one in four have tried injections. This implies that most women either have taken one of these methods or know someone who has. Their opinions on the daily pill and injections, in particular on side effects should not be dismissed lightly.

Compared with the CDHS 2000 data, the daily pill has overtaken injectables as the most commonly tried method, probably because of intense promotion. The monthly pill, an unregistered drug that is not promoted by the health system, may have lost some its appeal in Phnom Penh: 20% have tried it while only 2% are currently using it. Alternatively, women may be using it as a short-term method: over half of its discontinuers stopped after three months or less of use (discontinuation is addressed in section 5).

## 3. Obstacles to contraceptive use

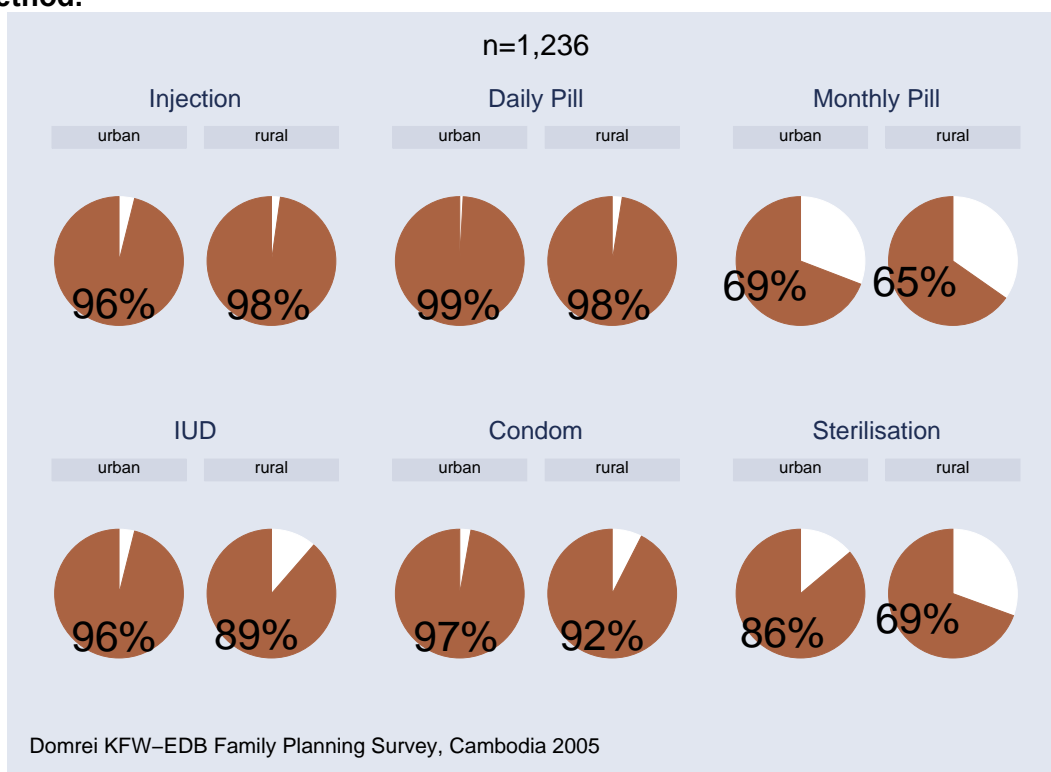
Obstacles to contraceptive use have been broadly divided into two categories – contraceptive supply and demand. Contraceptive supply covers issues related to potential barriers to contraceptive use arising from problems with supply. This includes awareness, accessibility and affordability of contraceptive methods and whether the method is perceived to be simple to use. Contraceptive demand covers women’s perceptions and opinions of each method’s advantages, its side effects, the people who influence choices, the reasons they give for trying a method, etc.

### 3.1. Supply of contraceptives

#### a) Awareness of method

To measure awareness of different methods, all respondents were asked if they had heard of each of the six main modern contraceptive methods included in the survey. Respondents were first read a short description of the method and then asked if they had heard of it before. Therefore, these questions measure prompted rather than spontaneous method awareness. The descriptions for each method were adapted from those used in the CDHS. For the condom, the question was changed slightly to ask respondents if they had specifically heard of the method being used for contraception instead of STI/HIV prevention. Results for each method are presented in Figure 9.

**Figure 9: Proportion of married women (15-49 years) who have heard of the method.**



As expected, awareness of different contraception methods was high. For the injectable, daily pill and condom, awareness was nearly complete for both rural and urban respondents. Awareness of the IUD was also high, although slightly lower in rural areas. Awareness of female sterilisation was also high in urban areas but much lower among rural respondents. The monthly pill was the least well known of the six

methods with around a third of respondents reporting they had never heard of it. Only 5% of the respondents knew fewer than four methods (Table 3).

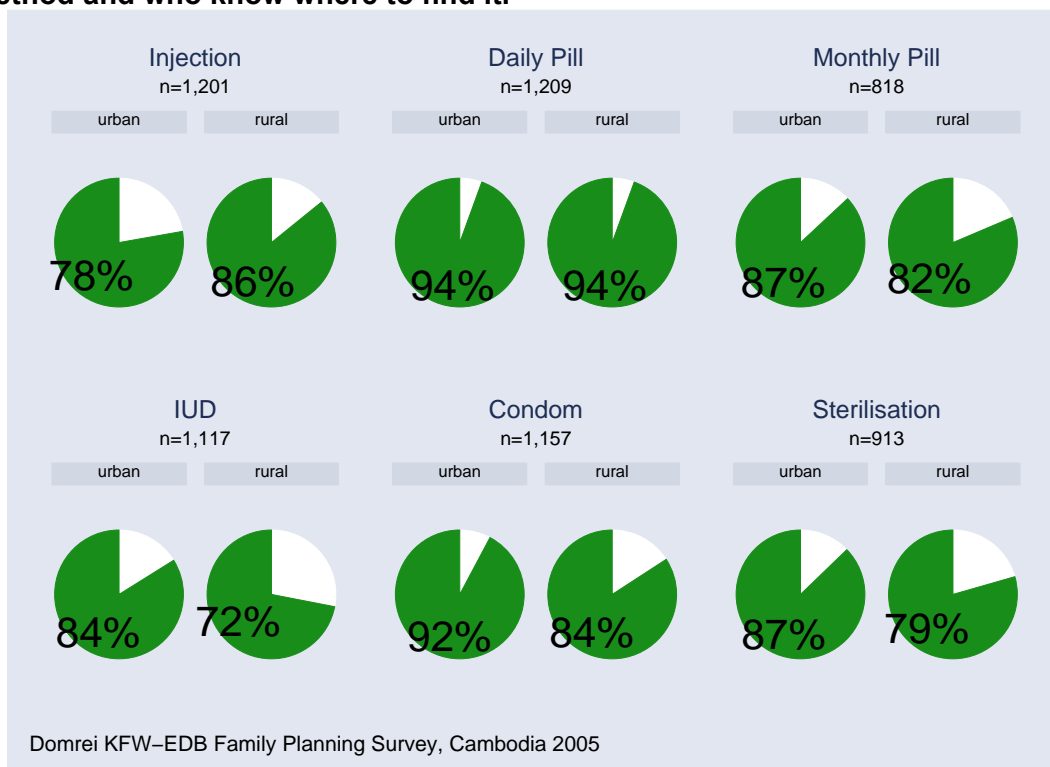
**Table 3: Distribution of respondents per number of methods known**

| Number of methods known                | urban      |       | rural      |       |
|--|------------|-------|------------|-------|
|  | n          | %     | n          | %     |
| 0 – none                               | 0          | -     | 2          | 0.2   |
| 1 – one method                         | 0          | -     | 5          | 0.6   |
| 2 – two methods                        | 1          | 0.3   | 12         | 1.3   |
| 3 – three methods                      | 7          | 2.3   | 50         | 5.4   |
| 4 – four methods                       | 28         | 9.0   | 156        | 17.0  |
| 5 – five methods                       | 94         | 30.3  | 271        | 29.4  |
| 6 – six methods                        | 180        | 58.1  | 430        | 46.1  |
| Total number of respondents            | 310        | 100.0 | 926        | 100.0 |
| <b>Average number of methods known</b> | <b>5.4</b> |       | <b>5.1</b> |       |

**b) Awareness of source of supply**

Respondents who said they had heard of a method were then asked: “Do you know where to get [name of method]?”

**Figure 10: Proportion of married women (15-49 years) who have heard of the method and who know where to find it.**



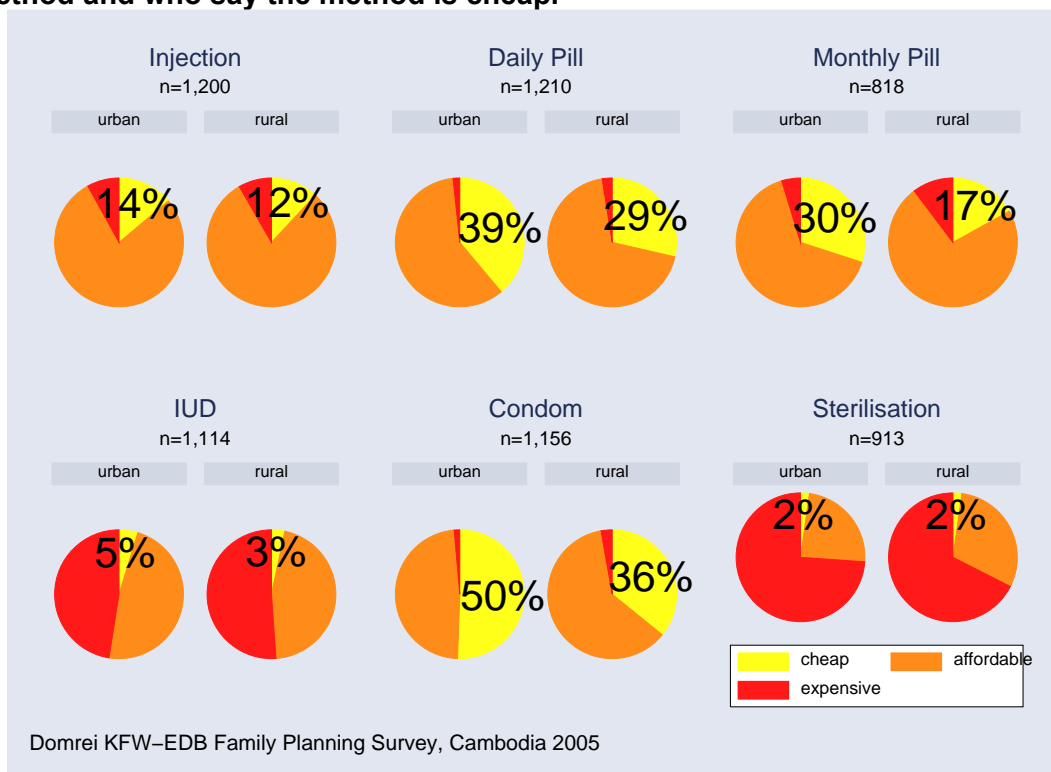
The vast majority of respondents say they know where to get contraception. The IUD is the method for which the fewest women know a supplier, but that is only in rural areas and even so, almost three-quarters of rural respondents knew where to get the IUD. Clearly, neither low method awareness nor ignorance of a source of supply explains why use remains low.



**c) Cost (perceived affordability and actual cost as reported by respondents)**

Respondents who said they heard of a method were asked: “What do you think about the cost of [name of method]?” Respondents could choose to answer “cheap,” “affordable” or “expensive.”

**Figure 11: Proportion of married women (15-49 years) who have heard of the method and who say the method is cheap.**



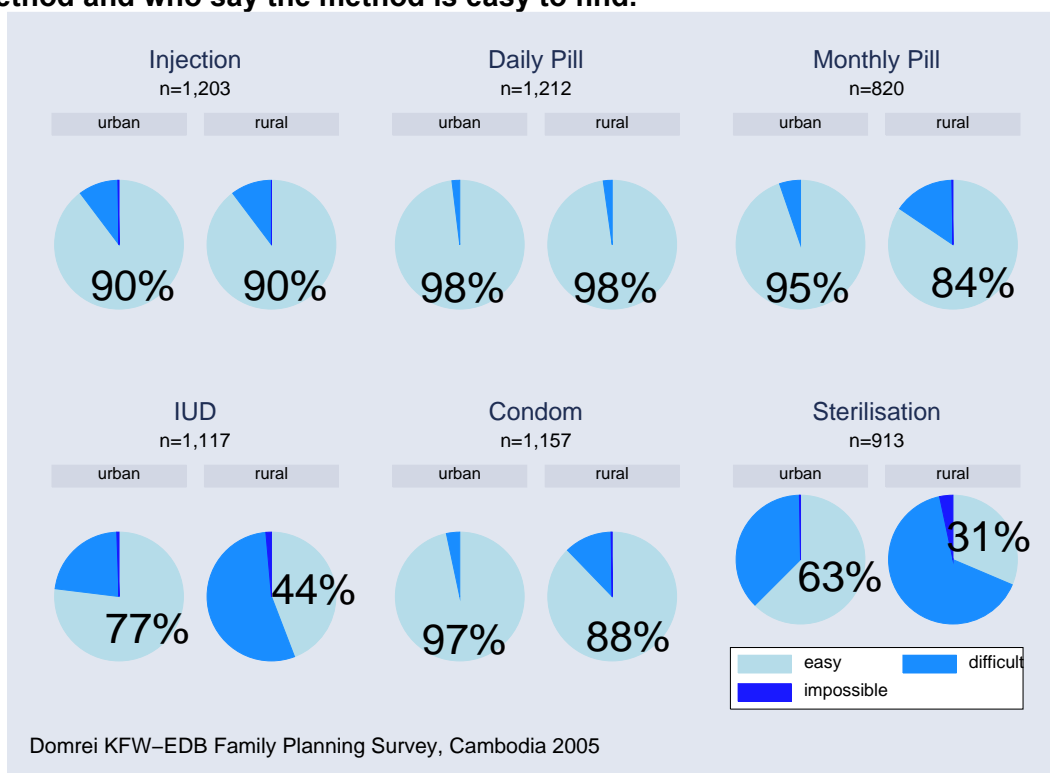
The IUD and sterilisation may be well known and accessible – but they are perceived as being the most expensive. Over half the respondents’ say the IUD is expensive, and over three-quarters say sterilisation is expensive (red slices in Figure 11).

Practically all respondents reported that the daily pill and the condom are either cheap or affordable.

**d) Ease of supply**

The following results complement Figure 10. The first question asked women simply if they knew where to get a method – a refinement of method awareness, awareness of source of supply. The results in Figure 12 are how women rate their access to a method on a three-point scale. Therefore, it is quite possible to know where to get sterilisation services (e.g. in Bangkok, as heard on the radio) without being able to get there easily.

**Figure 12: Proportion of married women (15-49 years) who have heard of the method and who say the method is easy to find.**

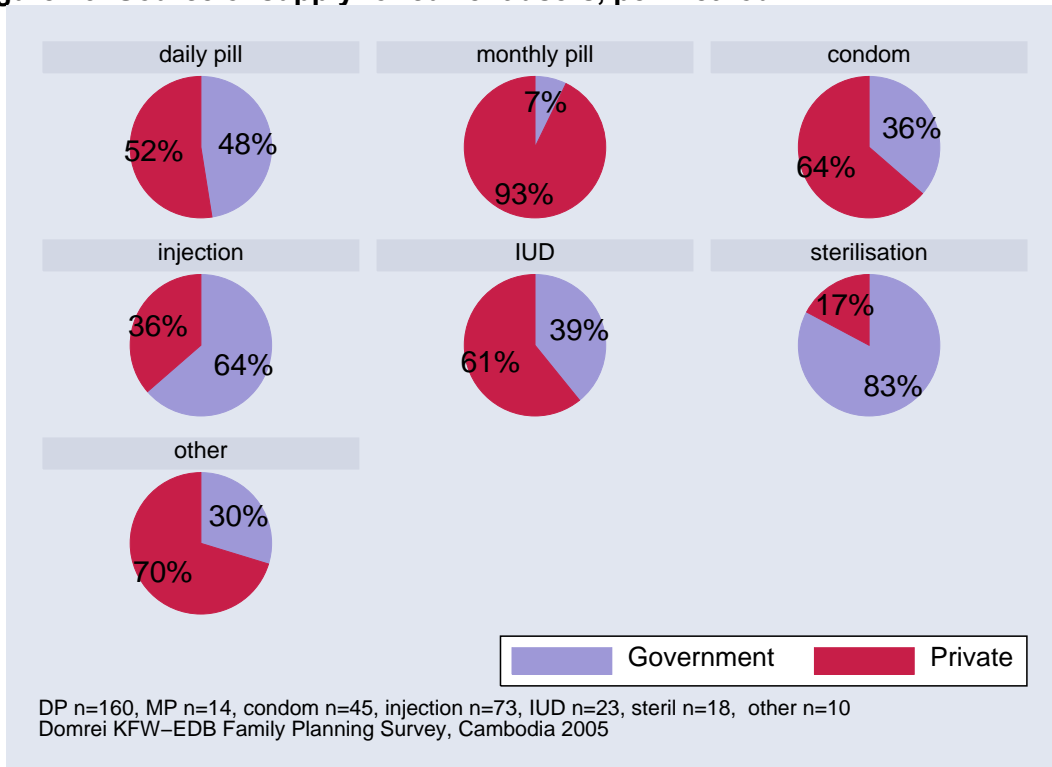


The IUD and sterilisation are reported to be more difficult to access than other methods – and in a way they are as both require the intervention of a health worker (as opposed to the pill and the condom). For rural women the proportion who report difficulty accessing IUD and sterilisation looks to be the same as the proportion who say it is expensive – the questions followed each other so some respondents may have been still thinking about costs when rating their difficulty in accessing the IUD.

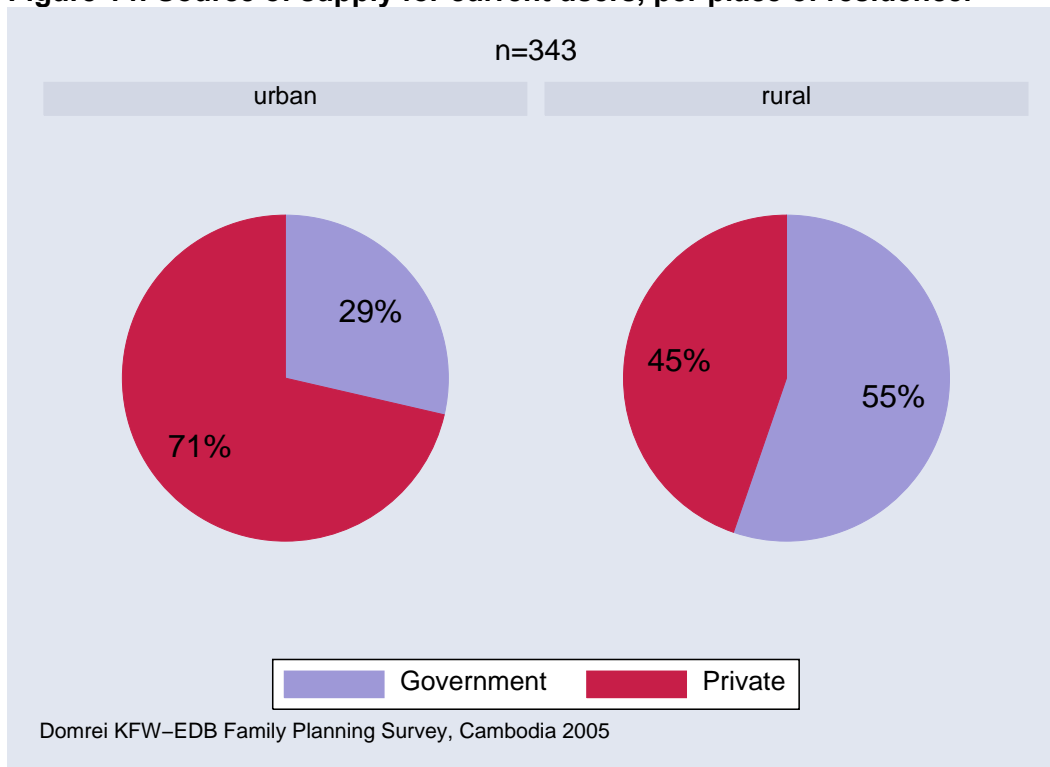
With the exception of sterilisation, the private sector accounts for a large share of the contraceptive market, from 36% for injectables to 93% for the monthly pill. More than half of the current daily pill users got their pill from non-government sources (Figure 13).

As expected, the public sector is a more important source of supply in rural areas where about half the women get their contraceptives, while the private sector supplies over two thirds of current contraceptive users in Phnom Penh (Figure 14). This explains some of the urban/rural differences in method choice.

**Figure 13: Source of supply for current users, per method.**

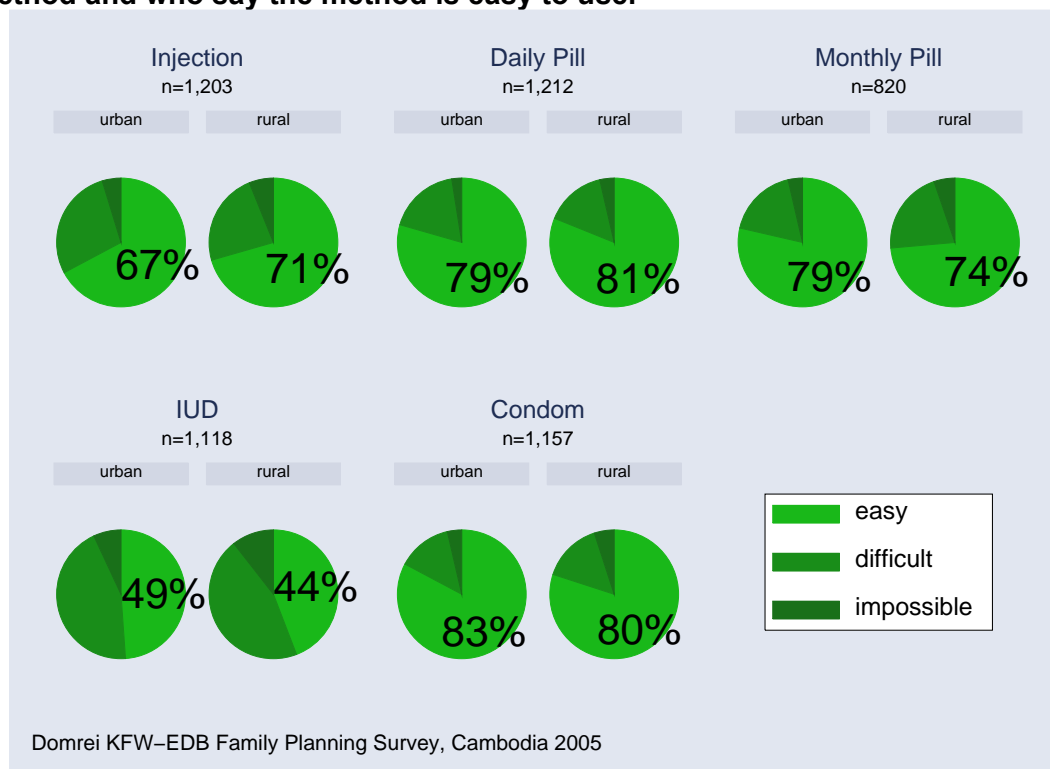


**Figure 14: Source of supply for current users, per place of residence.**



## e) Ease of use

**Figure 15: Proportion of married women (15-49 years) who have heard of the method and who say the method is easy to use.**



It is interesting to note that the majority of women rate the IUD as difficult to use when, once it is inserted, is such a “simple” method: painless, invisible, nothing to forget. The unpleasant insertion procedure, and the attitude of the health personnel, may explain this. Qualitative work is required to understand this potential obstacle to IUD use.

