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# Married women with unintended pregnancies in Egypt: Attributes and circumstances

**By**
**Zeinab Khadr**

## Abstract

Unmet need is one of the major issues in studying fertility changes and the evaluation of the efficiency of family planning programs. At the core of the unmet needs lies its articulation in unintended pregnancies. While the study of unmet needs has gained much attention in the literature, the issue of unintended pregnancies is under-examined and commonly discussed in terms of teenage and out of wedlock pregnancies. In this paper, women who are bearing unintended pregnancies are examined in order to identify their main characteristics and the way to decrease the reoccurrence of these pregnancies. Using data from the 1995 Demographic and Health Survey, the results show that unintended pregnancies are common among women older than 30 years of age with more than three children who were born within short birth intervals. They also show a substantial impact of the sex composition of children on unintended pregnancies. Women with all her children from the same sex are less likely to perceive their current pregnancy unintended.

The circumstances surrounding the conception of unintended pregnancy shows it wide spread among ever users who stopped using due to fear of side effects or health concern as well as methods' failure. They also show that among never users, the event unintended pregnancy increase those women intentions to use contraceptive in the near future. The results also stressed the importance of the women's partner in their fertility plans.

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## Introduction

With the launching of the first family planning program, the effectiveness of these programs on fertility levels has been a major concern among researchers, policy makers and state officials. In 1970s, potential demand, known earlier as KAP-gap and later on as unmet need for contraceptives was proposed in an effort to measure family planning programs effectiveness. This measure has been under extensive methodological refinements in an attempt to address some of its shortcomings. Some of the major contributions in this regard are attributed to Westoff (1988) who defined unmet need to include two main groups of women. The first group includes fecund women who are currently married, exposed to the risk of conception, wish to avoid or postpone pregnancy, and not using contraception, while the second group includes women who are currently pregnant or amenorrheic if they reported their current pregnancies or recent birth, respectively, unintended. While nonusers with a desire to stop have gained extensive attention in the unmet need literature, examining their characteristics, reasons for not using contraceptives, intention for future use and other related subjects, women with unintended pregnancies have received less attention in the literature. Most of the studies

* Assistant Professor, Faculty of Economic and Political Science, Cairo University and Research Assistant Professor, The Social Research Center, American University in Cairo.
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in this area are mainly concerned with out-of-wedlock or teenagers pregnancies or the consequences of these unintended pregnancies on investments on children (Bongaarts and Cohen, 1998; Lloyd and Montgomery, 1997; and Montgomery and Lloyd. 1996).

This paper attempts to shed some light on women with unintended pregnancies and the circumstances that contributed to their unintended conception. The paper is divided into five sections. The first section address levels of unmet need in Egypt with particular attention to currently pregnant women with unintended pregnancy, followed by a description of thc data used in the analysis. The third section examine the main attributes of women with unintended pregnancies while the fourth section explores the circumstances surrounding these pregnancies followed by a discussion of double time unintender women.

**Unmet need and unintended pregnancy in Egypt:**

Over the last 15 years, Egypt has experienced substantial declines in fertility. Overall, fertility fell more than one third, from 5.3 births in 1980 to 3.4 births in 1995. These declines are attributed in part to its strong family planning program, a strength that is evident by the doubling of contraceptive prevalence during the same period. The contraceptive prevalence rate increased from 24% to 48% and is accompanied with an increase in the proportion of ever use from 40% to 68%. The program is also responsible for the almost universal knowledge among women of family planning methods. In 1995, 99% of ever-married women knew about at least one family planning method and 92% were able to identify the source of modern family planning methods.

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However, Egypt maintains high levels of unmet need. According to the Westoff (1988) definition[i] of unmet need, the 1995 Egyptian demographic and Health Survey showed that more than 16% of currently married women are with unmet need for family planning, falling from 20% of all women in 1992 EDHS. The 1995 unmet need proportion is classified into 6% with spacing need while 10% with limiting need. These unmet needs are estimated to increase the current contraceptive prevalence from 48% to more than 65% if women with unmet needs are to use contraceptives (El Zanaty, 1996).

El Zanaty (1996) showed that women with unmet needs are highly concentrated in the age group 35 and younger (almost two thirds were aged less than 35 years). Half of them have four or more children and more than one fourth have 6 children or more. They are heavily concentrated in the rural areas, in particular in Upper Egypt. She also showed that seven out of ten those women have less than primary education.

**Unintended pregnancies in Egypt**

In 1992, and 1995 rounds of the Egyptian Demographic and Health Surveys, currently pregnant respondents were asked to classify their current pregnancy according to whether their pregnancy was intended, mistimed or unwanted at all.