In summary, the supply picture is overall quite satisfactory. Women are generally aware of most methods, they know where to find them, they can afford most of them, they believe they can access them if they want and they think the methods are easy to use.

The IUD is the most problematic temporary contraceptive method: it is the only one that is rated difficult or impossible to use, difficult or impossible to access and too expensive. Yet, this is not enough to explain its low popularity.

Even more perplexing: why does the use of the daily pill remain low, despite signs of increase since 2000? The answer can be found on the demand side of modern contraception.

### 3.2. Demand for contraceptives

In this section, we will present perceived side effects, and reasons for trying or avoiding a method. These questions were asked to all respondents who said they heard of the method, and not just those that had actually tried the method. In other words, for the majority of respondents, these questions are theoretical, and their answers are based on perceptions, perceptions that are, more often than not, influenced by hearsay rather than by fact. It is these perceptions and rumours that an effective promotional strategy needs to address.

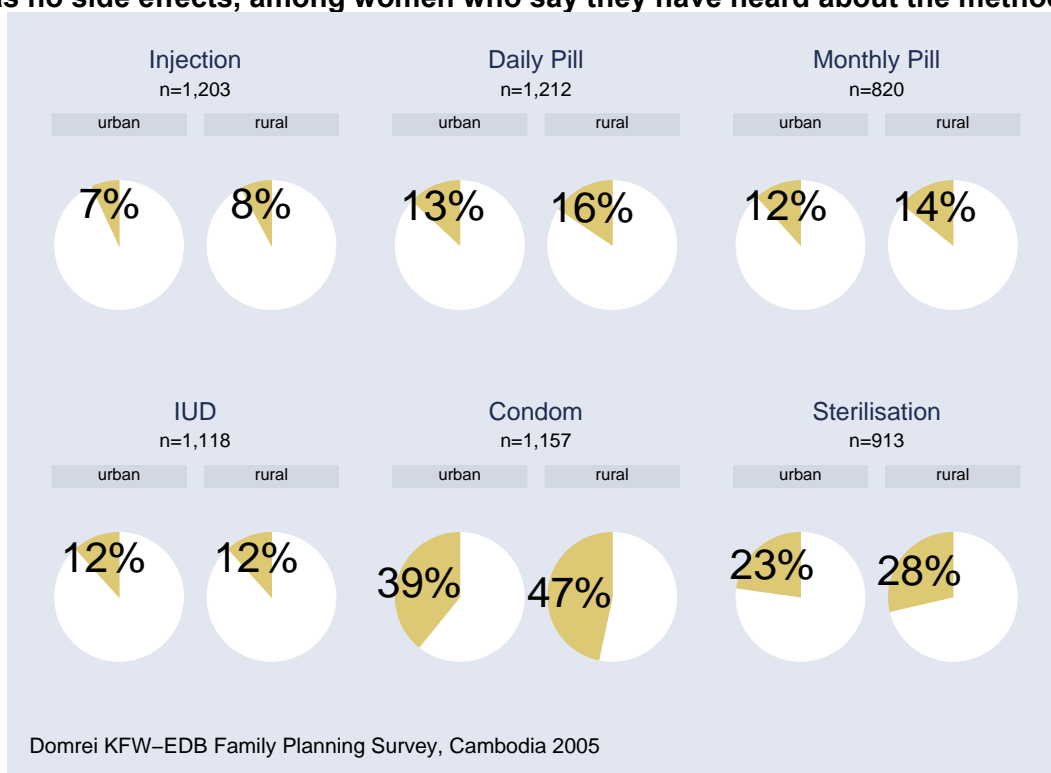
**a) Perceived side effects**

For each method, the following question was asked: “What side effects does [method name] have? Answers were not prompted, and multiple answers were possible.

After three rounds of field testing, the questionnaire included 24 possible side effects that were grouped into seven categories: side effects concerning (1) the uterus/vagina, (2) blood, (3) sex, pregnancies and sterility, (4) eating, appetite/nausea and weight, (5) general body pains/discomfort (6) skin and (7) severe health problems like cancer<sup>3</sup>. Interviewers recorded as “other” any answer that she felt did not fit in any of the 24 pre-defined answers, and noted the verbatim answer, which we then either re-coded into an existing modality or left in the “other” category.”

Respondents could also answer “no side effects” and “don’t know.” Figure 16 presents the proportion of women who answered “no side effects.” It is surprising that the majority of respondents attribute at least one side effect to every method they know, including the condom. Indeed, the majority of women believe that there are side effects related to the condom.

**Figure 16: Proportion of respondents who spontaneously say that the method has no side effects, among women who say they have heard about the method.**

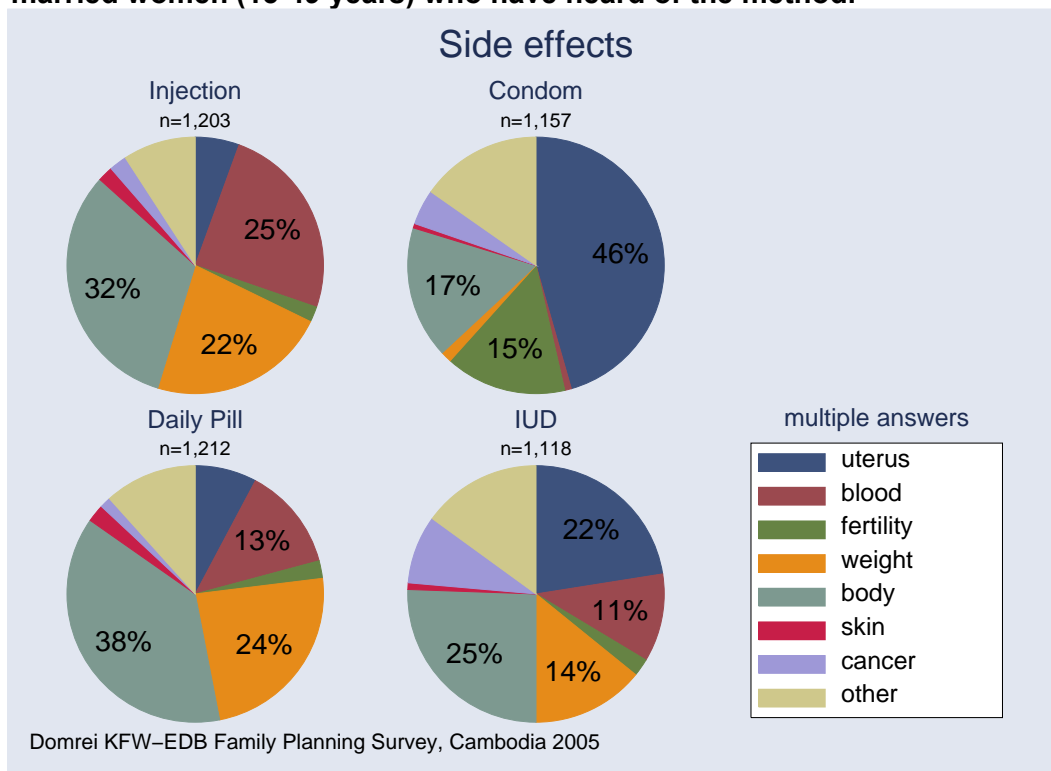


This counter-intuitive result is partly due to how the question was worded. As the objective of this question was to elicit from each respondents a maximum number and a wide variety of perceived side effects, we worded it to imply that the method does have side effects in order to encourage women to name all the ones they believe existed.

<sup>3</sup> See questionnaire in Annex 2 for full list of side effects and grouping.

What are these side effects? Figure 17 shows that side effects vary according to the method, which indicates that respondents did not systematically give random answers. Results from the rural and urban strata did not indicate any difference between the perceptions of rural and urban women, so the two were grouped for the sake of clarity.

**Figure 17: Perceived side effects of injections, the daily pill, IUD and condoms, by married women (15-49 years) who have heard of the method.**



The two hormonal methods, the daily pill and injectables, are those that are said to affect the blood and the general body the most. Condoms and IUD affect the uterus and the vagina, presumably because of their physical contact with the reproductive organs.

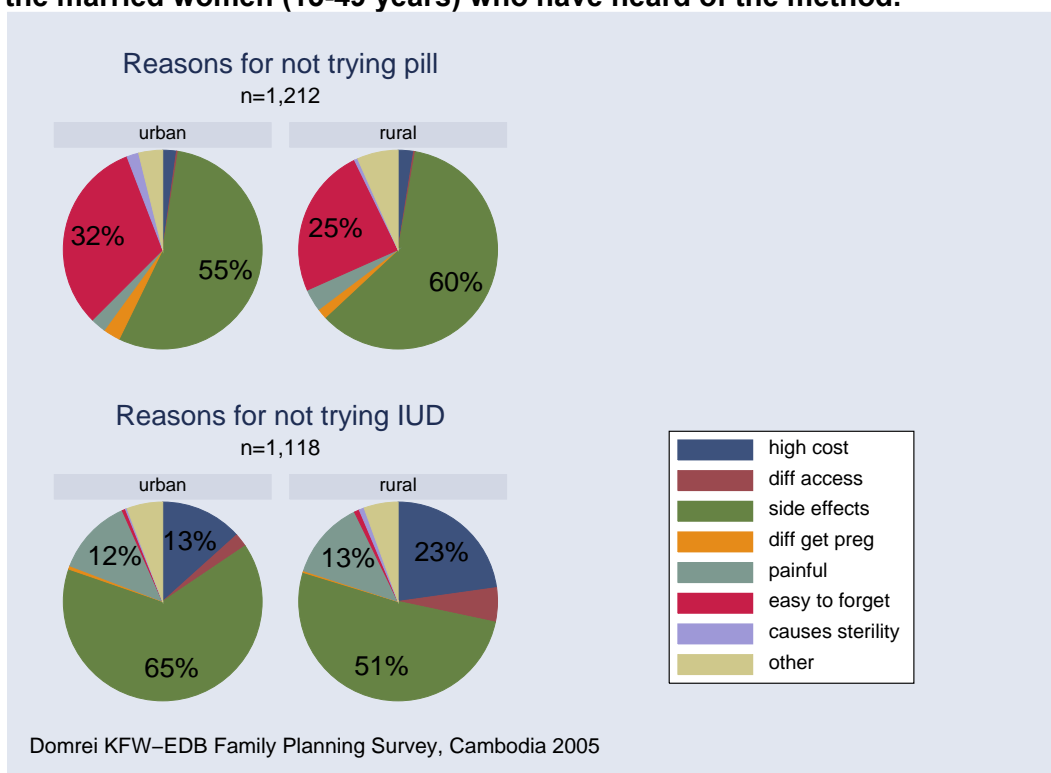
There does not seem a clear pattern of side effects for the IUD compared to the other methods – this may be related to a lack of information about the IUD and rumours and misconceptions not even based on second-hand experience. The IUD is so seldom used that few women may know someone who has tried it. The IUD looks to cause more ‘cancer’ and more ‘other’ than other methods – an indication that respondents do not have a clear idea of how the IUD actually works.

IUD’s can have side effects if not inserted properly and checked so perceptions concerning the uterus/vagina may be based on true stories. This hypothesis should not be waved aside, considering the overall standard of medical services.

**b) Reason for not trying the daily pill or the IUD**

Each woman who had heard of a method was asked: “in your opinion, what is the main reason why women don’t like to use [method name]”. Figure 18 shows the results for the daily pill and the IUD.

**Figure 18: Main reasons why women do not try the daily pill or the IUD according to the married women (15-49 years) who have heard of the method.**



The comparison between these two methods is interesting: it confirms that for the IUD, but not for the pill, cost and difficult access are indeed a reason for some women, though not the major one by any means. Painful may include “scary” or “embarrassing,” especially if respondents imagine the provider is a man.

The daily pill is easier to forget and there are side effects for many women – particularly if you consider changes in menstruation to be a side effect, which many women do. The IUD on the other hand has potentially fewer side effects and is not painful if correctly inserted.

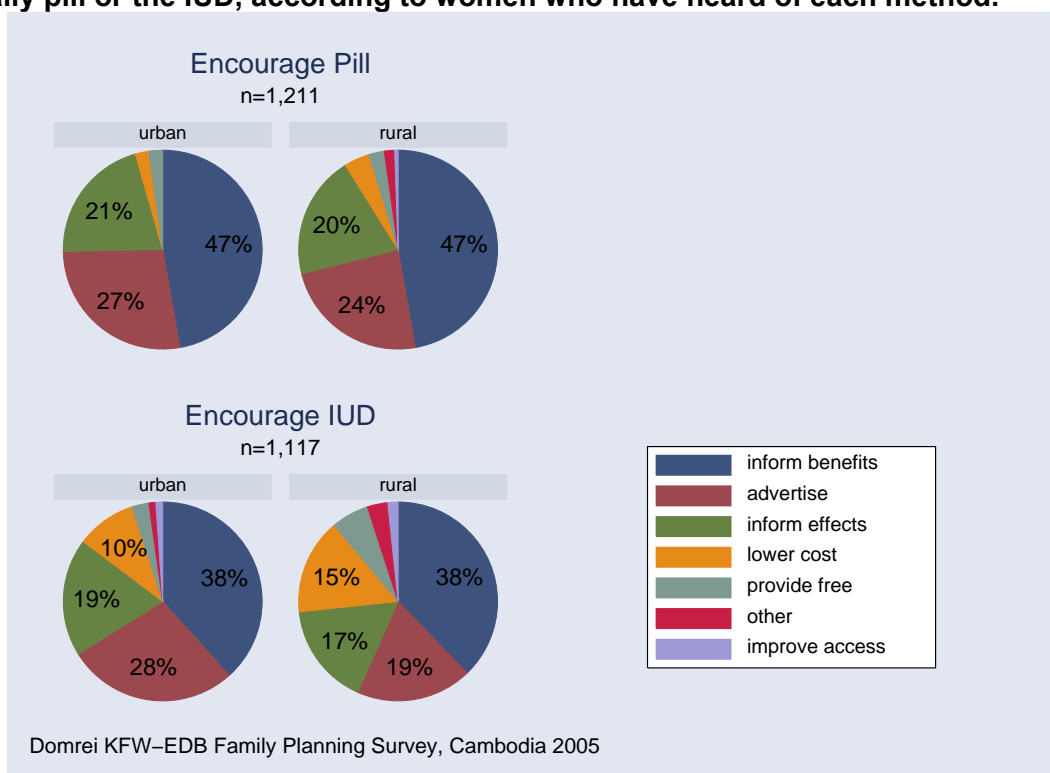
Reasons for not trying the IUD may be vague because fewer women have first or second hand experience with this rare method. Yet perceptions influence demand, whether they are misconceptions or not. Qualitative work is required to understand the source and intensity of these beliefs.

The high cost perception on the other hand is borne out by IUD users who also report having paid a lot of money (indeed, too much, as we will see later) and this sort of information is likely to be more widely and accurately disseminated than rumours on side effects.

**c) What would encourage women to use the daily pill or the IUD, according to women who have heard of the method**

The respondents who knew of the method were then asked, “what is the most important thing that could encourage women to use [name of method] for contraception?”

**Figure 19: The most important thing that would encourage women to use the daily pill or the IUD, according to women who have heard of each method.**



For both the pill and the IUD, the most common answer was “to inform on the method’s benefits.” Insufficient or inadequate information on the pros and cons of each method no doubt explains some perceptions of side effects.

Only for the IUD was “lower the cost” a prevalent idea, which confirms once more that cost is an issue for the IUD but not for the daily pill.

It is remarkable how little the answers vary between the urban and rural samples. This suggests that the same promotional strategy should work for both populations.

**d) Reasons why one method is preferred over another, according to those who have tried the method**

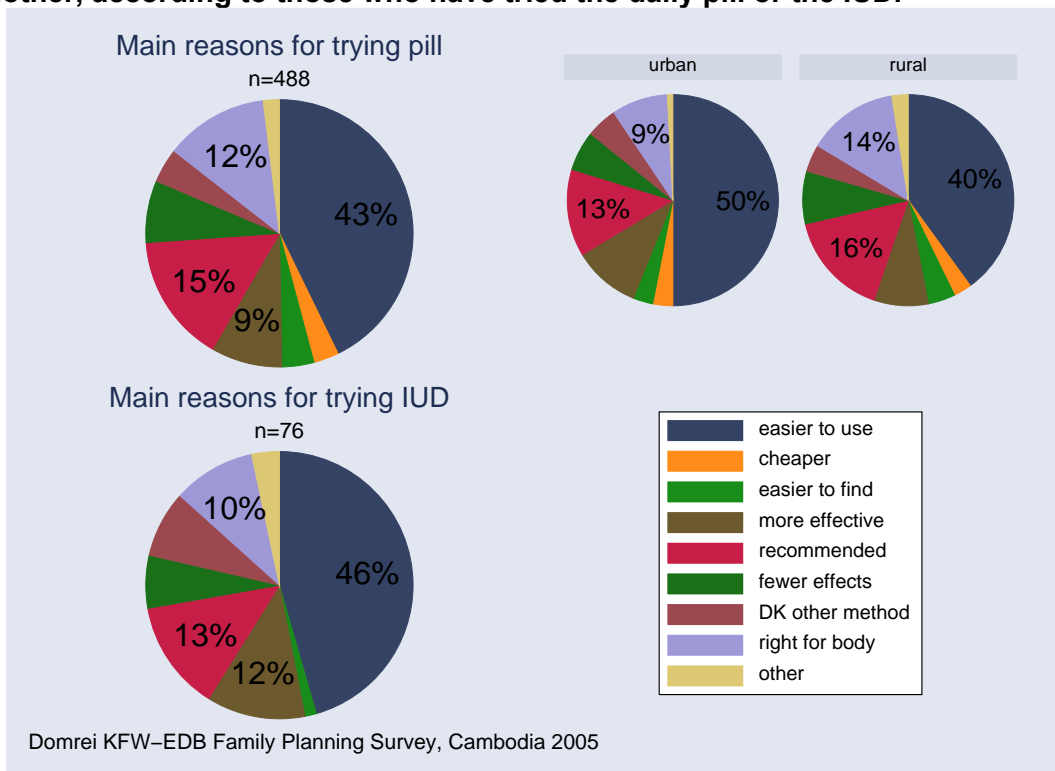
To all women who said they tried a given method we asked, “what was the main reason you tried [name of method] over another method?”

Figure 20 show that there are few differences in this regard between the daily pill and the IUD, and, for the pill, few differences between rural and urban<sup>4</sup>. Both methods are indeed easy to use, and the pill is one of the cheapest methods (as we will see later). Neither method is overwhelmingly preferred because it is “right for my body” or because it has fewer side effects.

<sup>4</sup> The sample of women who tried the IUD is too small to allow an urban/rural breakdown of reasons for trying.



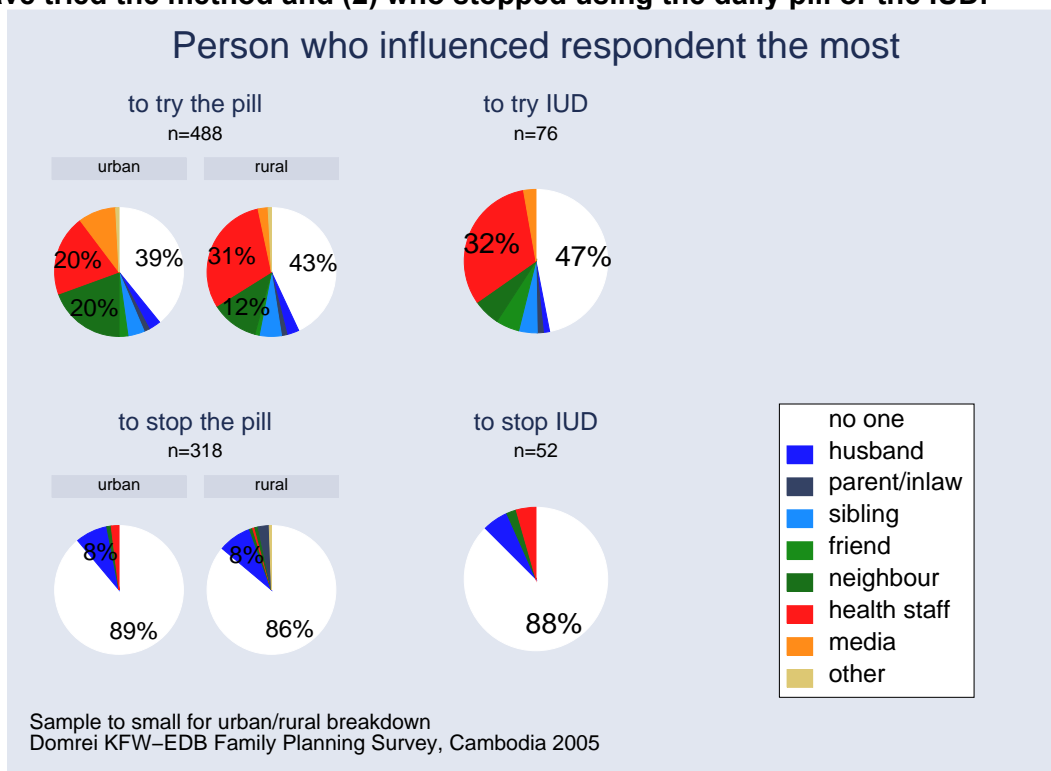
**Figure 20: The main reason married women say they tried the method rather than another, according to those who have tried the daily pill or the IUD.**



**e) Persons influencing method choice**

To all women who said they tried a given method we asked “Which one person influenced you the most to try [name of method]?”

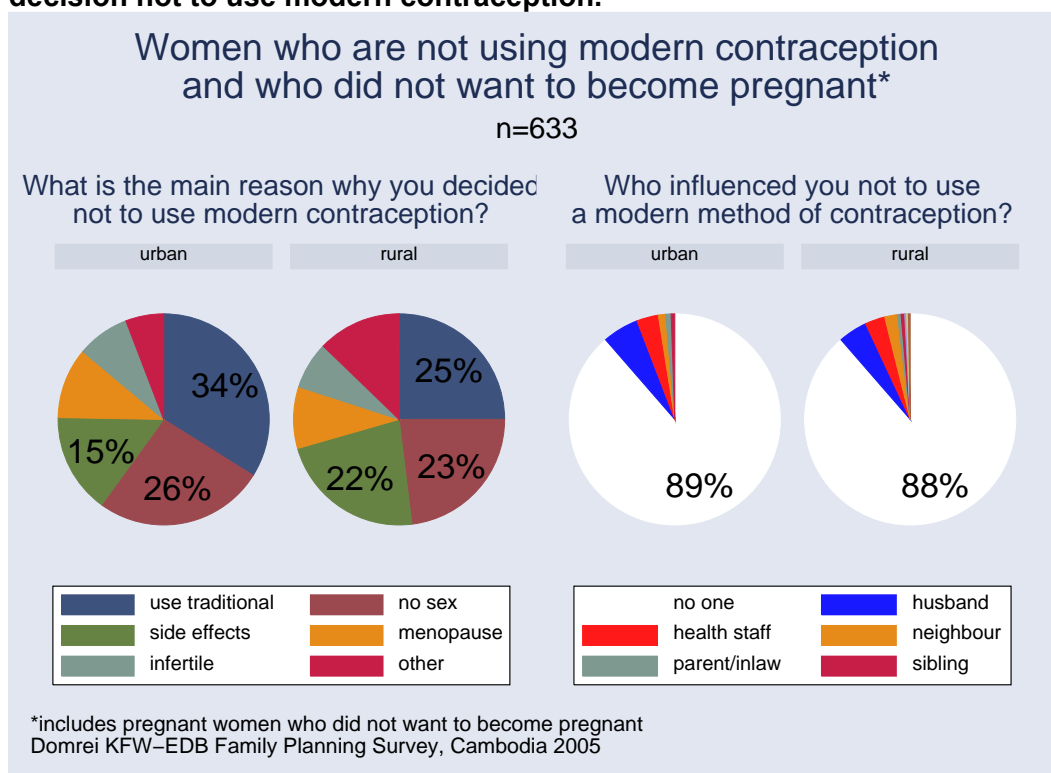
**Figure 21: The person who influenced the respondents the most to (1) try the method and (2) to stop using the method, according to the respondents who (1) have tried the method and (2) who stopped using the daily pill or the IUD.**



The women themselves are the prime decision-makers, and their husbands have little say in choosing the method. “Health staffs” play a role in choosing a method, especially for the IUD, and for the pill to a lesser extent. For most respondents, ‘health staff’ does not only mean government doctors but anybody who works in health – including community volunteers and drug sellers.

This is also true among non-users: almost nine non-users out of ten say it is their decision not to use modern contraceptives (Figure 22).

**Figure 22: Reasons for non-use and persons who influence non-users in their decision not to use modern contraception.**



We note in Figure 21 a higher proportion of health staff recommendations for urban IUD users. We also know that IUD users are mostly in Phnom Penh and that their source is the private sector. As there is much more money to be made from inserting an IUD than from selling a packet of pills (we saw that pills are perceived as being cheap, whereas the IUD is perceived as being costly), it can be expected that private sector doctors will recommend the most lucrative option.

Method discontinuation has been overwhelmingly reported to be a personal choice. This is interesting and important, but expected. If the main reasons for discontinuing are side effects, or the desire to have a child, women need not ask anyone for advice when the solution is so obvious.

These findings are important. They show that women are ready to claim responsibility for their choices, whether choosing a method or in deciding to stop using one; and they want it to be an informed choice (cf. Figure 19). If we group respondents, their husbands, their family, neighbours and friends into a “general public category”, we see that “the general public has an overwhelming influence in method choice and in discontinuation, and even more so if we consider that some members of the “health staff” category probably should be considered as members of the general public.

It thus makes sense for a promotional campaign to follow our respondents’ recommendation and target women, informing them, in culturally appropriate ways, of the benefits and drawbacks of the various methods available.

It still makes sense to target health workers, as they do have influence, at least for the pill and the IUD. But as Figure 13 on page 26 demonstrates, with the exception of sterilisation, the private sector accounts for a substantial share of the contraceptive market, suggesting that promotion activities that targets “health staff” needs to include non government agents.

## f) Reasons for stopping the daily pill or the IUD

Respondents who said they tried a method other than sterilisation and then stopped using it were asked, “What is the main reason you stopped using [method name]?”

**Figure 23: The main reasons they stopped using the pill or the IUD, according to respondents who have discontinued using either of these methods.**

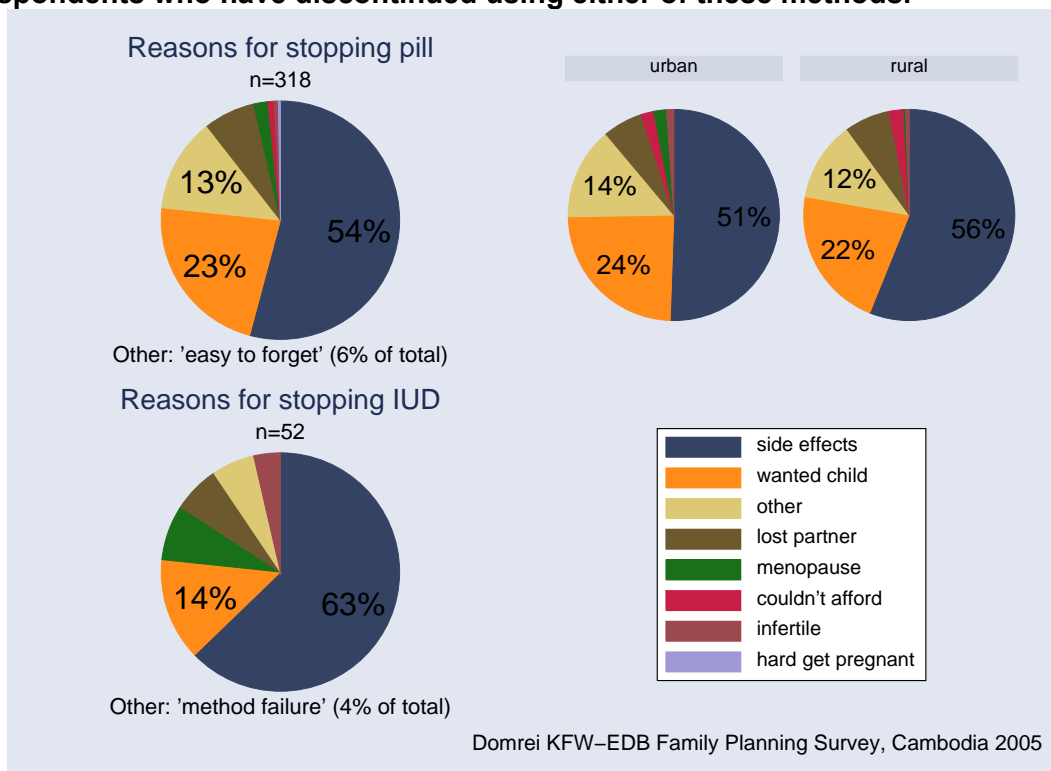


Figure 23 paints a very distressing picture: almost two thirds of the respondents who tried the IUD stopped because of side effects. This is a major problem when you consider that unlike the daily pill, women have to go to a health provider and pay them to remove the IUD, when it would cost her nothing to keep it. Further study on how the IUD is inserted and checked in health facilities needs to be conducted before this method can be promoted.

The picture is barely less bleak for the daily pill, where half its users stopped because of side effects. Here we may wonder if the pills that are on the Cambodian market are appropriately dosed for rural women who are on average much smaller than in other countries, and more often underweight.

### 3.3. Method ranking

We asked all respondents that knew two or more methods to rank them for effectiveness, cost, accessibility, side effects, ease of use and long term effects on fertility. Interviewers handed the respondents cards representing the methods they knew. For each question, the respondent showed the interviewer the card representing the method that was the “best” and the card of the method that was the “worst.” On average, respondents knew five methods, and fewer than 10% knew less than four methods (see Table 3 page 19).

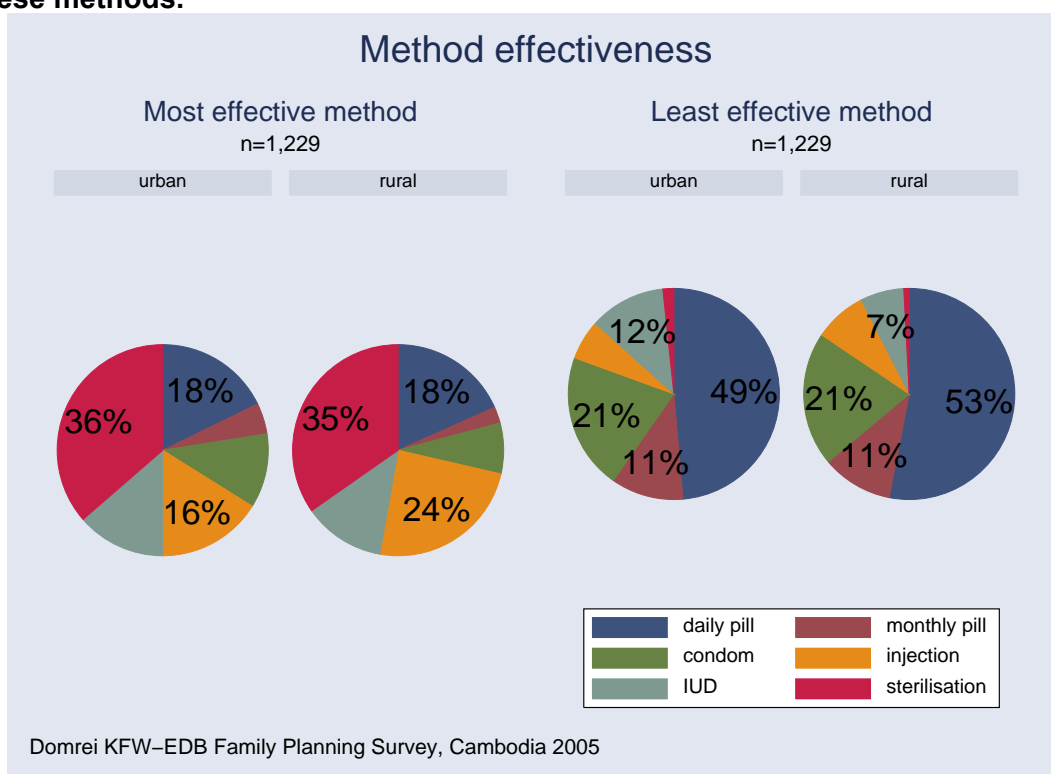
Though our results are both consistent and logical, the reader should keep in mind that method ranking is more about perceptions and post-rationalisation than actual

knowledge and experience. For example, if a woman is not attracted by the IUD because she finds the idea disgusting, humiliating or painful, then she will be more likely to find it more expensive, less efficient and more difficult to use compared to a method she is used to.

**a) Effectiveness**

The first two questions concerned effectiveness -- i.e. its capacity to prevent a pregnancy: "Which method of contraception do you think is the most effective?" and "Which method of contraception do you think is the least effective?"

**Figure 24: The most and least effective modern methods of contraception, according to married women (15-49 years) who have heard of at least two of these methods.**



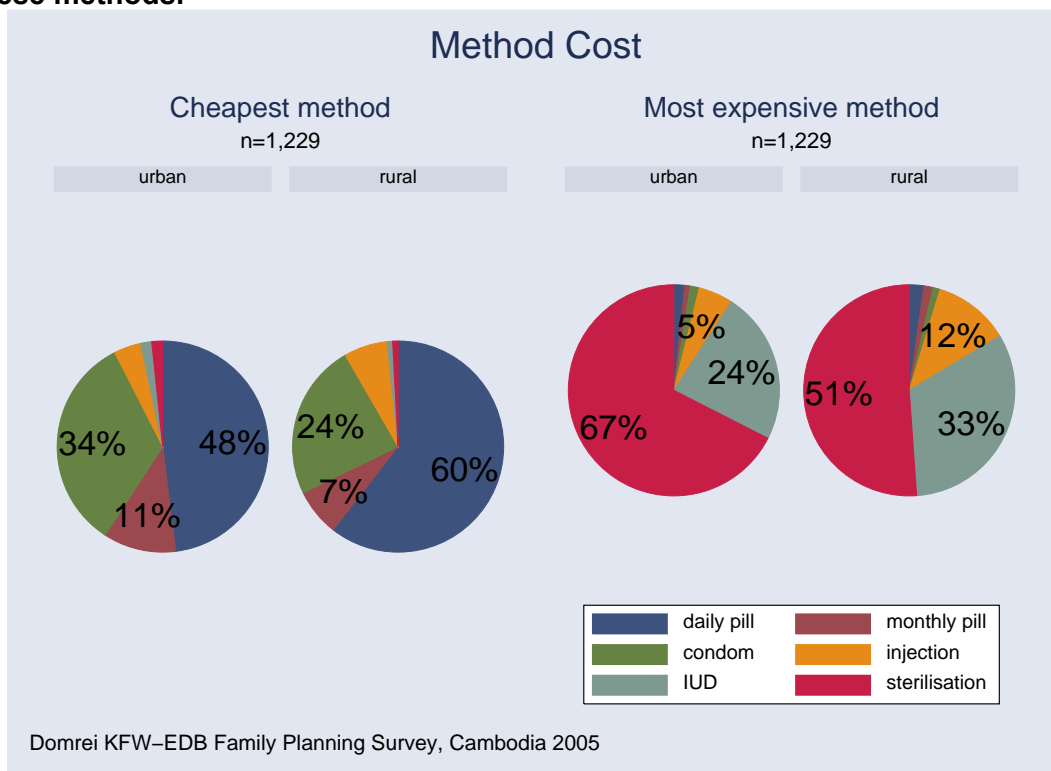
Female sterilisation was ranked as the most effective, whereas the daily pill was ranked as the least effective by half of the respondents. While we have no data to back up any explanation on the pill's perceived - and relative - ineffectiveness, we can suppose that (1) women take into account the fact that "it easy to forget" and (2) its cheapness and "public sector" image might be detrimental in comparison with more expensive and "newer" methods. This is probably also true for the condom.

As for most perceptions, there are no significant differences between urban and rural.

**b) cost**

The second series of questions concerned cost: "which method of contraception do you think is the cheapest?" and "Which method of contraception do you think is the most expensive?"

**Figure 25: The cheapest and most expensive modern methods of contraception, according to married women (15-49 years) who have heard of at least two of these methods.**



As expected, the pill and the condom were ranked the cheapest, and sterilisation and the IUD the most expensive. This could partly be a function of free condom and daily pill distribution and the role of private-for-profit health providers for the IUD in Phnom Penh.

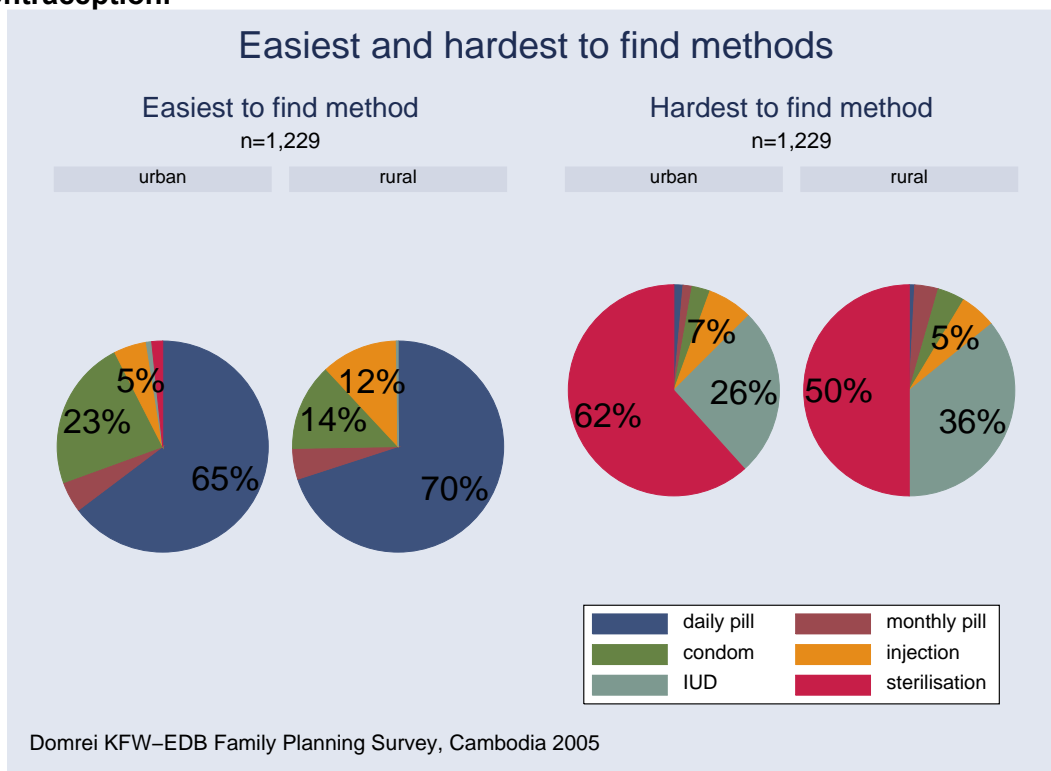
Knowing that the pill and the condom have sometimes been distributed free, even if the respondent herself has never received them increases the perception that the method is cheap. Perhaps perceptions could change if free IUD insertions were provided for a limited period. This might be a convincing way of demonstrating that IUDs are safe and inexpensive.

These ranking results also reflect, to a certain extent, likely geographic availability for many women. The daily pill and condom are likely to be available within five minutes walk. The monthly pill is probably available from some drug sellers and maybe the local market. Injectables can be found in provincial/district clinics or at the local doctor's house in a nearby village. Sterilisation services are probably only available at the health centre or NGO some distance away and IUDs from the same source or from private clinics in provincial capitols. It is possible that women include in their cost calculation transportation and "indirect costs."

**c) accessibility**

The questions were "which method of contraception is easiest for you to find and which method of contraception is hardest for you to find."

**Figure 26: The easiest and hardest methods to find, according to married women (15-49 years) who have heard of at least two of these modern methods of contraception.**

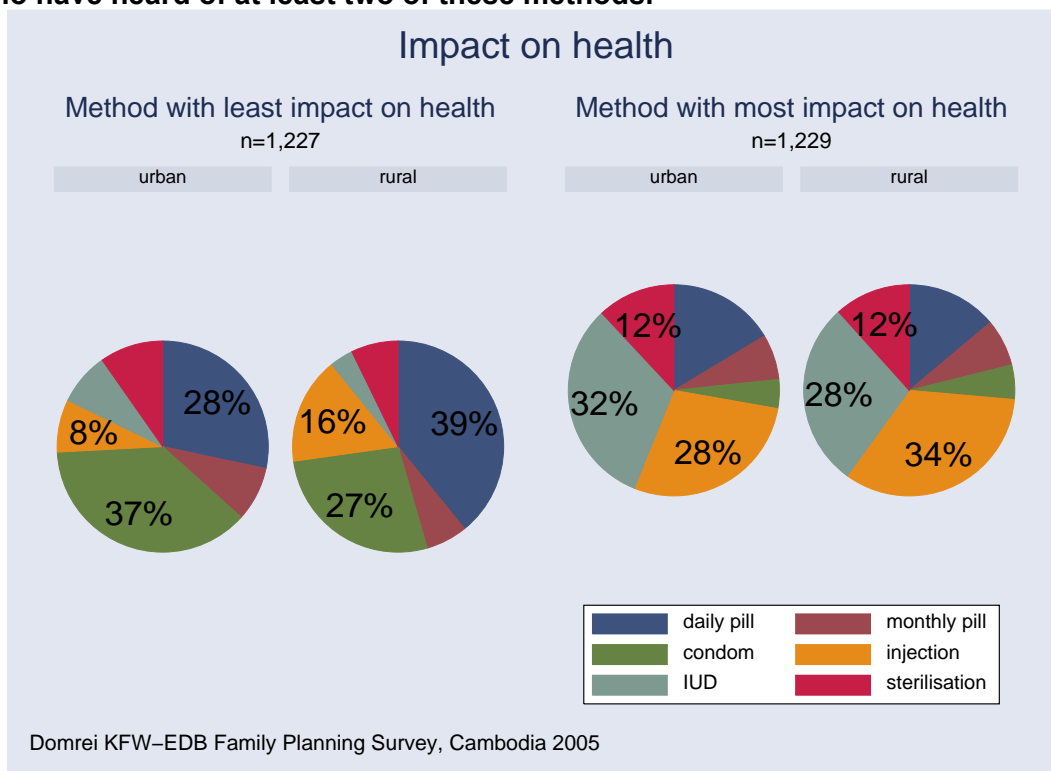


The ranking shows that intensive social marketing works. The daily pill and condoms are perceived as being the easiest methods to find. Sterilisation and the IUD on the other hand are perceived as being more difficult to access, even though IUD services are also provided at some health centres, and sterilisation at some referral hospitals. Higher perceived availability of injectables in the three provinces probably reflects the historical dominance of this method in rural areas. This was the most popular modern method in Cambodia in 2000 according to the CDHS.

**d) Side effects**

The questions were, “Which method of contraception has the least impact on a woman’s health?” and “Which method of contraception has the most impact on a woman’s health?”

**Figure 27: The modern methods of contraception that have the least and the most impact on a woman’s health, according to married women (15-49 years) who have heard of at least two of these methods.**



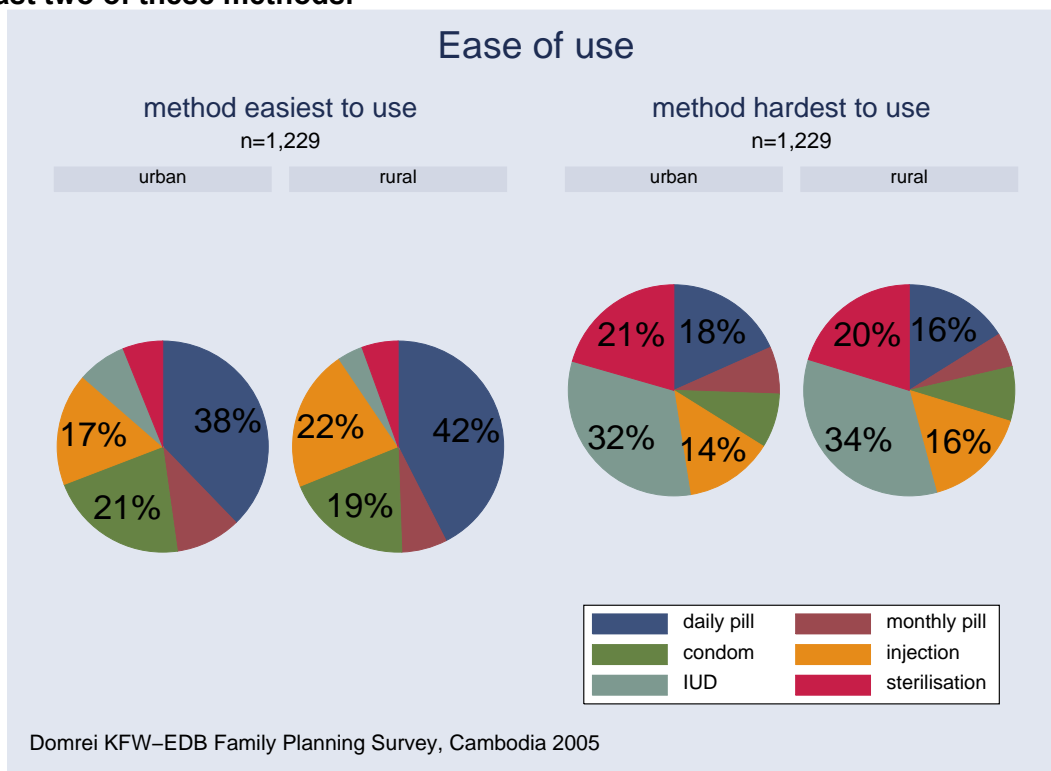
The variety of answers reflects the question’s intrinsic difficulty. Since many women believe that each method has one or more side effects, we are in fact asking them to rank different side effects, e.g. Is it better to experience nausea while taking the pill or skin rashes while using the injection? It is surprising to note that close to a third of the respondents ranked the daily pill as the method with the least side effects. Perhaps the pill’s effects are perceived as less painful or dangerous than those of the IUD or injectables.