*"At the time you became pregnant, did you want to become pregnant <u>then</u>, did you want to wait until <u>later</u>, or did you <u>not</u> want to become pregnant at all?"*

Although the phrasing of this question strives to capture women's perception regarding current pregnancy at the time of conception, the subjective nature of this question is more likely to produce a downward bias due to the effect of post rationalization. In other words,

women might be unwilling and reluctant to describe their pregnancies unintended after carrying the pregnancy for few months.

Although the proportion of women with unmet need declined between the two rounds of the Egyptian Demographic and Health Survey (from 20% in 1992 to 16% in 1995), pregnant women who perceive their current pregnancy unintended increased. While 17% of women with unmet need were pregnant with unintended pregnancy in 1992, this proportion increased to 20% in 1995. This indicates the success of family planning program to satisfy the needs of only a segment of women with unmet needs, leaving behind women with higher risk of having unintended pregnancy. Table 1 shows that in 1992 more than two out every five pregnant women perceived their current pregnancy unintended with the majority of the unintended pregnancies are unwanted. In 1995, the proportion of unintended pregnancies declined slightly to 37% of all pregnancies with the shares for mistimed and unwanted pregnancies are almost equal.

Nevertheless, in examining unintended pregnancies, we should be careful in dealing with situations where the current pregnancy is a first pregnancy or pregnancy to women with no living children since these pregnancies can exacerbate the intendedness status of current pregnancies. These pregnancies, in particular in Egypt and the Arab region, are commonly guided and controlled by norms and attitudes that diminish their unintendness likelihood. To have the first child is considered a proof on woman's ability to reproduce and hence does not follow in most cases the same rationale or conscious decision making process as other birth order that follows. In Egypt, this is indicated by the negligible use of contraceptives before the birth of the first child. Only 1.5% of ever-married women

reported ever use of contraceptives before their first birth (El Zanaty et. al. 1996). Furthermore, 92% of currently pregnant women who have no living children perceived their current pregnancy "wanted then." Excluding these pregnancies, table 1 shows an increase in the unintended pregnancy's share among current pregnancies. Around half of currently pregnant women perceive their pregnancy unintended with a slight decline in their proportion between 1992 and 1995. It also shows that the largest decline in the proportion of unintended pregnancies occurs among those perceiving their current pregnancy unwanted, an indication of the strong effects of unmet needs policies in addressing the needs among women with unmet need for limiting rather for spacing.

This high proportion of unintended pregnancies (50% of current pregnancies) poses some important questions regarding attributes of women who bear these unintended pregnancies and the circumstances that surround their conception. Answers to these questions might highlight some sensitive areas in which policy interventions can reduce the prevalence of these unintended pregnancies.

**Data and Methodology**

In the 1995 Egyptian Demographic and Health Survey, 1466 women were currently pregnant at the time of the survey which compose slightly over 9% of the total sample size (14779 respondents). Out of those women, 416 respondents were either pregnant for the first time or had no living children, and 10 have no response to the intendedness status of their current pregnancy. Therefore, 1040 respondents were included in the subsequent analysis.

Table 2 presents a brief profile of those women. They are in the middle stage of their

reproductive career with a mean age of 28 years. Two fifth of them have no education with almost an equal proportion having secondary education or higher. They are mainly rural residents with almost two thirds of them residing in rural areas.

Their average number of children is 2.4 who are equally divided between sons and daughters. This number is slightly lower than their ideal number of children, which averages 2.8 child. In the last three years, almost two thirds of them give birth and their average preceding birth interval was more than two and half year. Almost 6% have their last birth dead by the time of the interview. Furthermore, in the last five years, 85% of them gave birth with 22% of them reported as unintended birth.

Ever use of contraceptives was reported by two out of every three women with the majority of them using modern methods (60% of all currently pregnant women reported using modern contraceptives).

Husband's characteristics are also considered. Almost half the respondents are married to husbands' with at least secondary education. The data also indicate that more than three fourths of them approved family planning. Table 2 also indicates that recurrent discussion between couples regarding family planning is only carried out by one fourth of couples, while those who never discuss the subject mounts to about two fifths of all couples.

The effects of women characteristic on the unintended status of current pregnancy are examined using logistic regression in which the dependent variable is the unintended status of current pregnancy, defined as 1 if the current pregnancy is unintended and zero if intended. Furthermore to examine women characteristics on the two different categories of the unintended pregnancy, namely mistimed and unwanted, versus those with wanted

pregnancy, we use the multinominal logit regression model

**Women's attributes and unintended pregnancies**

To identify the main attributes of women who perceive their current pregnancy unintended, either mistimed or unwanted, Table 4 presents the estimated odd ratios for the logistic regression in which the dependent variable is a dichotomous indicator of whether the women perceive her current pregnancy unintended. It presents four consecutive models in which four different groups of women's attributes are added sequentially. These four groups are women's background, fertility-related factors, contraceptive use, and husband's attributes (for variables' description and distribution, see table 3).