**e) Ease of use**

The questions were, “Which method of contraception is the easiest for you to use?” and “Which method of contraception is the hardest for you to use?”



**Figure 28: The modern methods of contraception that are the easiest and the hardest to use, according to married women (15-49 years) who have heard of at least two of these methods.**

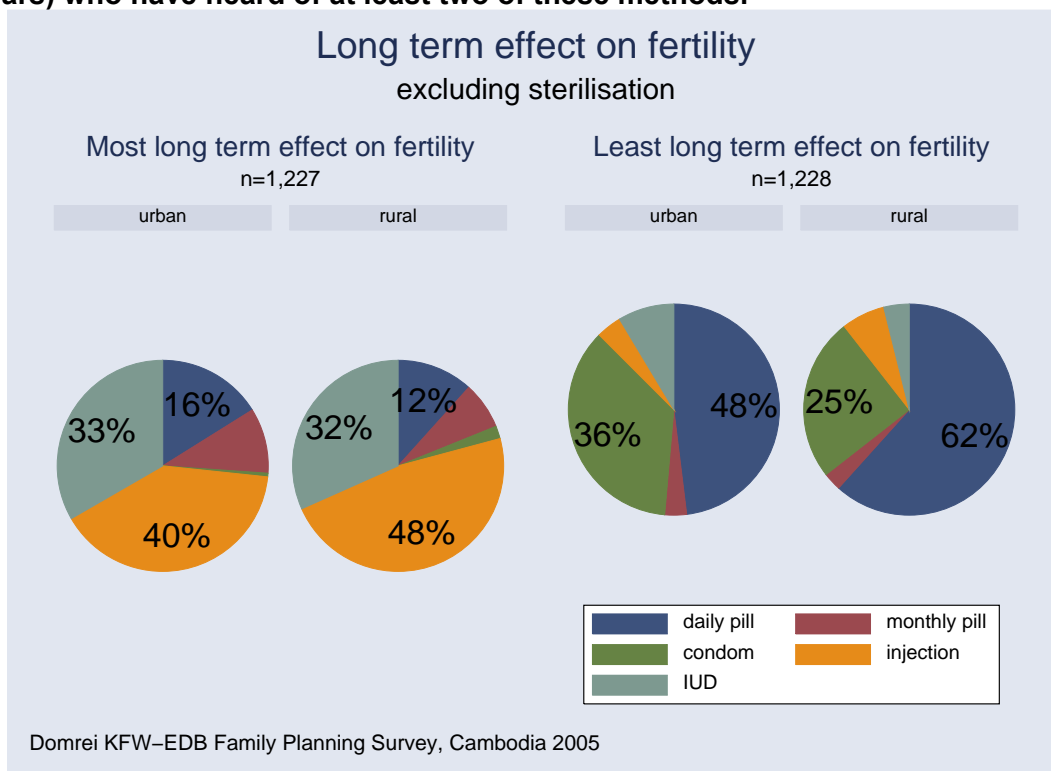


The daily pill is the easiest method to use, although it may be “easy to forget.” We can only assume that the IUD is difficult to use because women are apprehensive about its insertion and the follow-up procedure.

**f) Long term effects on fertility**

The last series of ranking questions were: “Which method of contraception affects long term fertility the most?” and “Which method of contraception affects long term fertility the least?” Sterilisation was obviously excluded as a possible answer.

**Figure 29: The modern methods of contraception that have the most and the least long term effect on a woman’s fertility, according to married women (15-49 years) who have heard of at least two of these methods.**



The injection then the IUD are seen as having the most effect on long term fertility across rural and urban samples.

Historically, the injection has been the most commonly used modern method in Cambodia, second to the IUD. Therefore, women can realistically report long-term effects for these methods. One hypothesis is that the methods that have become popular more recently – like the daily pill – have not been commonly used long enough to show long term effects.

This might help to explain the clear result condemning the IUD and injection – these methods have been used long enough for women to see users develop AIDS or hear of obstetrical complications and malignant cancers among older IUD and injection users and link them to use of these two methods.

### 3.4. Brand awareness and perceptions

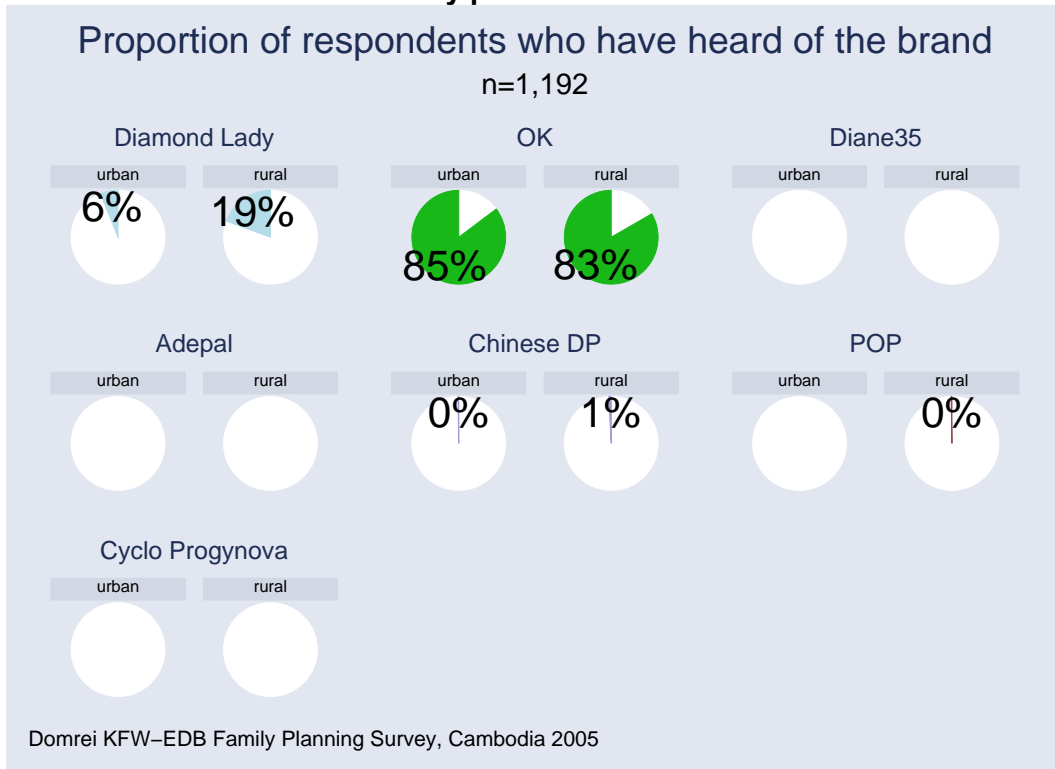
Respondents who heard of daily pills and/or condoms were asked to name the brands they knew. They were not prompted or shown any pictures of methods that could have influenced their answers.

All the respondents that mentioned two or more brands were asked to rank them according to their effectiveness, cost, accessibility and side effects.

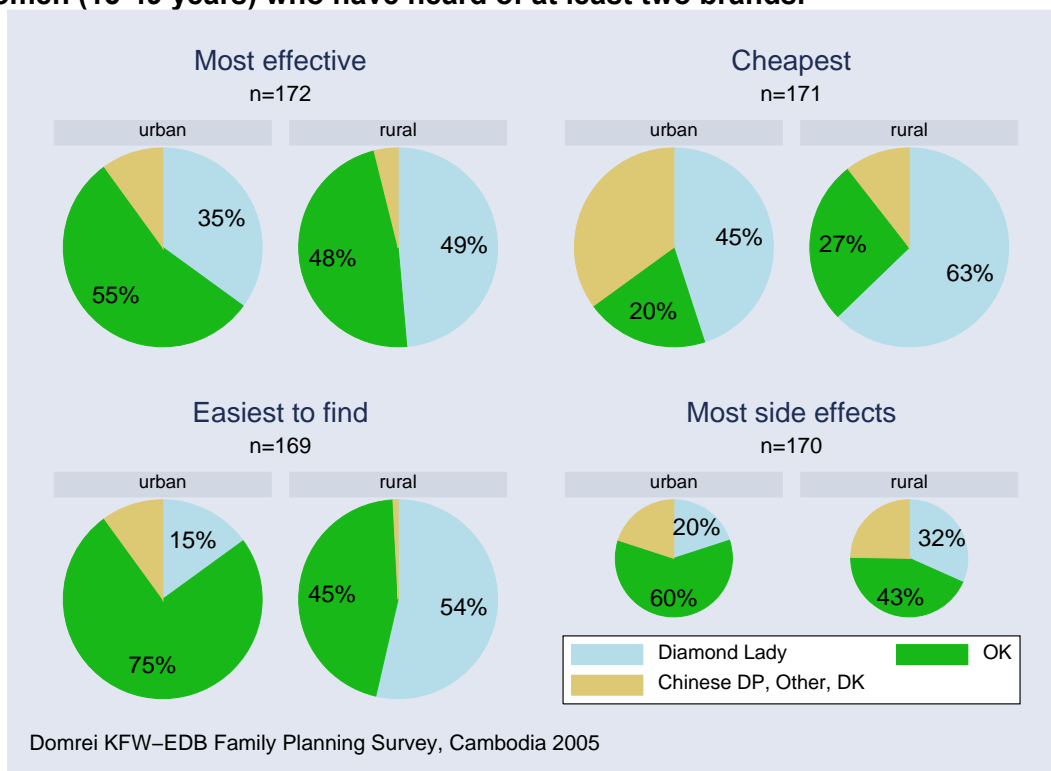
**a) Daily Pill**

The public knows only two brands of daily pill: OK and Diamond Lady. The OK brand is known by over 80% of women who have heard of the pill. Diamond Lady, the public sector pill, is better known in the three provinces than in Phnom Penh.

**Figure 30: Percent of respondents who have heard of each brand of pill among women who have heard of the daily pill.**



**Figure 31: The brand of daily pill that (1) is the most effective, (2) the cheapest, (3) the easiest to find and (4) has the most side effects, according to married women (15-49 years) who have heard of at least two brands.**



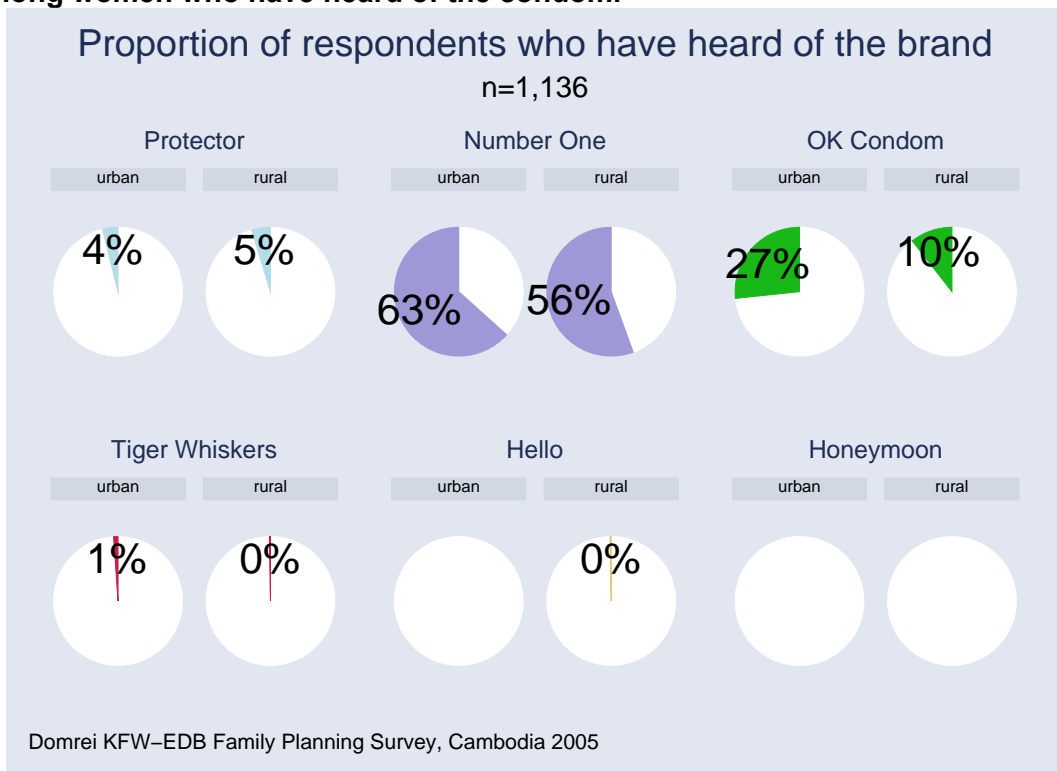
Diamond Lady is less expensive so this is an accurate perception. OK is probably much easier to find thanks to the multitude of private providers in Phnom Penh. Despite lower brand awareness, Diamond Lady is well ranked in rural areas: effective, cheap and easy to find. A positive result for the MoH.

Why the OK pill makes such a poor showing on side effects is quite mysterious. Rumours of product failure do tend to spread more when a brand is more famous. A happy customer will tell one person how happy he is, an unhappy customer will tell 100 people!

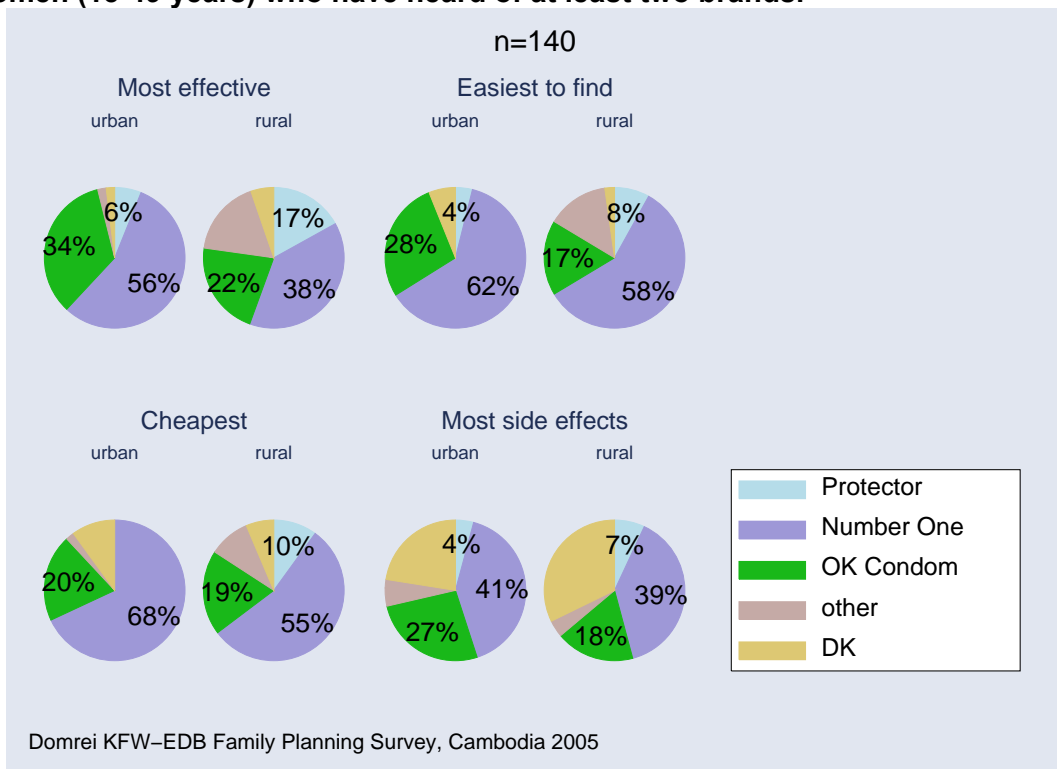
**b) Condom**

Condom brands benefit from HIV/AIDS campaigns, so they are better known to the general public than contraceptive pills. Number One condom ranked first in brand awareness, followed by OK and Protector, a distant third in both Phnom Penh and rural areas.

**Figure 32: Percent of respondents who have heard of each brand of condoms among women who have heard of the condom.**



**Figure 33: The brand of condoms that (1) is the most effective, (2) the cheapest, (3) the easiest to find and (4) has the most side effects, according to married women (15-49 years) who have heard of at least two brands.**



The OK condom was introduced more recently – so we did not expect as many women to have heard of it. Some women may have been more likely to remember the OK name due to the OK daily pill which has been available for longer (and extensively marketed).

Number One is undoubtedly the best known condom brand in Cambodia – hardly surprising after ten years of HIV promotion. It is also the easiest to find and the cheapest – the 100% condom use policy ensures that every brothel in the country has them and this brand was also given away quite liberally in the past.

#### 4. Determinants of method use and non use

In this section, we compare current users and current non-users (including drop-outs) in terms of age, wealth, residence, education level, parity, etc. for injections, daily pill, IUD, Condom and overall use (any modern method). The idea here is to determine the type of women that is most likely to use a given method, and then to discuss, for each method, the current obstacles to its use.

We use logistic regression analysis to compute odds ratios (OR) for each characteristic. The outcome/dependant variable is the probability of using a given method; the dependant variables are the women’s characteristics (e.g. place of residence, wealth, educational level, etc). An OR near 1 indicates that there is no relation between the characteristic and the method. We present in red the methods for which the dependant variable(s) have a statistically significant OR at 95%, i.e. when the OR’s 95% confidence interval (CI) does not include 1.

##### 4.1. Place of residence

Urban (Phnom Penh) is coded 1, rural is coded 2. An odds ratio of the less than 1 indicates a higher probability of use in Phnom Penh and a lower probability of use in rural areas.

**Table 4: Place of residence and contraceptive use (n=1,236)**

| method        | Odds Ratio | Std. Err. | z     | P> z  | [95% CI] |      |
|---------------|------------|-----------|-------|-------|----------|------|
| injection     | 1.8        | .583844   | 1.85  | 0.065 | .96      | 3.41 |
| daily pill    | 1.7        | .3749316  | 2.57  | 0.010 | 1.14     | 2.7  |
| monthly pill  | .33        | .1775837  | -2.06 | 0.039 | .11      | .95  |
| IUD           | .27        | .1140032  | -3.11 | 0.002 | .12      | .62  |
| condom        | .64        | .1949201  | -1.47 | 0.140 | .35      | 1.16 |
| sterilisation | .90        | .4305212  | -0.24 | 0.811 | .35      | 2.30 |

Women are much more likely to use the IUD if they live in Phnom Penh. This is not a new finding:

*“Overall, the injection is the most popular modern method currently used among respondents (2%). However, among current users in Phnom Penh the first modern method is the IUD.”<sup>5</sup>*

<sup>5</sup> KAP survey on contraception and fertility, MoH 1995 (n=6000 households covering all provinces accessible at that time, representing 67% of the total population).

The IUD has historically been a Phnom Penh method. The monthly pill is technically illegal (as an unregistered drug). Private distribution of the monthly pill probably does not have the reach (or budget) of the MoH and social marketing programs so we would expect it to be more available in Phnom Penh. The daily pill is more rural – and benefits from better distribution and marketing.

#### 4.2. Wealth

Another reason why the IUD is more popular in Phnom Penh than in rural areas is that the IUD is more expensive and women in Phnom Penh are on average wealthier than in the provinces (see Figure 3 page 16). Indeed, women in the wealthier groups are twice as likely as poorer women to use the IUD

**Table 5: Wealth and contraceptive use (n=1,222)**

| method        | Odds Ratio | Std. Err. | z     | P> z  | [95% CI]  |
|---------------|------------|-----------|-------|-------|-----------|
| injection     | 1.09       | .1533183  | 0.63  | 0.532 | .83 1.44  |
| daily pill    | 1.28       | .1252208  | 2.48  | 0.013 | 1.05 1.54 |
| monthly pill  | .55        | .1941803  | -1.70 | 0.090 | .27 1.10  |
| IUD           | 2.20       | .6316347  | 2.76  | 0.006 | 1.26 3.86 |
| Condom        | 1.15       | .1971442  | 0.79  | 0.430 | .82 1.61  |
| Sterilisation | 1.45       | .3792479  | 1.43  | 0.152 | .87 2.42  |

The outcome variable is using the method versus not using the same method, not using one method rather than another method. Therefore, we can have a positive relation between use and wealth for every method because poorer women are less likely to contracept than wealthier women. It would indeed be surprising to see a method where poorer women would be likelier to use than not to use.

#### 4.3. Wealth and place of residence

Current use of the injection is not related to place of residence or wealth taken separately, but in a multivariate regression where both residence and wealth are included, rural women are more likely to use injections than their Phnom Penh counterparts in the same wealth category.

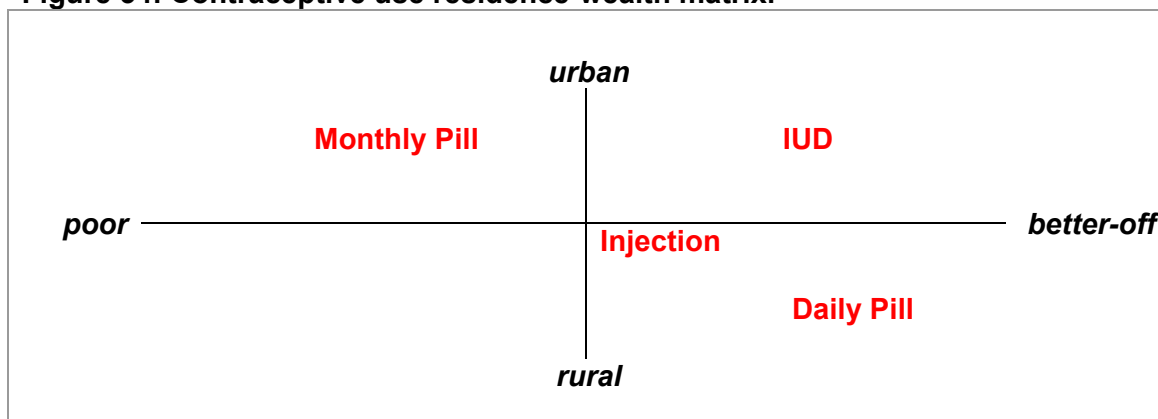
The monthly pill attracts mostly poor urban women while the IUD is preferred by wealthy urban women, and the daily pill by wealthier rural women

**Table 6: Wealth, place of residence and contraceptive use (n=1,222)**

|              | Odds Ratio | Std. Err. | z     | P> z  | [95% CI]  |
|--------------|------------|-----------|-------|-------|-----------|
| Injections   |            |           |       |       |           |
| wealth       | 1.14       | .1617006  | 0.91  | 0.363 | .86 1.50  |
| urban        | 1.90       | .6172877  | 1.98  | 0.048 | 1.00 3.59 |
| daily pill   |            |           |       |       |           |
| wealth       | 1.33       | .1330426  | 2.90  | 0.004 | 1.10 1.62 |
| urban        | 1.92       | .4180976  | 2.98  | 0.003 | 1.25 2.94 |
| Monthly Pill |            |           |       |       |           |
| wealth       | .49        | .1749727  | -2.00 | 0.046 | .24 .99   |
| urban        | .28        | .1505565  | -2.36 | 0.018 | .10 .80   |
| IUD          |            |           |       |       |           |
| wealth       | 1.97       | .570462   | 2.35  | 0.019 | 1.12 3.48 |
| urban        | .30        | .1289664  | -2.80 | 0.005 | .13 .70   |

We can map these results on a simple two dimensional matrix: the vertical axis represents place of residence (Phnom Penh women in the top half, rural women in the bottom half) and the horizontal axis represents wealth (poorer woman on the left, wealthier women on the right (Figure 34).

**Figure 34: Contraceptive use residence-wealth matrix.**



Condoms and sterilisation cannot be placed on this matrix because there are too few cases of sterilisation to yield statistically significant results, and because condoms are ubiquitous and have other uses that appeal to different categories of women.

**It is important to note that the rural poor do not seem to have “their” method.**

#### 4.4. Educational attainment controlling for wealth

Education and wealth are positively related (the wealthier a woman is, the more likely she is better educated). The following regressions control for this correlation between these two characteristics.

**Table 7: Education, wealth and contraceptive use (n=1,223)**

|              | Odds Ratio | Std. Err. | z     | P> z  | [95% CI] |      |
|--------------|------------|-----------|-------|-------|----------|------|
| Daily Pill   |            |           |       |       |          |      |
| education    | 1.09       | .1230714  | 0.75  | 0.452 | .872     | 1.36 |
| wealth       | 1.25       | .1271477  | 2.20  | 0.028 | 1.02     | 1.53 |
| Monthly Pill |            |           |       |       |          |      |
| education    | 1.19       | .4335365  | 0.47  | 0.641 | .58      | 2.48 |
| wealth       | .53        | .1917463  | -1.76 | 0.078 | .26      | 1.07 |
| IUD          |            |           |       |       |          |      |
| education    | 2.65       | .925483   | 2.78  | 0.005 | 1.33     | 5.25 |
| wealth       | 1.78       | .5217195  | 1.97  | 0.049 | 1.00     | 3.16 |
| Condom       |            |           |       |       |          |      |
| education    | 1.08       | .2139173  | 0.36  | 0.716 | .73      | 1.59 |
| wealth       | 1.13       | .2008898  | 0.67  | 0.506 | .80      | 1.60 |

Educated women from the same wealth group are twice as likely to use the IUD as less educated women are. Education per se has an effect on IUD use. This is not the case with the daily pill.



### a) Number of children ever born

As noted in section 1.2, parity is defined as the number of children ever born (CEB). Respondents are grouped into three categories: 0-1 children (coded 1), 2-3 children (coded 2) and 4 or more children (coded 3).

We would expect high parity women to be more likely to contracept to avoid having more children, and low parity women to use contraception to space their births. In settings where fertility decreases, the two reasons offset each other, i.e. low parity women may be as likely to contracept as older ones. Parity in that case has an effect on method choice rather than contraception in general. Low parity women are less likely to choose a method that is rumoured to cause sterility.

This may be one explanation for the relative popularity of injections with high parity women, as we saw that injections ranked highest for long term effects on health in rural areas where it is most used, and second in Phnom Penh (see Figure 27 page 39). Another complementary explanation is that the injection has been popular for a longer time, and is therefore more popular among older women (generational effect)

**Table 8: Number of children ever born and contraceptive use (n=1,236)**

|               | Odds Ratio | Std. Err. | z     | P> z  | [95% CI] |      |
|---------------|------------|-----------|-------|-------|----------|------|
| Injection     | 1.71       | .279041   | 3.28  | 0.001 | 1.24     | 2.35 |
| Daily Pill    | 1.19       | .124486   | 1.63  | 0.103 | .97      | 1.46 |
| Monthly pill  | 1.54       | .5550439  | 1.19  | 0.234 | .76      | 3.12 |
| IUD           | .91        | .2337242  | -0.37 | 0.713 | .55      | 1.51 |
| Condom        | 1.31       | .2439623  | 1.43  | 0.153 | .91      | 1.88 |
| Sterilisation | 1.70       | .5042085  | 1.79  | 0.074 | .95      | 3.04 |

### b) Number of children ever born controlling for place of residence

As Phnom Penh women have on average fewer children than rural women (Figure 4 page 17) we determine which of these two characteristics predicts contraceptive method use the best by including both in the regression.

**Table 9: Number of children ever born and contraceptive use (n=1,236)**

|               | Odds Ratio | Std. Err. | z     | P> z  | [95% CI] |      |
|---------------|------------|-----------|-------|-------|----------|------|
| Injection     |            |           |       |       |          |      |
| parity        | 1.66       | .2722246  | 3.09  | 0.002 | 1.20     | 2.29 |
| urban         | 1.63       | .5297688  | 1.51  | 0.131 | .86      | 3.08 |
| Daily Pill    |            |           |       |       |          |      |
| parity        | 1.15       | .1215454  | 1.34  | 0.181 | .94      | 1.42 |
| urban         | 1.69       | .3659331  | 2.42  | 0.016 | 1.10     | 2.58 |
| Monthly Pill  |            |           |       |       |          |      |
| parity        | 1.71       | .628963   | 1.45  | 0.147 | .83      | 3.51 |
| urban         | .29        | .1598251  | -2.25 | 0.024 | .10      | .85  |
| IUD           |            |           |       |       |          |      |
| parity        | 1.01       | .2640079  | 0.02  | 0.982 | .60      | 1.68 |
| urban         | .27        | .1149246  | -3.09 | 0.002 | .12      | .62  |
| Condom        |            |           |       |       |          |      |
| parity        | 1.36       | .2569525  | 1.62  | 0.106 | .94      | 1.97 |
| urban         | .60        | .1841368  | -1.68 | 0.094 | .32      | 1.09 |
| Sterilisation |            |           |       |       |          |      |
| parity        | 1.73       | .5175355  | 1.83  | 0.068 | .96      | 3.11 |
| urban         | .79        | .3864553  | -0.48 | 0.633 | .30      | 2.06 |

Parity in rural areas was significantly higher than in Phnom Penh. This in itself may explain why the prevalence of the pill and injections is higher in rural areas: a greater proportion of

rural women want to limit their fertility (assuming that they do not want more children than women in Phnom Penh). This actually seems to be the case for injections: using injections is more popular among women with higher parities, independently of place of residence. When controlling for parity, place of residence has no effect on use of injections. The reverse is true for the pill and the IUD: place of residence, not parity, has an effect on the use of the Daily Pill and the IUD: as we noted above, wealthier rural women are more likely to use the Daily Pill, wealthier urban women the IUD. It may be also a supply effect: the daily pill is efficiently promoted in rural health centres and the more profitable IUD is promoted by up-market private health providers in Phnom Penh.

**c) Determinants of non-use: place of residence, wealth, and educational attainment**

To limit the loss of statistical power, we simplified the characteristic categories into two groups each:

- rural=1 or 0 (i.e. OR>1 means rural women are more likely to use the method)
- poorest=1 if wealth=0, else poorest=0 (OR>1 poorer women less likely to use method)
- lowedu=1 if less than grade 2, else lowedu=0 (OR>1 uneducated women less likely to use method)

**Table 10: Number of children ever born and contraceptive use (n=1,223)**

|               | Odds Ratio | Std. Err. | z     | P> z  | [95% CI] |      |
|---------------|------------|-----------|-------|-------|----------|------|
| Injections    |            |           |       |       |          |      |
| poorest       | .78        | .2007202  | -0.98 | 0.329 | .51      | 1.20 |
| rural         | 1.90       | .6150873  | 1.98  | 0.048 | 1.11     | 3.23 |
| lowedu        | .96        | .2604787  | -0.15 | 0.883 | .62      | 1.50 |
| Daily Pill    |            |           |       |       |          |      |
| poorest       | .66        | .1210527  | -2.26 | 0.024 | .49      | .89  |
| rural         | 1.90       | .4125921  | 2.94  | 0.003 | 1.33     | 2.71 |
| lowedu        | .78        | .1530222  | -1.26 | 0.207 | .57      | 1.08 |
| Monthly Pill  |            |           |       |       |          |      |
| poorest       | 1.83       | 1.019134  | 1.09  | 0.277 | .73      | 4.57 |
| rural         | .30        | .1622207  | -2.22 | 0.026 | .12      | .73  |
| lowedu        | 1.37       | .7916976  | 0.54  | 0.588 | .53      | 3.54 |
| IUD           |            |           |       |       |          |      |
| poorest       | .10        | .1052924  | -2.22 | 0.027 | .02      | .56  |
| rural         | .32        | .1360272  | -2.68 | 0.007 | .16      | .64  |
| lowedu        | .16        | .1689215  | -1.76 | 0.079 | .03      | .89  |
| Condom        |            |           |       |       |          |      |
| poorest       | .88        | .2786659  | -0.42 | 0.678 | .52      | 1.48 |
| rural         | .65        | .2015723  | -1.39 | 0.164 | .39      | 1.08 |
| lowedu        | .75        | .267838   | -0.80 | 0.426 | .42      | 1.35 |
| Sterilisation |            |           |       |       |          |      |
| poorest       | .54        | .2677188  | -1.24 | 0.215 | .24      | 1.22 |
| rural         | .90        | .4405122  | -0.21 | 0.833 | .40      | 2.01 |
| lowedu        | 1.96       | .8827038  | 1.50  | 0.133 | .94      | 4.11 |

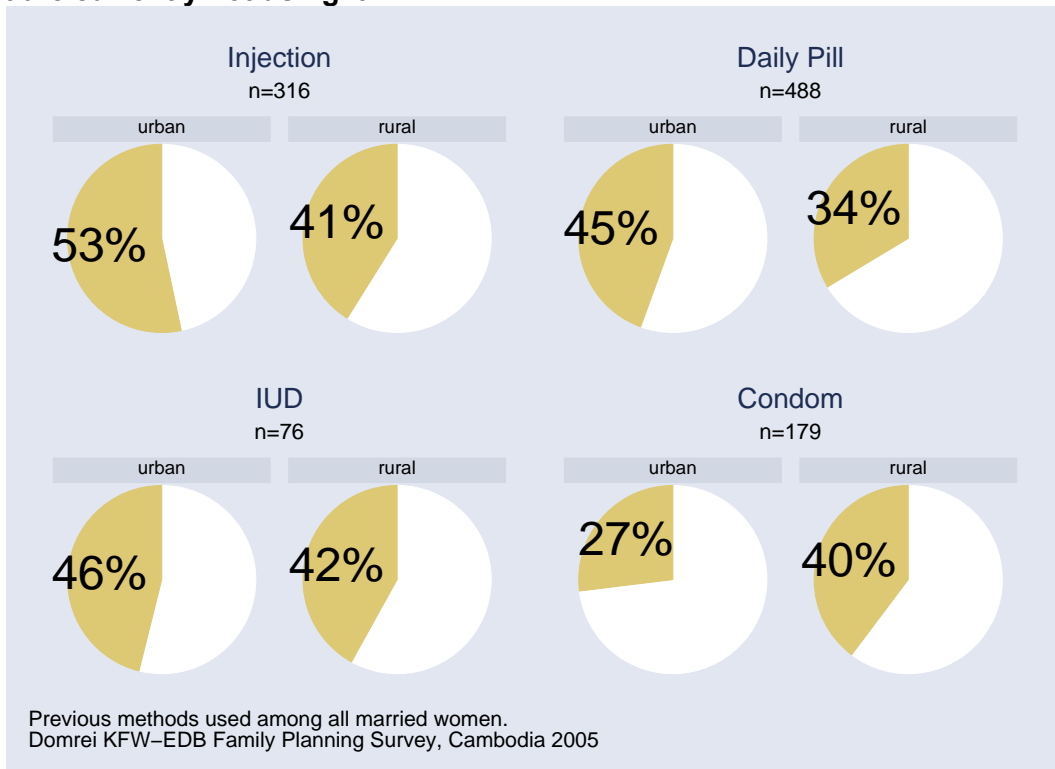
This last regression demonstrates the challenge that faces the IUD: it is the only method for which education has a positive effect on use (i.e. low education predicts non-use of IUD), controlling for place of residence AND wealth. This suggests that decreasing its cost alone will not be sufficient to increase IUD use. It also suggests that some poor rural women may not be able to afford the daily pill.

## 5. Method discontinuation

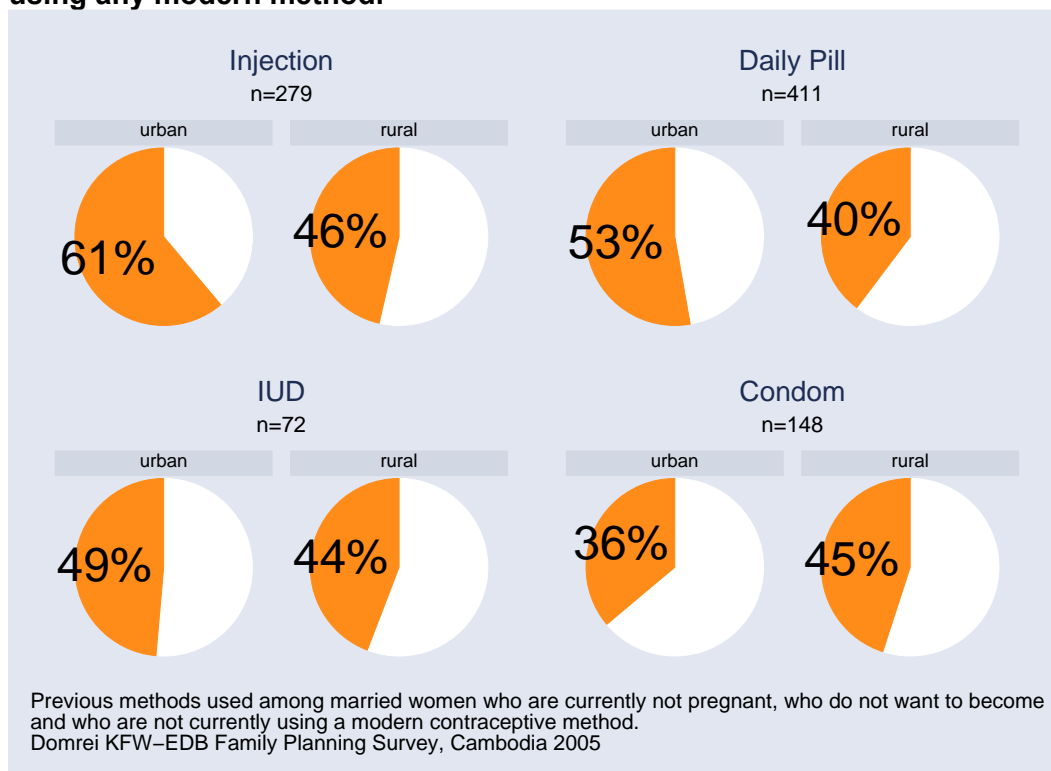
### 5.1. Discontinuation / drop out rates

Figure 35 presents, for each method, the proportion of women who have used a method in the past but who are currently not using any. This includes therefore women who are pregnant and woman who wish to become pregnant. Figure 36 presents the same statistic for women who are not pregnant and do not want to become pregnant.

**Figure 35: Proportion of married women (15-49 years) who have tried the method but are currently not using it.**



**Figure 36: Proportion of married women (15-49 years) who do not want to become pregnant, who have tried the method in the past but are not currently using any modern method.**

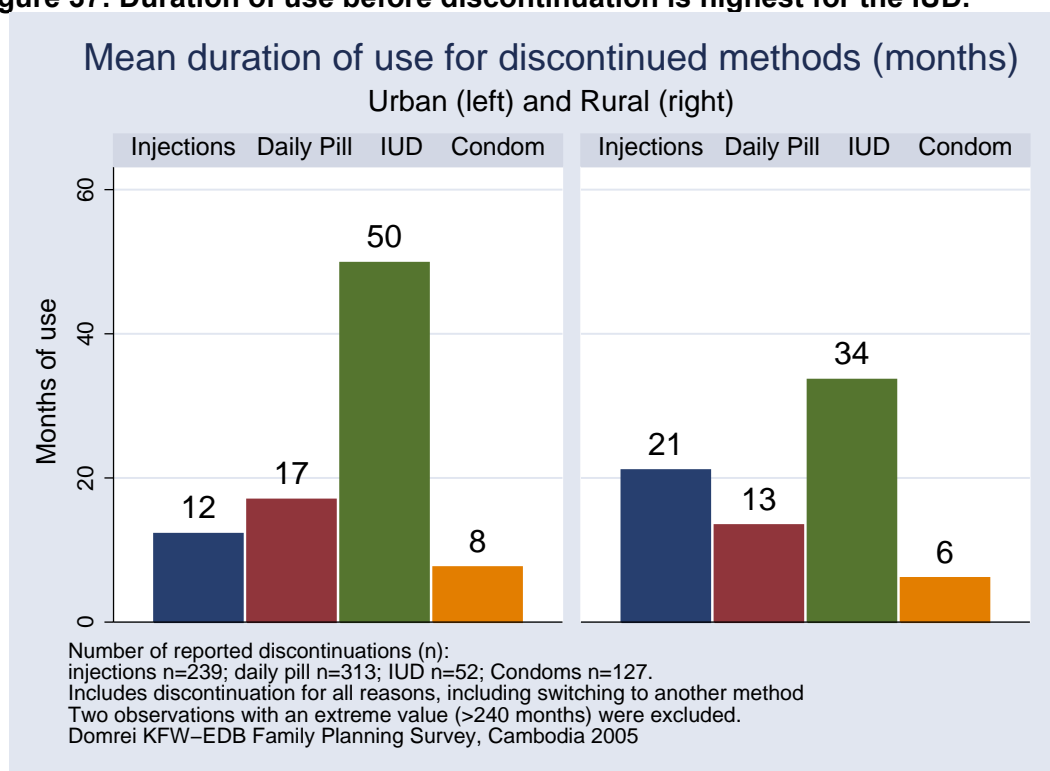


**Table 11: Distribution of respondents per number of methods tried**

| Number of methods tried                | urban      |       | rural      |       |
|--|------------|-------|------------|-------|
|  | n          | %     | n          | %     |
| 0 – none                               | 106        | 34.2  | 388        | 40.0  |
| 1 – one method                         | 81         | 26.1  | 308        | 31.5  |
| 2 – two methods                        | 80         | 25.8  | 162        | 19.6  |
| 3 – three methods                      | 36         | 11.6  | 57         | 7.5   |
| 4 – four methods                       | 6          | 1.9   | 9          | 1.2   |
| 5 – five methods                       | 1          | 0.3   | 2          | 0.2   |
| Total number of respondents            | 310        | 100.0 | 926        | 100.0 |
| <b>Average number of methods tried</b> | <b>1.2</b> |       | <b>0.9</b> |       |

Phnom Penh women try a greater number of methods than rural women. We chose not to ask the ages when these methods were tried and then abandoned, as the interview would have been too long and intrusive. This calls for a qualitative study.

**Figure 37: Duration of use before discontinuation is highest for the IUD.**



With the exception of the condom, on average, discontinuers have used the method more than one year, which is definitely long enough for post injection side effects (2/3 days) initial IUD insertion cramps/bleeding or Daily Pill first one/two cycle (max two months) side effects to settle down. IUD users drop out of the method the latest, after three (urban) or four (rural) years of use. Condom use among discontinuers is the shortest, as expected. Condoms are usually used for short periods.

With the exception of the injection, on average, rural women are quicker to drop out of a method, despite the fact they have a smaller number of alternatives to switch to than urban women do. Longer periods of use of injections in rural areas may be explained by the fact that it has been a popular method for a long time. Older women may have used it longer in the past for lack of an alternative.

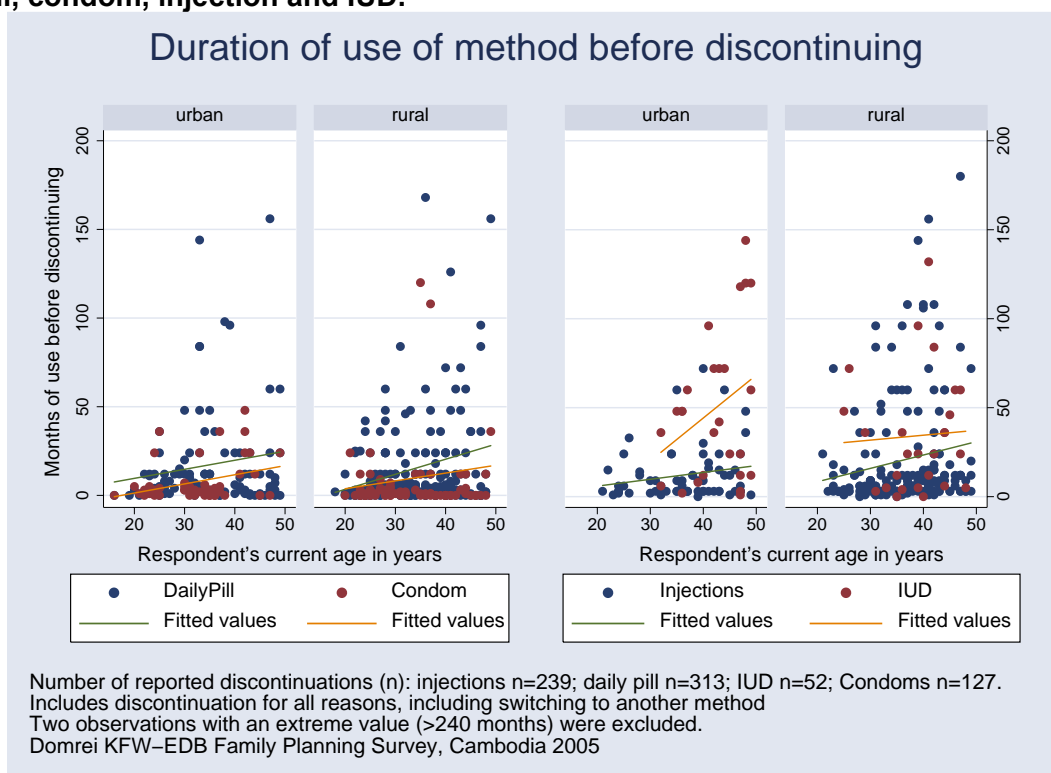
Averages conceal a variety of situations. In rural provinces, **half the discontinuers of the daily pill stopped after only three months of use, and more than a quarter stopped after just one cycle** (Table 12). This does suggest that a substantial number of women may not have tolerated the pill's side effects.