A likelihood- ratio test between the four models confirms that each group of women's attributes is jointly significant at well beyond the 0.005 significance level in all successive models.

The results in table 4 shows that age 30 and older among currently pregnant women are generally associated with an increase in the probability of perceiving current pregnancy unintended. However, once controls for women's fertility attributes are introduced into the model, this statistically significant effect of age 30 and older is forfeited. Similar results can be observed for educational level of women. Primary education was associated with increased probabilities of perceiving current pregnancy unintended, but with controls for fertility related factor, the statistical significance for this attribute vanishes.

Regional factors exert consistent effects on the probability of unintended perception of current pregnancy even controlling for the other women's attributes. Model IV shows that women who live in rural Lower Egypt experience twice as much probability of

perceiving their current pregnancy unintended pregnancies compared to those living in urban governorates. Other areas in Egypt maintain higher statistically significant probabilities, although lower both in magnitude and significance level than that of the rural Lower Egypt. In these regions, the odd ratios range between 1.6-1.8.

Pervious fertility experience is expected to have important implications on the women's unintended perception of current pregnancies. In this regard, table 4 shows that the sex composition of living children, rather than their sheer number, exerts statistically significant effects on the probability of perceiving current pregnancy unintended. Women who have their children all in same sex, are significantly less likely to perceive their current pregnancy unintended. Nevertheless, table 4 also shows that son preference plays a role in their unintended perception of their current pregnancy. This is clearly observed in the magnitude of the odds in the cases of having no sons versus having no daughters. While the odds for the former are less than one fourth, those for the latter are two fifths. Furthermore, having at least one daughter exerts no statistically significant effect on the probability of perceiving current pregnancy unintended, whereas having one son maintain a statistically significant lower probability of unintended perception compared to those women with at least two sons.

Timing of the current pregnancy also exerts significant effects on the probability of perceiving it unintended. Pregnancies that occur within a birth interval of less than one year are more likely to be perceived unintended. The probability of unintended perception for this attribute is more than three times the probabilities for other birth intervals. Furthermore, women who have consecutive births in the last three years are also more

likely to perceive their current pregnancy unintended. With each birth within the last three years the probability of unintendedness increases by one and half times controlling for other women's attributes. Survival status of previous birth also affects the probability of perceiving current pregnancy unintended. This probability for women who experience the death of their last birth is half that of women whose last birth is alive.

Ever use of contraceptive increases the probability of perceiving current pregnancy unintended. This probability of ever users is almost one and half times that of those who never used contraceptives. However, with controls for husbands' attributes, the effects of ever use decrease in magnitude and significance. The odds decrease from 1.8 to 1.4 with lower significant level.

Husbands' educational attainment exerts no statistically significant effect on women's unintended perception of their current pregnancy, although husband's attitudes towards family planning have substantially significant effects. Women who are married to husbands who approve and frequently discuss family planning with them are more likely to perceive their current pregnancy unintended.

The unintended perception of current pregnancy is a pooled category that combines the unwanted and mistimed pregnancies together. The contribution of women's attributes to these two unintended categories might differ in many aspects. Therefore, table 5 presents the relative risk ratio of the multinominal logit regression for women's attributes on these two categories of unintended compared to wanted pregnancies.

It shows that age 30 and older is significantly associated with lower mistimed perception of current pregnancy, while it is significantly associated with high probability of unwanted

perception. Education attainment exerts no significant effects on the two unintended categories, except for the case primary education that increase the likelihood of unwanted pregnancies by almost twice as much as that for respondents with education higher than primary education. Table 5 also shows that regional factors substantially affect the probability of unwanted perception of current pregnancy. The different regions exhibit unwanted probabilities that ranges between 2 to almost 4 times as much as the probabilities in urban governorates.

Women who have one to two living children are significantly associated with lower unwanted probabilities. The relative risk ratio for perceiving current pregnancy unwanted among this group of women is almost two fifths of other women with higher parity. However, children sex composition exerts stronger effect on the unintended status of current pregnancy. On the one hand, women with no sons or have one son only are the least likely to perceive the current pregnancy mistimed or unwanted. On the other hand women, with no daughters or have one daughter are only associated with lower probabilities of unwanted pregnancies. Table 5 also shows that the impact of son preference on the unintended status of current pregnancy which is elaborated in the stronger effects for the absence of sons compared to those for the absence of daughters. While sons' absence shows a relative risk ratio of 0.09, the corresponding figure for absence of daughters is 0.21.