**Table 12: Mean and distribution of duration of method use in months (discontinuers only)**

|              | <b>Injection</b> | <b>Daily pill</b> | <b>Monthly pill</b> | <b>IUD</b> | <b>Condom</b> |
|--------------|------------------|-------------------|---------------------|------------|---------------|
| <b>Urban</b> |                  |                   |                     |            |               |
| count (n)    | 65               | 98                | 54                  | 26         | 50            |
| mean         | 12.0             | 17.0              | 10.0                | 50.0       | 7.6           |
| p10          | 2                | 0                 | 1                   | 3          | 0             |
| p25          | 3                | 2                 | 1                   | 12         | 0             |
| median       | 6                | 8                 | 3                   | 45         | 3             |
| p75          | 15               | 15                | 12                  | 72         | 6             |
| p90          | 30               | 48                | 36                  | 120        | 24            |
| <b>Rural</b> |                  |                   |                     |            |               |
| count (n)    | 176              | 217               | 78                  | 26         | 78            |
| mean         | 21.0             | 13.0              | 7.6                 | 34.0       | 6.1           |
| p10          | 3                | 0                 | 1                   | 3          | 0             |
| p25          | 3                | 1                 | 1                   | 5          | 0             |
| median       | 9                | 3                 | 3                   | 24         | 1             |
| p75          | 18               | 12                | 7                   | 48         | 3             |
| p90          | 60               | 36                | 24                  | 84         | 12            |

Figure 38 plots duration of use against the respondent's current age. For all methods shown, older discontinuers tend to have used the method longer. One reason is an "age effect": older women space their births for longer periods than younger women, or, for the oldest ones, do not want to have more children. As noted previously, older women tend to worry less about long term side-effects on health and fertility than younger women and may be more tolerant of minor discomfort.

**Figure 38: Duration of use before discontinuation increases with age for the daily pill, condom, injection and IUD.**



## 5.2. Method costs

Respondents who had tried a method were asked how much they paid per unit of that method (e.g. for a small package of condoms (4), for one injection, for one cycle's worth of pills, etc.).

### a) Price paid per method

IUD and sterilisation prices struck us as being too high. We thoroughly checked the data.

**Table 13: Reported unit cost for injections, daily pill, IUD and sterilisation (Riel).**

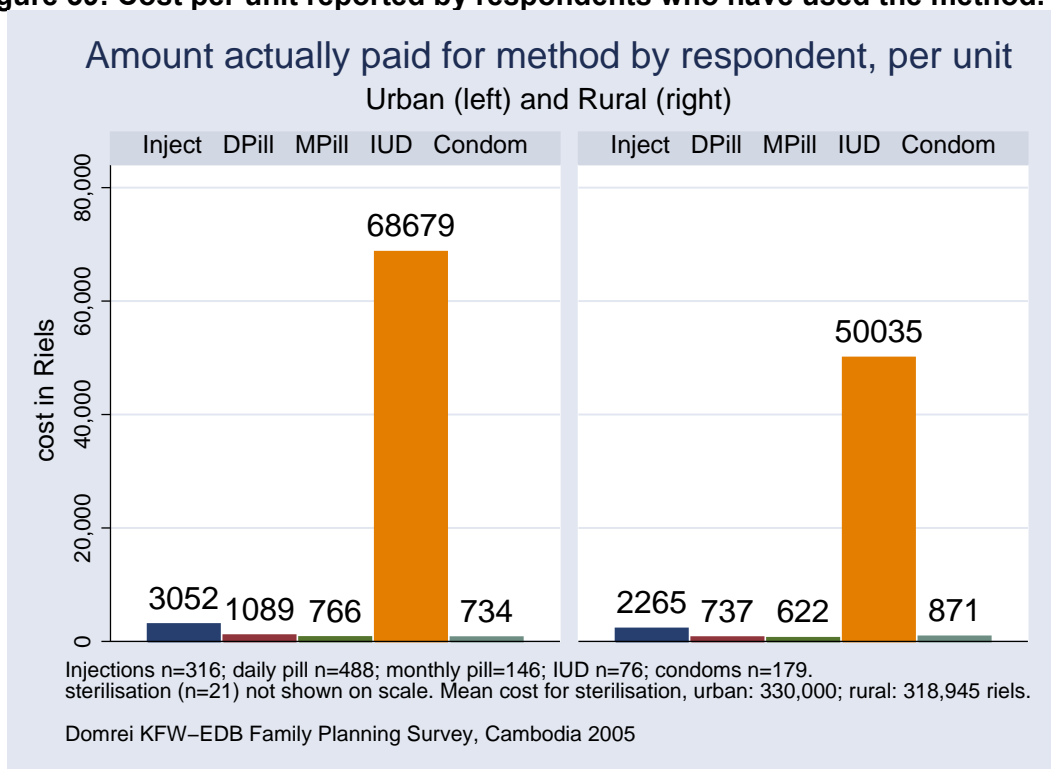
|                      | urban |       | Rural |       |
|----------------------|-------|-------|-------|-------|
|                      | n     | %     | n     | %     |
| <b>Injections</b>    |       |       |       |       |
| free                 | 6     | 7.9   | 9     | 3.8   |
| <1500                | 7     | 9.2   | 57    | 24.1  |
| 1500-2999            | 17    | 22.4  | 96    | 40.5  |
| 3000                 | 24    | 31.6  | 44    | 18.6  |
| over 3000            | 22    | 29.0  | 31    | 13.1  |
| Total                | 76    | 100.0 | 237   | 100.0 |
| <b>Daily pill</b>    |       |       |       |       |
| free                 | 6     | 4.8   | 4     | 1.1   |
| <1500                | 5     | 4.0   | 30    | 8.4   |
| 1500-2999            | 53    | 42.1  | 234   | 65.2  |
| 3000                 | 44    | 34.9  | 62    | 17.3  |
| over 3000            | 18    | 14.3  | 29    | 8.1   |
| Total                | 126   | 100   | 359   | 100   |
| <b>IUD</b>           |       |       |       |       |
| free                 | 6     | 15.8  | 3     | 8.1   |
| <=5000               | 2     | 5.3   | 7     | 18.9  |
| 7500-15000           | 3     | 7.9   | 4     | 10.8  |
| over 15000           | 27    | 71.1  | 23    | 62.2  |
| Total                | 38    | 100.0 | 37    | 100.0 |
| <b>Sterilisation</b> |       |       |       |       |
| free                 | 1     | 16.7  | 3     | 20.0  |
| 10000-99000          | 0     | 0.0   | 2     | 13.3  |
| 100000-300000        | 2     | 33.3  | 6     | 40.0  |
| over 300000          | 3     | 50.0  | 4     | 26.7  |
| Total                | 6     | 100.0 | 15    | 100.0 |

Sterilisation is supposedly free for government services and the IUD costs should be no more than 20,000 – 25,000 riels per unit and a lot less from subsidised supply. The costs of these two methods are too high even if our respondents included transportation costs and consultation fees.

As most IUD clients are wealthy and in Phnom Penh (see above) and as their suppliers are mostly private, we may assume that the IUD is indeed over-priced, or that the associated consultation/insertion fees are over-charged. This would easily explain the general perception that with sterilisation, the IUD is too expensive for most women.



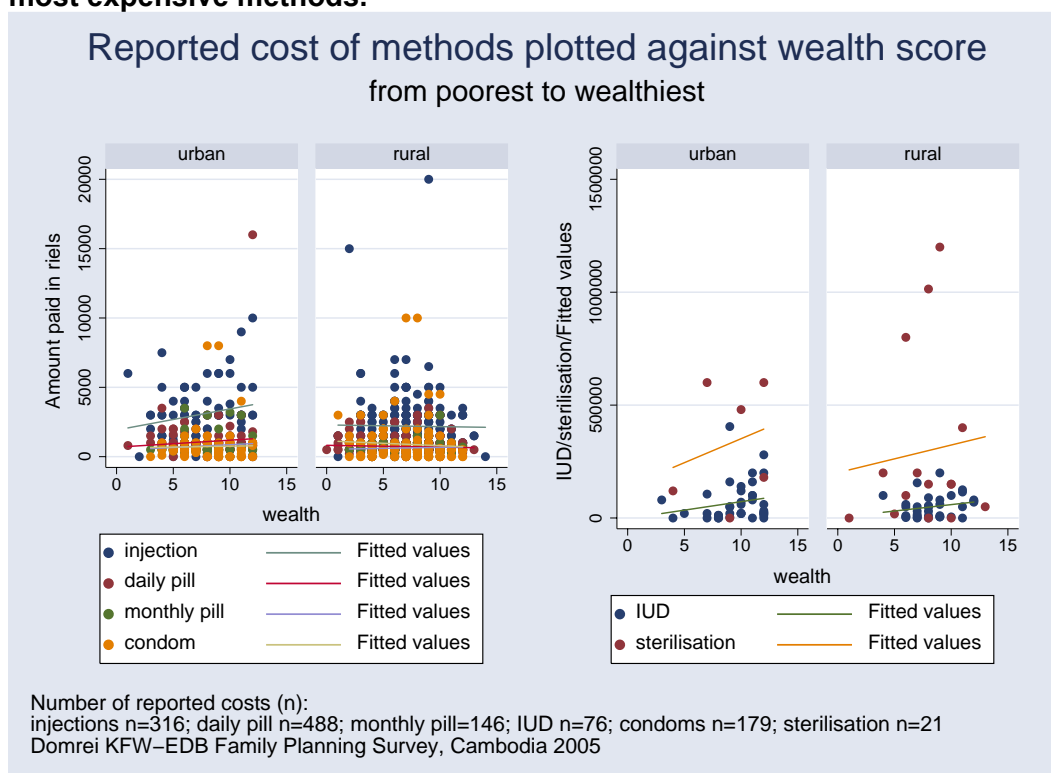
**Figure 39: Cost per unit reported by respondents who have used the method.**



**b) Price paid per method, according to wealth**

An indication that the ludicrous market price of the IUD is pushed up by the private sector in Phnom Penh is that the price paid increases with the women’s wealth. This is also the case for the other expensive method, sterilisation. The relation between price paid and wealth is much weaker for non-permanent methods in Phnom Penh and non-existent in the provinces, where wealthy women pay the same price as poorer women (Figure 40).

**Figure 40: Reported method price is related to respondent wealth only for the most expensive methods.**

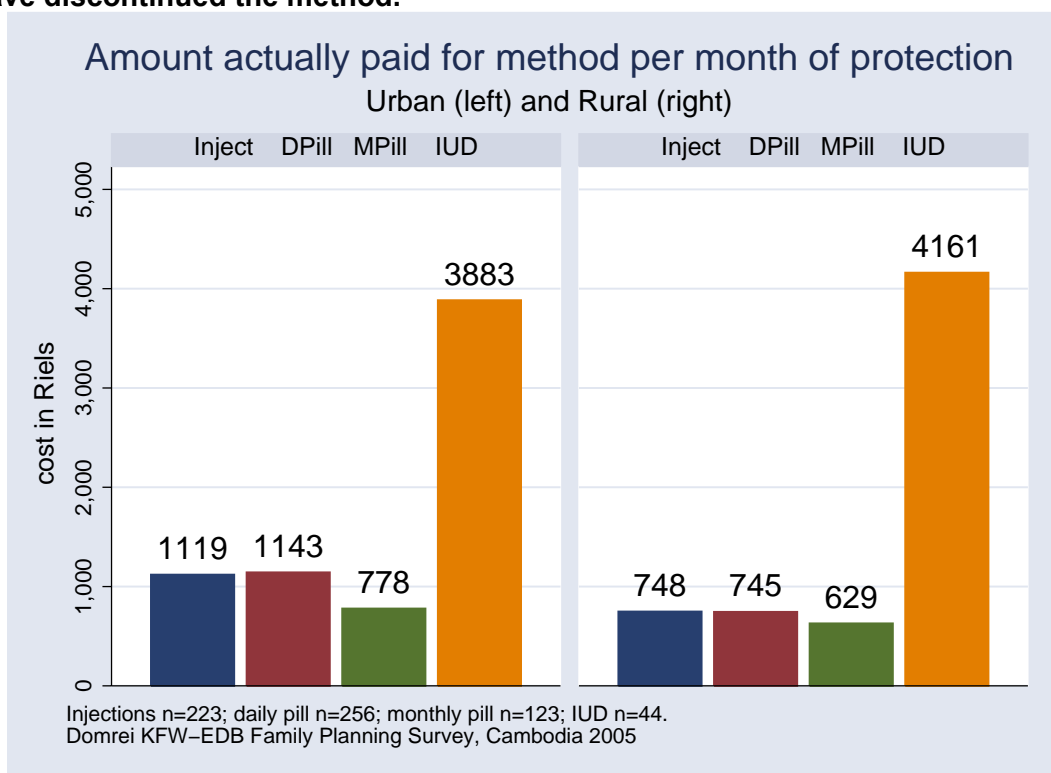


### c) Cost of method per month of protection

The advantage of the IUD is that there are no additional costs once it is inserted (unless complications occur). In Figure 41, we divide the average price paid for the IUD by the average duration of its use. We divided the price of injections by three, as one shot protects for three months. Unit prices are presented for daily and monthly pills<sup>6</sup>. We did not make any assumptions on the average number of condoms required for one month of protection.

<sup>6</sup> Figure 41 only includes discontinuers whereas Figure 39 also includes current users, which is why the costs of the daily and monthly pills are slightly different in the two figures.

**Figure 41: Reported cost per month of protection reported by respondents who have discontinued the method.**



Given its exorbitant current price, and despite the fact that the average duration of use among discontinuers exceeds four years in Phnom Penh and three years in the provinces (Table 12 page 53), the IUD remains the most expensive non-permanent method per month of protection. In Phnom Penh, the IUD is three to five times more expensive than the three other leading temporary methods (condom excluded). In the three provinces, the IUD is five to seven times more expensive than the three other methods.

It appears that Cambodian women are making a rational choice by not using the IUD – and avoiding sterilisation. Clearly, an investigation is required to understand how the IUD and sterilisation have become so expensive in Cambodia.

**There is no point in promoting a method if pricing is so much out of control.**

## Recommendations and conclusion

The daily pill is the new and exciting contraception method in Cambodia and seems to be overtaking the historical dominance of the DMPA and to a lesser extent the IUD.

Many Khmer women report trying different methods of contraception but discontinuation is high. Method discontinuation is a complex phenomenon. From the survey, we can see that:

- Method awareness and geographical access to a source of supply are not reported as reasons for discontinuation.
- On average women try methods of contraception for quite a long time before discontinuing (<1 year for all methods except male condom).
- Women report that the decision to stop using a method of contraception is a personal one and they report that they are generally not influenced by others to stop using a method.
- Side effects are the main reason women report discontinuing a method of contraception.
- Women report that high cost is a major disincentive to trying the IUD
- Supply (awareness, accessibility, cost) is not an obstacle for the daily pill or the condom; cost is an issue for the IUD and for sterilisation. Perceptions of cost are based on actual outlay, not on any calculus of cost/protection time.
- Demand is low because of side effects. The notion that methods have side effect is deeply entrenched and confirmed by respondents that have tried the method.

This may also be related to poor contraception services and counselling and/or lack of symptomatic relief for side effects.

- 1) High discontinuation rates are explained by side effects, inadequate information and poor follow-up by health staff.
- 2) Discontinuation is a personal decision and does not appear to be influenced by others.
- 3) Trying a method and thus demand appears to be heavily influenced by health staff and to a lesser extent by spouses, friends, family and neighbours.
- 4) Brand awareness is low.
- 5) Our data does not provide any evidence that the poorest women do not have access to the daily pill or the condom.
- 6) Reported IUD and sterilisation prices make these methods too expensive for most women. This result needs to be further investigated to understand this potential barrier to IUD use.

- 7) If fertility is decreasing without a significant increase in contraceptive use then rates of abortion may be increasing.

Policy recommendation: support informed choice

- **Increase demand for the pill and IUD by informing on “real side effects” and disproving rumours.** Base promotional messages on Cambodian women’s worldview.
- **Train health workers in informed choice** (daily pill, IUD, condom, injections, sterilisation) and improve their counselling skills.
- **Offer a greater choice of contraceptive methods in health centres** to enable women to switch methods if they experience side effects.
- **Increase the demand for the IUD by demonstrating its superior time protection/cost ratio.** As the IUD is less known, rumours about supposed side effects should be easier to dispel.
- **Increase the affordability of the IUD and sterilisation.** Current pricing places these methods out of the reach of most Khmer women.
- **Promote each method by informing about its benefits and explaining its effects on health.** Avoid promoting brands per se. Side effects are associated with a method, not a brand. Promoting brands will make it more difficult to send clear messages about “rational” choice of method. It is not sustainable to squeeze the private sector out by subsidising the promotion of public sector brands.

## ANNEXE 1: Sample methodology

### 1. Sample size requirements

The number of respondents who have heard of each modern contraceptive method needed be large enough so that significant differences in perceptions and determinants could be measured at a reasonable precision (i.e. with a standard error smaller than 10%). Sample size was computed so that the standard error (SE) of an estimated proportion is less than 0.10 for disaggregated statistics, and less than .05 for aggregated statistics in each stratum, where

$$SE = \sqrt{\frac{Dp(1-p)}{n}}$$

D is the design effect, set at 2

n is the number of married women to be sampled in a given domain

p is the assumed proportion of the domain, set at 30% for the sake of the simulation.

We assumed we would have a sample of households in which we interviewed all married women of reproductive age (15-49 years). For each method, what proportion of these women will have

- enough knowledge of the method to say why they would or would not use it (P<sub>1</sub>);
- ever used it to relate their first hand experience (P<sub>2</sub>);
- used a modern method but discontinued (P<sub>2</sub>-CPR)

Table 14 provides estimates of the number of women who would know each method, have ever used each method, and who would have discontinued each method from a sample of 1200 married women of reproductive age, using the CDHS prevalence rates.

**Table 14: Proportion (P) and number (n) of married women of reproductive age who know, have ever used, are currently using and who discontinued using a modern contraception method, based on a theoretical sample of N=1,200 married women and CDHS prevalence rates**

| Method                     | Know method    | Ever used method | currently using method | Discontinued method | Know but never used |                |  |                |
|----------------------------|----------------|------------------|------------------------|---------------------|---------------------|----------------|--|----------------|
| Method                     | P <sub>1</sub> | n <sub>1</sub>   | P <sub>2</sub>         | n <sub>2</sub>      | CPR                 | n <sub>3</sub> | n <sub>4</sub> =n <sub>2</sub> -n <sub>3</sub> | n <sub>5</sub> |
| Monthly Pill               | 76.5%          | 918              | 5.9%                   | 71                  | 2.7%                | 32             | 38   | 847            |
| Daily Pill                 | 89.7%          | 1076             | 10.5%                  | 126                 | 4.5%                | 54             | 72   | 950            |
| IUD                        | 83.3%          | 1000             | 3.3%                   | 40                  | 1.3%                | 16             | 24   | 960            |
| Injectable                 | 89.7%          | 1076             | 15.4%                  | 185                 | 7.4%                | 89             | 96   | 892            |
| Condom                     | 79.3%          | 952              | 1.8%                   | 22                  | 0.9%                | 11             | 11   | 930            |
| Any modern method          | 95.0%          | 1140             | 32.0%                  | 384                 | 18.5%               | 222            | 162  | 930            |
| Never used a modern method |                |                  | 68.0%                  | 816                 | -                   | -              | -  | -              |
| Total                      |                |                  | 100.0%                 | 1200                |                     |                |  |                |

Table 15 and Table 16 show the standard errors of the estimates for an urban sample of 400 and a rural sample of 800 married women of reproductive age. These two sample sizes are large enough to provide aggregated estimates with  $SE < 0.05$  (Table 15), and disaggregated estimates with  $SE < 0.075$  (Table 16) for any value of  $p$ . The statistics  $p$  can be, for example, the proportion of women who believe that the IUD shrivels the womb. Standard errors for all estimates of the proportion  $p$  of women who have heard of the *Diamond lady* brand among women who know about condoms (79.3%) are also at  $SE < 0.05$  (data not shown).

**Table 15: Sample sizes in urban and rural strata assuming P1 for IUD knowledge**

|                             | Urban  | Rural  | Total  |
|-----------------------------|--------|--------|--------|
| N                           | 400    | 800    | 1200   |
| IUD knowledge ( $P_1$ )     | 84.1%  | 82.9%  | 83.3%  |
| $n_1$ (women who know IUDs) | 337    | 663    | 1000   |
| $p$                         | 30.0%  | 30.0%  | 30.0%  |
| SE                          | 0.0353 | 0.0252 | 0.0205 |

NB. IUD knowledge is expected to be slightly higher in urban stratum than in rural stratum

**Table 16: Sample sizes in urban and rural strata assuming P1 for IUD knowledge, with estimates disaggregated into three groups of approximately equal size\***

|                             | Urban  | Rural  | Total  |
|-----------------------------|--------|--------|--------|
| N/3                         | 133    | 267    | 400    |
| IUD knowledge ( $P_1$ )     | 84.1%  | 82.9%  | 83.3%  |
| $n_1$ (women who know IUDs) | 112    | 221    | 333    |
| $p$                         | 30.0%  | 30.0%  | 30.0%  |
| SE                          | 0.0612 | 0.0436 | 0.0355 |

\*E.g. into three age groups of approximately equal sizes (15-24, 25-34 and 35-49).

Table 17 shows that first hand reasons for discontinuing any modern method can be estimated at  $SE < 0.1$ , but only if all modern methods are combined. Estimates concerning first hand experience of IUDs at  $SE < 0.1$  if both urban and rural samples are combined (this will require the use of weights to compensate for the over-sampling of the urban populations)

**Table 17: Sample sizes in urban and rural strata assuming a drop out rate of 13.5% for all four methods combined\***

|   | Urban  | Rural  | Total  |
|---|--------|--------|--------|
| Discontinuation rate for all modern methods ( $P_2$ -CPR) | 13.5%  | 13.5%  | 13.5%  |
| $n$ (drop outs)   | 54     | 108    | 162    |
| $p$   | 30.0%  | 30.0%  | 30.0%  |
| SE  | 0.0882 | 0.0624 | 0.0509 |

Therefore, a rural sample of 800 married women of reproductive age ( $N_r=800$ ) and an urban sample of 400 married women of reproductive age ( $N_u=400$ ) was deemed sufficient to estimate aggregated statistics at  $SE < 0.05$  and disaggregated statistics at  $SE < 0.75$ , with the exception of statistics on first hand experience per method. The latter would have required a sample of over 2,400 married women, which was not possible within the survey budget.

## 2. Selection of the rural sample

For the rural sample ( $N_r=800$ ) a three stage design was implemented.

**1<sup>st</sup> stage: selection of districts in the three target provinces.**

We randomly selected three districts in each of the three provinces of Kandal, Battambang and Takeo using probability proportional to size (PPS) sampling.

**2<sup>nd</sup> stage: selection of villages.**

We randomly selected five villages in each of the selected districts using probability proportional to size (PPS) sampling.

**3<sup>rd</sup> stage: selection of household.**

Interviewers selected 20 households in each village using the EPI random walk method. Sampling interval is computed by dividing the number of households in the village by the required number of households (20).

**3. Selection of the urban sample**

For the urban sample ( $N_u=400$ ) a three stage design was implemented.

**1<sup>st</sup> stage: selection of districts (Khans) in Phnom Penh.**

We randomly selected three districts in Phnom Penh using probability proportional to size (PPS) sampling.

**2<sup>nd</sup> stage: selection of villages.**

We randomly selected five villages in each of the selected districts using probability proportional to size (PPS) sampling.

**3<sup>rd</sup> stage: selection of households.**

Interviewers selected 20 households using the EPI random walk method. Sampling interval is computed by dividing the number of households in selected villages by the required number of households (20).



**ANNEXE 2: Questionnaire**  
**KfW/EDB – Family Planning Study 2004**



**CONFIDENTIAL**

RESPONDENT'S NAME SHOULD NOT BE WRITTEN ON THE QUESTIONNAIRE

|  |                         |             |                         |          |          |            |
|--|-------------------------|-------------|-------------------------|----------|----------|------------|
| Province: _____  |                         |             |                         |          |          | □ □        |
| District: _____  |                         |             |                         |          |          | □ □        |
| Commune : _____  |                         |             |                         |          |          | □ □        |
| Village/Cluster: _____   |                         |             |                         |          |          | □ □        |
| Urban (1) Rural (2)  |                         |             |                         |          |          | □          |
| Wealth Ranking – Poorest (0) Medium (1) Better-off (2)                         |                         |             |                         |          |          | □          |
| House Type – Check your own observation  |                         |             |                         |          |          | □          |
| Palm/thatch (0) Wood/palm (1) Wood/tin (2) Wood/tile (3) Brick or concrete (4) |                         |             |                         |          |          |            |
|  | 1 <sup>st</sup> attempt | Appointment | 2 <sup>nd</sup> attempt | RESULT   |          |            |
| Date   | / / 04                  | / / 04      | / / 04                  |          |          |            |
| Time   |                         |             |                         |          |          |            |
| Location   |                         |             |                         |          |          |            |
| Interviewer  | □ □                     | □ □         | □ □                     | □        |          |            |
| <b>Result Codes</b>  |                         |             |                         |          |          |            |
| Completed  |                         |             |                         |          |          | 1          |
| Incomplete-respondent termination  |                         |             |                         |          |          | 2          |
| Incomplete-third party interruption  |                         |             |                         |          |          | 3          |
| Respondent refusal   |                         |             |                         |          |          | 4          |
| Parent/guardian/spouse refusal   |                         |             |                         |          |          | 5          |
| Respondent absent at 2 <sup>nd</sup> appointment                               |                         |             |                         |          |          | 6          |
|  | Interviewer             | Editor      | Supervisor              | Encoder1 | Encoder2 | Archived   |
| ID code  | □ □                     | □ □         | □ □                     | □ □      | □ □      | Box: □ □ □ |
| Date   | / / 04                  | / / 04      | / / 04                  | / / 04   | / / 04   | / / 04     |
| Signature  |                         |             |                         |          |          |            |

## Married Women's Questionnaire

### Introduction:

Hello I am (use your name) ..... working with Domrei Research. Now Domrei is working for the Ministry of Health to interview married women in this village. We want to ask some questions about birth and contraception. Please don't be scared or worried because this is only about the health of women. Everything you say will be kept quietly (confidential). We won't let anybody in the village or your family know what you say. I will not write down your name.

But I want to tell you that your answers are important to help the Ministry of Health to plan contraception services. You can refuse to answer any question that you don't want to answer or you can stop to discuss the questions at any time. I want to thank you and say I hope this interview will only take 30 minutes.

I want to remind you that all your answers are very important. There are no wrong answers. Therefore, I want to ask you to answer truthfully. This will allow my team to give true information to the Ministry to plan contraception services for woman around the country.

**Do you have any questions for me?**

**Can I start asking the questions now?**

| Section1: Respondent's background |   | Code   |
|-----------------------------------|---|--|
| 1                                 | How old are you?  | Age in years <input type="text"/> <input type="text"/>   |
| 2                                 | What grade have you studied?<br><i>If no formal schooling code '00'</i>   | Grade <input type="text"/> <input type="text"/><br>Tertiary 13   |
| 3                                 | How many people slept here last night, including you?   | Number <input type="text"/> <input type="text"/>   |
| 4                                 | What assets does your family own?<br><i>Prompt by reading the list</i><br><i>Multiple answers possible – circle all answers given</i><br><i>Check your own observation as well</i>                            | No assets 00<br>Radio 01<br>Television 02<br>Bicycle 03<br>Refrigerator 04<br>Motorcycle 05<br>Ox cart 06<br>Boat 07<br>Car/Koyun 08 |
| 5                                 | What farm animals does your family own?<br><i>Prompt by reading the list</i><br><i>Multiple answers possible – circle all answers given</i><br><i>Check that they don't mind the animals for someone else</i> | No animals 00<br>Chicken/ducks 01<br>Pig 02<br>Goat 03<br>Cow 04<br>Horse 05<br>Buffalo 06   |
| 6                                 | How many bathrooms/toilets does your household have?  | No bathroom/field 00<br>Share with other family 01<br>One bathroom 02<br>Two or more 03  |

I want to ask you what you think about different methods of contraception. Don't worry if you're not sure of the answers, we are interested in your opinion

**Section 2: Injections – Woman can have an injection that prevents them from becoming pregnant for several months.**

|                     |  |                           |                           |
|---------------------|--|---------------------------|---------------------------|
| 7                   | Have you ever heard of the injection?  | No (skip to 23)           | 00                        |
|                     |  | Yes                       | 01                        |
| 8                   | Do you know where to get the injection?  | No                        | 00                        |
|                     |  | Yes                       | 01                        |
| 9                   | What do you think about the cost of the injection?<br><i>Prompt by reading the list</i>                                    | Cheap                     | 00                        |
|                     |  | Affordable                | 01                        |
|                     |  | Expensive                 | 02                        |
| 10                  | If you want the injection, is it easy, difficult or impossible for you to find?<br><i>Prompt by reading the list</i>       | Easy                      | 00                        |
|                     |  | Difficult                 | 01                        |
|                     |  | Impossible                | 02                        |
| 11                  | If you can find the injection, is it easy, difficult or impossible for you to use it?<br><i>Prompt by reading the list</i> | Easy                      | 00                        |
|                     |  | Difficult                 | 01                        |
|                     |  | Impossible                | 02                        |
| 12                  | What side effects can the injection have?<br><i>Multiple answers are possible – circle all answers given</i>               | <i>None</i>               | No side effects 00        |
|                     |  | <i>Uterus/vagina</i>      | Burned uterus 01          |
|                     |  |                           | Wither uterus 02          |
|                     |  |                           | Swollen uterus 03         |
|                     |  |                           | Vaginal discharge 04      |
|                     |  | <i>Blood</i>              | Amenorrhoea 05            |
|                     |  |                           | Spotting 06               |
|                     |  |                           | Heavy bleeding 07         |
|                     |  | <i>Sex/Pregnancy</i>      | Loss of desire 08         |
|                     |  |                           | Difficult get pregnant 09 |
|                     |  |                           | Infertile/sterile 10      |
|                     |  | <i>Eating/weight</i>      | Weight loss 11            |
| Weight gain 12      |  |                           |                           |
| Poor appetite 13    |  |                           |                           |
| Nausea/vomiting 14  |  |                           |                           |
| <i>General body</i> | Tired 15   |                           |                           |
|                     | Tension in arms/legs 16  |                           |                           |
|                     | Heat/dry body 17   |                           |                           |
|                     | Pain 18  |                           |                           |
|                     | Move in body 19  |                           |                           |
| <i>Skin</i>         | Pale skin 20   |                           |                           |
|                     | Skin rash 21   |                           |                           |
|                     | Dry/Darker skin 22   |                           |                           |
|                     | Bruise/cloasma 23  |                           |                           |
| <i>Severe</i>       | Cancer 24  |                           |                           |
|                     | Lump in stomach 25   |                           |                           |
| <i>Other</i>        | Other..... 26  |                           |                           |
| <i>Don't know</i>   | Don't know 99  |                           |                           |
| 13                  | In your opinion, what is the main reason that women don't like using the injection?  | High cost 00              |                           |
|                     |  | Difficult to access 01    |                           |
|                     |  | Side effects 02           |                           |
|                     |  | Difficult get pregnant 03 |                           |
|                     |  | Painful 04                |                           |
|                     |  | Easy to forget 05         |                           |
|                     |  | May become infertile 06   |                           |
|                     |  | Stigma 07                 |                           |
|                     |  | Other..... 08             |                           |

|            |  |                           |                      |
|------------|--|---------------------------|----------------------|
| 14         | What is the most important thing that could encourage more women to use the injection for contraception? | Provide free              | 00                   |
|            |  | Lower cost                | 01                   |
|            |  | Improve access            | 02                   |
|            |  | Advertising               | 03                   |
|            |  | Inform benefits           | 04                   |
|            |  | Inform side effects       | 05                   |
|            |  | Other.....                | 06                   |
| 15         | Have you ever tried the injection?   | No ( <b>skip to 23</b> )  | 00                   |
|            |  | Yes                       | 01                   |
| 16         | What was the main reason you tried the injection over another method?                                    | Easier to use             | 00                   |
|            |  | Cheaper                   | 01                   |
|            |  | Easier to find            | 02                   |
|            |  | More effective            | 03                   |
|            |  | Was recommended           | 04                   |
|            |  | Fewer side effects        | 05                   |
|            |  | Don't know other          | 06                   |
|            |  | 'right' for my body       | 07                   |
| Other..... | 08   |                           |                      |
| 17         | Which one person influenced you to try the injection?  | No one/myself             | 00                   |
|            |  | Husband                   | 01                   |
|            |  | Parent/In-law             | 02                   |
|            |  | Sibling                   | 03                   |
|            |  | Friend                    | 04                   |
|            |  | Neighbour                 | 05                   |
|            |  | Doctor/Health staff       | 06                   |
|            |  | Media                     | 07                   |
|            |  | Other .....               | 08                   |
| 18         | How much did you pay for the injection?<br><br><i>Write the answer in Reil</i>                           | <input type="text"/>      |                      |
|            |  |                           |                      |
| 19         | Currently, are you still using the injection?  | No                        | 00                   |
|            |  | Yes ( <b>skip to 23</b> ) | 01                   |
| 20         | How long did you try the injection for?<br><br><i>If less than one month code '000'</i>                  | Months                    | <input type="text"/> |
|            |  |                           |                      |
| 21         | What is the main reason you stopped using the injection?   | Wanted children           | 00                   |
|            |  | Lost sexual desire        | 01                   |
|            |  | Can't afford              | 02                   |
|            |  | Can't access              | 03                   |
|            |  | Side effects              | 04                   |
|            |  | Infertile                 | 05                   |
|            |  | Hard to get pregnant      | 06                   |
|            |  | Lost partner              | 07                   |
|            |  | Menopause                 | 08                   |
|            |  | Other.....                | 09                   |
| 22         | Which one person influenced you to stop using the injection?   | No one/myself             | 00                   |
|            |  | Husband                   | 01                   |
|            |  | Parent/In-law             | 02                   |
|            |  | Sibling                   | 03                   |
|            |  | Friend                    | 04                   |
|            |  | Neighbour                 | 05                   |
|            |  | Doctor/Health staff       | 06                   |
|            |  | Media                     | 07                   |
|            |  | Other .....               | 08                   |

**Section 3: Daily Pill - Woman can swallow a pill every day to avoid getting pregnant.**

|                     |   |   |  |
|---------------------|---|---|--|
| <b>23</b>           | Have you ever heard of the daily pill?  | No ( <b>skip to 44</b> )<br>Yes   | 00<br>01   |
| <b>24</b>           | Do you know where to get the daily pill?  | No<br>Yes   | 00<br>01   |
| <b>25</b>           | What do you think about the cost of the daily pill?<br><i>Prompt by reading the list</i>                                    | Cheap<br>Affordable<br>Expensive  | 00<br>01<br>02                                     |
| <b>26</b>           | If you want the daily pill, is it easy, difficult or impossible for you to find it?<br><i>Prompt by reading the list</i>    | Easy<br>Difficult<br>Impossible   | 00<br>01<br>02                                     |
| <b>27</b>           | If you can find the daily pill, Is it easy, difficult or impossible for you to use it?<br><i>Prompt by reading the list</i> | Easy<br>Difficult<br>Impossible   | 00<br>01<br>02                                     |
| <b>28</b>           | What side effects can the daily pill have?<br><i>Multiple answers are possible – circle all answers given</i>               | <i>None</i>   | No side effects 00                                 |
|                     |   | <i>Uterus/vagina</i>  | Burned uterus 01                                   |
|                     |   |   | Wither uterus 02                                   |
|                     |   |   | Swollen uterus 03                                  |
|                     |   |   | Vaginal discharge 04                               |
|                     |   | <i>Blood</i>  | Amenorrhoea 05                                     |
|                     |   |   | Spotting 06  |
|                     |   |   | Heavy bleeding 07                                  |
|                     |   | <i>Sex/Pregnancy</i>  | Loss of desire 08                                  |
|                     |   |   | Difficult get pregnant 09                          |
|                     |   |   | Infertile/sterile 10                               |
|                     |   | <i>Eating/weight</i>  | Weight loss 11                                     |
|                     |   |   | Weight gain 12                                     |
| Poor appetite 13    |   |   |  |
| Nausea/vomiting 14  |   |   |  |
| <i>General body</i> | Tired 15  |   |  |
|                     | Tension in arms/legs 16   |   |  |
|                     | Heat/dry body 17  |   |  |
|                     | Pain 18   |   |  |
|                     | Move in body 19   |   |  |
| <i>Skin</i>         | Pale skin 20  |   |  |
|                     | Skin rash 21  |   |  |
|                     | Dry/Darker skin 22  |   |  |
|                     | Bruise/cloasma 23   |   |  |
| <i>Severe</i>       | Cancer 24   |   |  |
|                     | Lump in stomach 25  |   |  |
| <i>Other</i>        | Other..... 26   |   |  |
| <i>Don't know</i>   | Don't know 99   |   |  |
| <b>29</b>           | In your opinion, what is the main reason that women don't like using the daily pill?  | High cost<br>Difficult to access<br>Side effects<br>Difficult get pregnant<br>Painful<br>Easy to forget<br>May become infertile<br>Stigma<br>Other..... | 00<br>01<br>02<br>03<br>04<br>05<br>06<br>07<br>08 |

|    |  |  |
|----|--|--|
| 30 | What do you think is the most important thing that could encourage more women to use the daily pill for contraception? | Provide free 00<br>Lower cost 01<br>Improve access 02<br>Advertising 03<br>Inform benefits 04<br>Inform side effects 05<br>Other..... 06                               |
| 31 | What brands of daily pill have you heard of?<br><br><i>If the respondent knows only one brand, skip to Q36</i>         | Diamond Lady 00<br>OK 01<br>Diane 35 (Thai) 02<br>Adepal 03<br>Chinese daily pill 04<br>POP 05<br>Cyclo progynova 06<br>Other..... 07<br>None ( <b>skip to 36</b> ) 99 |
| 32 | Which brand of daily pill is the most effective?   | Diamond Lady 00<br>OK 01<br>Diane 35 (Thai) 02<br>Adepal 03<br>Chinese daily pill 04<br>POP 05<br>Cyclo progynova 06<br>Other..... 07<br>Don't know 99                 |
| 33 | Which brand of daily pill is the cheapest?   | Diamond Lady 00<br>OK 01<br>Diane 35 (Thai) 02<br>Adepal 03<br>Chinese daily pill 04<br>POP 05<br>Cyclo progynova 06<br>Other..... 07<br>Don't know 99                 |
| 34 | Which brand of daily pill is the easiest for you to find?  | Diamond Lady 00<br>OK 01<br>Diane 35 (Thai) 02<br>Adepal 03<br>Chinese daily pill 04<br>POP 05<br>Cyclo progynova 06<br>Other..... 07<br>Don't know 99                 |
| 35 | Which brand of daily pill has the most side effects?   | Diamond Lady 00<br>OK 01<br>Diane 35 (Thai) 02<br>Adepal 03<br>Chinese daily pill 04<br>POP 05<br>Cyclo progynova 06<br>Other..... 07<br>Don't know 99                 |
| 36 | Have you ever tried the daily pill?  | No ( <b>skip to 44</b> ) 00<br>Yes 01  |

|   |  |   |
|---|--|---|
| 37  | What was the main reason you tried the daily pill over another method?                         | Easier to use 00<br>Cheaper 01<br>Easier to find 02<br>More effective 03<br>Was recommended 04<br>Fewer side effects 05<br>Don't know other 06<br>'right' for my body 07<br>Other..... 08           |
| 38  | Which one person influenced you to try the daily pill?   | No one/myself 00<br>Husband 01<br>Parent/In-law 02<br>Sibling 03<br>Friend 04<br>Neighbour 05<br>Doctor/Health staff 06<br>Media 07<br>Other ..... 08   |
| 39  | How much did you pay for one packet of the daily pill?<br><br><i>Write the answer in Reil</i>  | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>   |
| 40  | Currently, are you still using the daily pill?   | No 00<br>Yes ( <b>skip to 44</b> ) 01   |
| 41  | How long did you try the daily pill for?<br><br><i>If less than one month code '000'</i>       | Months <input type="text"/> <input type="text"/> <input type="text"/>   |
| 42  | What is the main reason you stopped using the daily pill?                                      | Wanted children 00<br>Lost sexual desire 01<br>Can't afford 02<br>Can't access 03<br>Side effects 04<br>Infertile 05<br>Hard to get pregnant 06<br>Lost partner 07<br>Menopause 08<br>Other..... 09 |
| 43  | Who influenced you the most to stop using the daily pill?                                      | No one/myself 00<br>Husband 01<br>Parent/In laws 02<br>Sibling 03<br>Friend 04<br>Neighbour 05<br>Doctor/Health staff 06<br>Media 07<br>Other ..... 08  |
| <b>Section 4: Monthly Pill - Woman can take a pill every month to avoid getting pregnant.</b> |  |   |
| 44  | Have you ever heard of the monthly pill?   | No ( <b>skip to 59</b> ) 00<br>Yes 01   |
| 45  | Do you know where to get the monthly pill?   | No 00<br>Yes 01   |
| 46  | What do you think about the cost of the monthly pill?<br><br><i>Prompt by reading the list</i> | Cheap 00<br>Affordable 01<br>Expensive 02   |

|                      |   |                          |                        |    |
|----------------------|---|--------------------------|------------------------|----|
| 47                   | If you want the monthly pill, is it easy, difficult or impossible for you to find?<br><i>Prompt by reading the list</i>       | Easy                     | 00                     |    |
|                      |   | Difficult                | 01                     |    |
|                      |   | Impossible               | 02                     |    |
| 48                   | If you can find the monthly pill, is it easy, difficult or impossible for you to use it?<br><i>Prompt by reading the list</i> | Easy                     | 00                     |    |
|                      |   | Difficult                | 01                     |    |
|                      |   | Impossible               | 02                     |    |
| 49                   | What side effects can the monthly pill have?<br><i>Multiple answers are possible – circle all answers given</i>               | <i>None</i>              | No side effects        | 00 |
|                      |   | <i>Uterus/vagina</i>     | Burned uterus          | 01 |
|                      |   |                          | Wither uterus          | 02 |
|                      |   |                          | Swollen uterus         | 03 |
|                      |   |                          | Vaginal discharge      | 04 |
|                      |   | <i>Blood</i>             | Amenorrhoea            | 05 |
|                      |   |                          | Spotting               | 06 |
|                      |   |                          | Heavy bleeding         | 07 |
|                      |   | <i>Sex/Pregnancy</i>     | Loss of desire         | 08 |
|                      |   |                          | Difficult get pregnant | 09 |
|                      |   |                          | Infertile/sterile      | 10 |
| <i>Eating/weight</i> | Weight loss   | 11                       |                        |    |
|                      | Weight gain   | 12                       |                        |    |
|                      | Poor appetite   | 13                       |                        |    |
|                      | Nausea/vomiting   | 14                       |                        |    |
| <i>General body</i>  | Tired   | 15                       |                        |    |
|                      | Tension in arms/legs  | 16                       |                        |    |
|                      | Heat/dry body   | 17                       |                        |    |
|                      | Pain  | 18                       |                        |    |
|                      | Move in body  | 19                       |                        |    |
| <i>Skin</i>          | Pale skin   | 20                       |                        |    |
|                      | Skin rash   | 21                       |                        |    |
|                      | Dry/Darker skin   | 22                       |                        |    |
|                      | Bruise/cloasma  | 23                       |                        |    |
| <i>Severe</i>        | Cancer  | 24                       |                        |    |
|                      | Lump in stomach   | 25                       |                        |    |
| <i>Other</i>         | Other.....  | 26                       |                        |    |
| <i>Don't know</i>    | Don't know  | 99                       |                        |    |
| 50                   | In your opinion, what is the main reason that women don't like using the monthly pill?  | High cost                | 00                     |    |
|                      |   | Difficult to access      | 01                     |    |
|                      |   | Side effects             | 02                     |    |
|                      |   | Difficult get pregnant   | 03                     |    |
|                      |   | Painful                  | 04                     |    |
|                      |   | Easy to forget           | 05                     |    |
|                      |   | May become infertile     | 06                     |    |
|                      |   | Stigma                   | 07                     |    |
|                      |   | Other.....               | 08                     |    |
| 51                   | Have you ever tried the monthly pill?   | No ( <b>skip to 59</b> ) | 00                     |    |
|                      |   | Yes                      | 01                     |    |
| 52                   | What was the main reason you tried the monthly pill over another method?  | Easier to use            | 00                     |    |
|                      |   | Cheaper                  | 01                     |    |
|                      |   | Easier to find           | 02                     |    |
|                      |   | More effective           | 03                     |    |
|                      |   | Was recommended          | 04                     |    |
|                      |   | Fewer side effects       | 05                     |    |
|                      |   | Don't know other         | 06                     |    |
|                      |   | 'right' for my body      | 07                     |    |
|                      |   | Other.....               | 08                     |    |




|   |  |   |
|---|--|---|
| 53  | Which one person influenced you to try the monthly pill?   | No one/myself 00<br>Husband 01<br>Parent/In-law 02<br>Sibling 03<br>Friend 04<br>Neighbour 05<br>Doctor/Health staff 06<br>Media 07<br>Other ..... 08   |
| 54  | How much did you pay for one monthly pill?<br><br><i>Write the answer in Reil</i>  | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>   |
| 55  | Currently, are you still using the monthly pill?   | No 00<br>Yes ( <b>skip to 59</b> ) 01   |
| 56  | How long did you try the monthly pill for?<br><br><i>If less than one full month, code '000'</i>                         | Months <input type="text"/> <input type="text"/> <input type="text"/>   |
| 57  | What is the main reason you stopped using the monthly pill?  | Wanted children 00<br>Lost sexual desire 01<br>Can't afford 02<br>Can't access 03<br>Side effects 04<br>Infertile 05<br>Hard to get pregnant 06<br>Lost partner 07<br>Menopause 08<br>Other..... 09 |
| 58  | Which one person influenced you to stop using the monthly pill?  | No one/myself 00<br>Husband 01<br>Parent/In-law 02<br>Sibling 03<br>Friend 04<br>Neighbour 05<br>Doctor/Health staff 06<br>Media 07<br>Other ..... 08   |
| <b>Section 5: IUD – Woman can have a device placed inside them by a doctor to prevent pregnancy</b> |  |   |
| 59  | Have you ever heard of the IUD?  | No ( <b>skip to 75</b> ) 00<br>Yes 01   |
| 60  | Do you know where to get the IUD?  | No 00<br>Yes 01   |
| 61  | What do you think about the cost of the IUD?<br><br><i>Prompt by reading the list</i>                                    | Cheap 00<br>Affordable 01<br>Expensive 02   |
| 62  | If you want the IUD, is it easy, difficult or impossible for you to find?<br><br><i>Prompt by reading the list</i>       | Easy 00<br>Difficult 01<br>Impossible 02  |
| 63  | If you can find the IUD, is it easy, difficult or impossible for you to use it?<br><br><i>Prompt by reading the list</i> | Easy 00<br>Difficult 01<br>Impossible 02  |

|                      |  |                      |                          |    |
|----------------------|--|----------------------|--------------------------|----|
| 64                   | What side effects can the IUD have?<br><i>Multiple answers are possible – circle all answers given</i> | <i>None</i>          | No side effects          | 00 |
|                      |  | <i>Uterus/vagina</i> | Burned uterus            | 01 |
|                      |  |                      | Wither uterus            | 02 |
|                      |  |                      | Swollen uterus           | 03 |
|                      |  |                      | Vaginal discharge        | 04 |
|                      |  | <i>Blood</i>         | Amenorrhoea              | 05 |
|                      |  |                      | Spotting                 | 06 |
|                      |  |                      | Heavy bleeding           | 07 |
|                      |  | <i>Sex/Pregnancy</i> | Loss of desire           | 08 |
|                      |  |                      | Difficult get pregnant   | 09 |
| Infertile/sterile    | 10   |                      |                          |    |
| <i>Eating/weight</i> | Weight loss  | 11                   |                          |    |
|                      | Weight gain  | 12                   |                          |    |
|                      | Poor appetite  | 13                   |                          |    |
|                      | Nausea/vomiting  | 14                   |                          |    |
| <i>General body</i>  | Tired  | 15                   |                          |    |
|                      | Tension in arms/legs   | 16                   |                          |    |
|                      | Heat/dry body  | 17                   |                          |    |
|                      | Pain   | 18                   |                          |    |
|                      | Move in body   | 19                   |                          |    |
| <i>Skin</i>          | Pale skin  | 20                   |                          |    |
|                      | Skin rash  | 21                   |                          |    |
|                      | Dry/Darker skin  | 22                   |                          |    |
|                      | Bruise/cloasma   | 23                   |                          |    |
| <i>Severe</i>        | Cancer   | 24                   |                          |    |
|                      | Lump in stomach  | 25                   |                          |    |
| <i>Other</i>         | Other.....   | 26                   |                          |    |
| <i>Don't know</i>    | Don't know   | 99                   |                          |    |
| 65                   | In your opinion, what is the main reason that women don't like using the IUD?                          |                      | High cost                | 00 |
|                      |  |                      | Difficult to access      | 01 |
|                      |  |                      | Side effects             | 02 |
|                      |  |                      | Difficult get pregnant   | 03 |
|                      |  |                      | Painful                  | 04 |
|                      |  |                      | Easy to forget           | 05 |
|                      |  |                      | May become infertile     | 06 |
|                      |  |                      | Stigma                   | 07 |
|                      |  |                      | Other.....               | 08 |
| 66                   | What is the most important thing that could encourage more women to use the IUD for contraception?     |                      | Provide free             | 00 |
|                      |  |                      | Lower cost               | 01 |
|                      |  |                      | Improve access           | 02 |
|                      |  |                      | Advertising              | 03 |
|                      |  |                      | Inform benefits          | 04 |
|                      |  |                      | Inform side effects      | 05 |
|                      |  |                      | Other.....               | 06 |
| 67                   | Have you ever tried the IUD?   |                      | No ( <b>skip to 75</b> ) | 00 |
|                      |  |                      | Yes                      | 01 |
| 68                   | What was the main reason you tried the IUD over another method?  |                      | Easier to use            | 00 |
|                      |  |                      | Cheaper                  | 01 |
|                      |  |                      | Easier to find           | 02 |
|                      |  |                      | More effective           | 03 |
|                      |  |                      | Was recommended          | 04 |
|                      |  |                      | Fewer side effects       | 05 |
|                      |  |                      | Don't know other         | 06 |
|                      |  |                      | 'right' for my body      | 07 |
|                      |  |                      | Other.....               | 08 |

|   |  |  |
|---|--|--|
| 69  | Which one person influenced you to try the IUD?  | No one/myself 00<br>Husband 01<br>Parent/In-law 02<br>Sibling 03<br>Friend 04<br>Neighbour 05<br>Doctor/Health staff 06<br>Media 07<br>Other ..... 08  |
| 70  | How much did you pay for the IUD?<br><br><i>Write the answer in Reil</i>   | <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>  |
| 71  | Currently, are you still using the IUD?  | No 00<br>Yes ( <b>skip to 75</b> ) 01  |
| 72  | How long did you try the IUD for?<br><br><i>If less than one month code '000'</i>  | Months <input type="text"/> <input type="text"/> <input type="text"/>  |
| 73  | What is the main reason you stopped using the IUD?   | Wanted children 00<br>Lost sexual desire 01<br>Can't afford 02<br>Can't access 03<br>Side effects 04<br>Infertile 05<br>Hard to get pregnant 06<br>Lost partner 07<br>Menopause 08<br>Other ..... 09 |
| 74  | Which one person influenced you to stop using the IUD?   | No one/myself 00<br>Husband 01<br>Parent/In-law 02<br>Sibling 03<br>Friend 04<br>Neighbour 05<br>Doctor/Health staff 06<br>Media 07<br>Other ..... 08  |
| <b>Section 6: Condom - Men can put a rubber sheath over their penis before sex.</b> |  |  |
| 75  | Have you ever heard of using condoms for contraception?  | No ( <b>skip to 96</b> ) 00<br>Yes 01  |
| 76  | Do you know where to get condoms?  | No 00<br>Yes 01  |
| 77  | What do you think about the cost of condoms?<br><br><i>Prompt by reading the list</i>                                      | Cheap 00<br>Affordable 01<br>Expensive 02  |
| 78  | If you want condoms, is it easy, difficult or impossible for you to find them?<br><br><i>Prompt by reading the list</i>    | Easy 00<br>Difficult 01<br>Impossible 02   |
| 79  | If you can find condoms, is it easy, difficult or impossible for you to use them?<br><br><i>Prompt by reading the list</i> | Easy 00<br>Difficult 01<br>Impossible 02   |

|                      |   |                      |                            |    |
|----------------------|---|----------------------|----------------------------|----|
| 80                   | <p>What side effects can you get from using condoms?</p> <p><i>Multiple answers are possible – circle all answers given</i></p> | <i>None</i>          | No side effects            | 00 |
|                      |   | <i>Uterus/vagina</i> | Burned uterus              | 01 |
|                      |   |                      | Wither uterus              | 02 |
|                      |   |                      | Swollen uterus             | 03 |
|                      |   |                      | Vaginal discharge          | 04 |
|                      |   | <i>Blood</i>         | Amenorrhoea                | 05 |
|                      |   |                      | Spotting                   | 06 |
|                      |   |                      | Heavy bleeding             | 07 |
|                      |   | <i>Sex/Pregnancy</i> | Loss of desire             | 08 |
|                      |   |                      | Difficult get pregnant     | 09 |
| Infertile/sterile    | 10  |                      |                            |    |
| <i>Eating/weight</i> | Weight loss   | 11                   |                            |    |
|                      | Weight gain   | 12                   |                            |    |
|                      | Poor appetite   | 13                   |                            |    |
|                      | Nausea/vomiting   | 14                   |                            |    |
| <i>General body</i>  | Tired   | 15                   |                            |    |
|                      | Tension in arms/legs  | 16                   |                            |    |
|                      | Heat/dry body   | 17                   |                            |    |
|                      | Pain  | 18                   |                            |    |
|                      | Move in body  | 19                   |                            |    |
| <i>Skin</i>          | Pale skin   | 20                   |                            |    |
|                      | Skin rash   | 21                   |                            |    |
|                      | Dry/Darker skin   | 22                   |                            |    |
|                      | Bruise/cloasma  | 23                   |                            |    |
| <i>Severe</i>        | Cancer  | 24                   |                            |    |
|                      | Lump in stomach   | 25                   |                            |    |
| <i>Other</i>         | Other.....  | 26                   |                            |    |
| <i>Don't know</i>    | Don't know  | 99                   |                            |    |
| 81                   | In your opinion, what is the main reason that women don't like using condoms?   |                      | High cost                  | 00 |
|                      |   |                      | Difficult to access        | 01 |
|                      |   |                      | Side effects               | 02 |
|                      |   |                      | Difficult get pregnant     | 03 |
|                      |   |                      | Painful                    | 04 |
|                      |   |                      | Easy to forget             | 05 |
|                      |   |                      | May become infertile       | 06 |
|                      |   |                      | Stigma                     | 07 |
|                      |   |                      | Other.....                 | 08 |
| 82                   | What is the most important thing that could encourage more women to use the condom for contraception?                           |                      | Provide free               | 00 |
|                      |   |                      | Lower cost                 | 01 |
|                      |   |                      | Improve access             | 02 |
|                      |   |                      | Advertising                | 03 |
|                      |   |                      | Inform benefits            | 04 |
|                      |   |                      | Inform side effects        | 05 |
|                      |   |                      | Other.....                 | 06 |
| 83                   | <p>What brands of condom do you know?</p> <p><i>If the respondent knows only one brand, skip to Q88</i></p>                     |                      | Protector                  | 00 |
|                      |   |                      | Number One                 | 01 |
|                      |   |                      | OK Condom                  | 02 |
|                      |   |                      | Tiger whiskers             | 03 |
|                      |   |                      | Hello                      | 04 |
|                      |   |                      | Honeymoon                  | 05 |
|                      |   |                      | Other.....                 | 06 |
|                      |   |                      | None ( <b>skip to 88</b> ) | 99 |

|    |  |   |
|----|--|---|
| 84 | Which brand of condom is the most effective?   | Protector 00<br>Number One 01<br>OK Condom 02<br>Muot Kla 03<br>Hello 04<br>Honeymoon 05<br>Other..... 06<br>Don't know 99  |
| 85 | Which brand of condom is the cheapest?   | Protector 00<br>Number One 01<br>OK Condom 02<br>Muot Kla 03<br>Hello 04<br>Honeymoon 05<br>Other..... 06<br>Don't know 99  |
| 86 | Which brand of condom is the easiest for you to find (buy)?                                | Protector 00<br>Number One 01<br>OK Condom 02<br>Muot Kla 03<br>Hello 04<br>Honeymoon 05<br>Other..... 06<br>Don't know 99  |
| 87 | Which brand of condom causes the most side effects?  | Protector 00<br>Number One 01<br>OK Condom 02<br>Muot Kla 03<br>Hello 04<br>Honeymoon 05<br>Other..... 06<br>Don't know 99  |
| 88 | Have you ever tried condoms?   | No ( <b>skip to 96</b> ) 00<br>Yes 01   |
| 89 | What was the main reason you tried condoms over another method?                            | Easier to use 00<br>Cheaper 01<br>Easier to find 02<br>More effective 03<br>Was recommended 04<br>Fewer side effects 05<br>Don't know other 06<br>'right' for my body 07<br>Other..... 08 |
| 90 | Which one person influenced you to try condoms?  | No one/myself 00<br>Husband 01<br>Parent/In-law 02<br>Sibling 03<br>Friend 04<br>Neighbour 05<br>Doctor/Health staff 06<br>Media 07<br>Other ..... 08                                     |
| 91 | How much did you pay for a small packet of condoms?<br><br><i>Write the answer in Reil</i> |    |
| 92 | Currently, are you still using condoms?  | No 00<br>Yes ( <b>skip to 96</b> ) 01   |

|  |   |                           |  |
|--|---|---------------------------|--|
| <b>93</b>  | How long did you try condoms for?<br><br><i>If less than one month code '000'</i>   | Months                    | <input type="text"/> <input type="text"/> <input type="text"/> |
| <b>94</b>  | What is the main reason you stopped using condoms?  | Wanted children           | 00   |
|  |   | Lost sexual desire        | 01   |
|  |   | Can't afford              | 02   |
|  |   | Can't access              | 03   |
|  |   | Side effects              | 04   |
|  |   | Infertile                 | 05   |
|  |   | Hard to get pregnant      | 06   |
|  |   | Lost partner              | 07   |
|  |   | Menopause                 | 08   |
|  |   | Other.....                | 09   |
| <b>95</b>  | Which one person influenced you to stop using condoms?  | No one/myself             | 00   |
|  |   | Husband                   | 01   |
|  |   | Parent/In-law             | 02   |
|  |   | Sibling                   | 03   |
|  |   | Friend                    | 04   |
|  |   | Neighbour                 | 05   |
|  |   | Doctor/Health staff       | 06   |
|  |   | Media                     | 07   |
|  |   | Other .....               | 08   |
| <b>Section 7: Female Sterilisation – women can have an operation to avoid having any more children</b> |   |                           |  |
| <b>96</b>  | Have you ever heard of female sterilisation?  | No ( <b>skip to 107</b> ) | 00   |
|  |   | Yes                       | 01   |
| <b>97</b>  | Do you know where to get female sterilisation?  | No                        | 00   |
|  |   | Yes                       | 01   |
| <b>98</b>  | What do you think about the cost of female sterilisation?<br><br><i>Prompt by reading the list</i>                                | Cheap                     | 00   |
|  |   | Affordable                | 01   |
|  |   | Expensive                 | 02   |
| <b>99</b>  | If you want female sterilisation, is it easy, difficult or impossible for you to access?<br><br><i>Prompt by reading the list</i> | Easy                      | 00   |
|  |   | Difficult                 | 01   |
|  |   | Impossible                | 02   |
| <b>100</b>   | What side effects can female sterilisation have?<br><br><i>Multiple answers are possible – circle all answers given</i>           | <i>None</i>               | No side effects  |
|  |   |                           | 00   |
|  |   | <i>Uterus/vagina</i>      | Burned uterus  |
|  |   |                           | 01   |
|  |   |                           | Wither uterus  |
|  |   |                           | 02   |
|  |   |                           | Swollen uterus   |
|  |   |                           | 03   |
|  |   |                           | Vaginal discharge  |
|  |   |                           | 04   |
|  |   | <i>Blood</i>              | Amenorrhoea  |
|  |   |                           | 05   |
|  |   |                           | Spotting   |
|  |   |                           | 06   |
|  |   |                           | Heavy bleeding   |
|  |   |                           | 07   |
|  |   | <i>Sex/Pregnancy</i>      | Loss of desire   |
|  |   |                           | 08   |
|  |   |                           | Difficult get pregnant   |
|  |   |                           | 09   |
|  |   |                           | Infertile/sterile  |
|  |   |                           | 10   |
|  |   | <i>Eating/weight</i>      | Weight loss  |
|  |   |                           | 11   |
|  |   |                           | Weight gain  |
|  |   |                           | 12   |
|  |   |                           | Poor appetite  |
|  |   |                           | 13   |
|  |   |                           | Nausea/vomiting  |
|  |   |                           | 14   |
|  |   | <i>General body</i>       | Tired  |
|  |   |                           | 15   |
|  |   |                           | Tension in arms/legs   |
|  |   |                           | 16   |
|  |   |                           | Heat/dry body  |
|  |   |                           | 17   |
|  |   |                           | Pain   |
|  |   |                           | 18   |
|  |   |                           | Move in body   |
|  |   |                           | 19   |

|            |   |                   |                           |    |
|------------|---|-------------------|---------------------------|----|
|            |   | <i>Skin</i>       | Pale skin                 | 20 |
|            |   |                   | Skin rash                 | 21 |
|            |   |                   | Dry/Darker skin           | 22 |
|            |   |                   | Bruise/cloasma            | 23 |
|            |   | <i>Severe</i>     | Cancer                    | 24 |
|            |   |                   | Lump in stomach           | 25 |
|            |   | <i>Other</i>      | Other.....                | 26 |
|            |   | <i>Don't know</i> | Don't know                | 99 |
| <b>101</b> | In your opinion, what is the main reason that women don't use female sterilisation?                             |                   | High cost                 | 00 |
|            |   |                   | Difficult to access       | 01 |
|            |   |                   | Side effects              | 02 |
|            |   |                   | Difficult get pregnant    | 03 |
|            |   |                   | Painful                   | 04 |
|            |   |                   | Easy to forget            | 05 |
|            |   |                   | May become infertile      | 06 |
|            |   |                   | Stigma                    | 07 |
|            |   |                   | Other.....                | 08 |
| <b>102</b> | What is the most important thing that could encourage more women to use female sterilisation for contraception? |                   | Provide free              | 00 |
|            |   |                   | Lower cost                | 01 |
|            |   |                   | Improve access            | 02 |
|            |   |                   | Advertising               | 03 |
|            |   |                   | Inform benefits           | 04 |
|            |   |                   | Inform side effects       | 05 |
|            |   |                   | Other.....                | 06 |
| <b>103</b> | Have you ever had the operation for female sterilisation?   |                   | No ( <b>skip to 107</b> ) | 00 |
|            |   |                   | Yes                       | 01 |
| <b>104</b> | What was the main reason you tried female sterilisation over another method?                                    |                   | Easier to use             | 00 |
|            |   |                   | Cheaper                   | 01 |
|            |   |                   | Easier to find            | 02 |
|            |   |                   | More effective            | 03 |
|            |   |                   | Was recommended           | 04 |
|            |   |                   | Fewer side effects        | 05 |
|            |   |                   | Don't know other          | 06 |
|            |   |                   | 'right' for my body       | 07 |
|            |   |                   | Other.....                | 08 |
| <b>105</b> | Which one person influenced you to try female sterilisation?  |                   | No one/myself             | 00 |
|            |   |                   | Husband                   | 01 |
|            |   |                   | Parent/In-law             | 02 |
|            |   |                   | Sibling                   | 03 |
|            |   |                   | Friend                    | 04 |
|            |   |                   | Neighbour                 | 05 |
|            |   |                   | Doctor/Health staff       | 06 |
|            |   |                   | Media                     | 07 |
|            |   |                   | Other .....               | 08 |
| <b>106</b> | How much did you pay for female sterilisation?<br><br><i>Write the answer in Reil</i>                           |                   |                           |    |

## Section 8: Contraceptive Method Ranking

I am going to show you some cards with different methods of contraception. Then I want to ask you some questions about these methods.

Check the previous five sections for each method and give the respondent the cards that match the methods that they already know. Keep the other cards yourself. If the respondent knows no methods or only one method of contraception, **skip to Q119**

Give the respondent the cards for the methods they know. Ask them to give you back the card with their answer.

|     |   |   |
|-----|---|---|
| 107 | Which method of contraception do you think is the most effective?   | Daily pill 0<br>Monthly pill 1<br>Condom 2<br>Injection 3<br>IUD 4<br>Sterilisation 5 |
| 108 | Which method of contraception do you think is the least effective?  | Daily pill 0<br>Monthly pill 1<br>Condom 2<br>Injection 3<br>IUD 4<br>Sterilisation 5 |
| 109 | <i>Give both cards back to the respondent.</i><br>Which method of contraception do you think is the cheapest?             | Daily pill 0<br>Monthly pill 1<br>Condom 2<br>Injection 3<br>IUD 4<br>Sterilisation 5 |
| 110 | Which method of contraception do you think is the most expensive?   | Daily pill 0<br>Monthly pill 1<br>Condom 2<br>Injection 3<br>IUD 4<br>Sterilisation 5 |
| 111 | <i>Give both cards back to the respondent.</i><br>Which method of contraception is the easiest for you to find?           | Daily pill 0<br>Monthly pill 1<br>Condom 2<br>Injection 3<br>IUD 4<br>Sterilisation 5 |
| 112 | Which method of contraception is the hardest for you to find?   | Daily pill 0<br>Monthly pill 1<br>Condom 2<br>Injection 3<br>IUD 4<br>Sterilisation 5 |
| 113 | <i>Give both cards back to the respondent.</i><br>Which method of contraception has the least impact on a woman's health? | Daily pill 0<br>Monthly pill 1<br>Condom 2<br>Injection 3<br>IUD 4<br>Sterilisation 5 |



|   |   |   |   |
|---|---|---|---|
| 114   | Which method of contraception has the most impact on a woman's health?  | Daily pill<br>Monthly pill<br>Condom<br>Injection<br>IUD<br>Sterilisation               | 0<br>1<br>2<br>3<br>4<br>5                      |
| 115   | <i>Give both cards back to the respondent.</i><br>Which method of contraception is the easiest for you to use?  | Daily pill<br>Monthly pill<br>Condom<br>Injection<br>IUD<br>Sterilisation               | 0<br>1<br>2<br>3<br>4<br>5                      |
| 116   | Which method of contraception is the hardest for you to use?  | Daily pill<br>Monthly pill<br>Condom<br>Injection<br>IUD<br>Sterilisation               | 0<br>1<br>2<br>3<br>4<br>5                      |
| 117   | <i>If the respondent knows about sterilisation, remove that card for these two questions. Give the other cards back to the respondent.</i><br>Which method of contraception effects long term fertility the most? | Daily pill<br>Monthly pill<br>Condom<br>Injection<br>IUD                                | 0<br>1<br>2<br>3<br>4                           |
| 118   | Which method of contraception effects long term fertility the least?  | Daily pill<br>Monthly pill<br>Condom<br>Injection<br>IUD                                | 0<br>1<br>2<br>3<br>4                           |
| <b>Section 9: Birth History and Contraceptive use</b> |   |   |   |
| 119   | How many live birth children do you have now?   | None<br>No. of children   | 00<br><input type="text"/> <input type="text"/> |
| 120   | I'm sorry to ask, but can you tell me if you have given birth to any children who later died?<br><i>If they answer yes, please ask how many children died</i>   | No<br>Yes – number  | 00<br><input type="text"/> <input type="text"/> |
| 121   | Are you pregnant now?   | No<br>Yes<br>Not sure   | 00<br>01<br>02                                  |
| 122   | <i>(If yes)</i> Did you want this pregnancy?<br><i>(If no or not sure)</i> Do you want to become pregnant?  | No<br>Yes ( <b>end interview</b> )  | 00<br>01  |
| 123   | <i>(if pregnant)</i> Were you using modern contraception when you got pregnant?<br><i>(if not pregnant)</i> Are you using modern contraception now?   | No ( <b>skip to 126</b> )<br>Yes  | 00<br>01  |
| 124   | Which method are/were you using?<br><i>Check you have filled in the relevant method section</i>   | Daily pill<br>Monthly pill<br>Condom<br>Injection<br>IUD<br>Sterilisation<br>Other..... | 00<br>01<br>02<br>03<br>04<br>05<br>06          |
| 125   | Did you get this method from a government health provider or a private source? - <b>end interview</b>   | Government<br>Private   | 00<br>01  |

|             |  |                 |    |
|-------------|--|-----------------|----|
| 126         | What is the main reason you decided not to use modern contraception?     | No sex          | 00 |
|             |  | Infertile       | 01 |
|             |  | Can't afford    | 02 |
|             |  | Not available   | 03 |
|             |  | Side effects    | 04 |
|             |  | Use traditional | 05 |
|             |  | Menopause       | 06 |
|             |  | Other.....      | 07 |
| 127         | Who influenced you the most not to use a modern method of contraception? | No one/myself   | 00 |
|             |  | Husband         | 01 |
|             |  | Parent/in-law   | 02 |
|             |  | Sibling         | 03 |
|             |  | Friend          | 04 |
|             |  | Neighbour       | 05 |
|             |  | Health staff    | 06 |
|             |  | Media           | 07 |
| Other ..... | 08   |                 |    |

***Thank the respondent very much for taking time to answer all these questions.***