A preceding birth interval of less than one year, as expected, increases the probability of perceiving current pregnancy mistimed. Pregnancies occurring within this short interval are perceived mistimed three times as much as pregnancies occurring within longer birth

intervals. The unwanted perceptions of those pregnancies also increased, though there are barely statistically significant (significant levels are 10%). Table 5 also shows that the number of births during the last three years has strong and significant effects on unintended perception of current pregnancy. With each birth in this period, the relative risk ratio increases the probability of perceiving current pregnancy mistimed by 42% and unwanted by 82%. Conversely, the death of the previous birth decreases both the mistimed and unwanted probability of the current pregnancy.

Ever use of contraceptive is strongly and significantly associated with high probability of perceiving current pregnancy unwanted. Table 5 shows that ever users are three times more likely to perceive their current pregnancy unwanted compared to never users. Furthermore, women married to men who approve and discuss family planning are significantly more likely to perceive their current pregnancy mistimed and unwanted.

To clarify the results of the multinominal logit, figure 1 presents the predicted probabilities for two reference persons. The first reference person represents the best case scenario for not having unintended pregnancy. In this case the woman is less than 30 years of age, with more than primary education who live in an urban governorate, has one female child born more than one year ago, used contraceptives before and married to a husband with more than primary education who approves family planning and frequently discusses it with his wife. The second reference person represents the best case scenario for having unintended pregnancy. In this case the women is more than 30 years of age, with no education who live in rural Lower Egypt, has more than 4 sons and daughters with the youngest one born less than year ago and died, her youngest two children were born with the last three years, used contraceptives before and married to a husband with no

education who disapproves family planning and never discusses it with his wife. Figure 1 shows that for the first reference person the probability unintended pregnancy is almost 18% with mistimed pregnancy capturing the majority of this probability (16%), whereas for the second reference person, the probability of unintended mounted to 86% with the unwanted probability capturing 82%.

**Double time unintenders**

Double time unintenders refer to women who perceived both their last birth and current pregnancy unintended; mistimed or unwanted. In the Egyptian DHS 1995, women who had a birth in the last five years were asked whether their last birth was wanted then, later or unwanted. Table 6 shows that almost half of currently pregnant women reported both their last birth and current pregnancy are wanted and almost one third reported one of them is unintended. It also shows that slightly less than one out of every five currently pregnant women did not want either.

The experience of an unintended pregnancy is expected to encourage women to adopt measures that prevent the reoccurrence this pregnancy. Therefore, although the number of cases is relatively small (158 cases in the 1995 EDHS), it is important to examine them to identify main policy interventions that can lead to their avoidance. The following subsection highlights some main characteristics of those double time unintenders women. Table 7 compares between three groups of women: 1) those who wanted both their last birth and current pregnancy, 2) those who reported one of them is unintended, and 3) those who described the two of them as unintended.

Focusing on double time unintender women, it is clear that they tend to be older than the other two groups. On average they are almost 30 years of age compared with 26 for the

other two groups. They tend to be less educated with women who have not completed their primary education showing the highest proportion of these reoccurrences.

Table 7 also shows that this reoccurrence is more prevalent among residents in rural Lower Egypt and those residing in Upper Egypt in general. For the former group, almost one out of four currently pregnant women who gave birth in the last five year perceive both their current pregnancy and previous birth unintended, while for the latter group the corresponding proportion was one out of every five women.

Double time unintenders are more likely to have more children than the other two categories. While women who perceived both births were wanted or at least one of them was wanted births have 3 children on average, double time unintender women have on average 5 children. Double unintendedness is minimal among women with all their children either males or females. Short birth intervals and death of the last child are also associated with higher probability of double time unintendedness.

Ever use of contraceptive increases the likelihood of experiencing double unintendedness. The underlying rationale is that women who practice contraceptives relay on those methods completely. Hence, their failure to effectively use contraceptives or method failure is translated in unintended pregnancy. This is evident by the fact that almost 22% of currently pregnant who are ever users contraceptives experience double unintendedness, while only 16% of never users experience it.

Husband's education shows similar pattern to respondent's education. Lower levels of husband's education, in particular primary education is associated with higher incidence of double time unintended pregnancies.

Finally, husbands as partners in the fertility behaviors of their wives seem to exert

significant effect on the reoccurrence of unintended pregnancies. Table 7 shows that those women who discuss family planning more frequently with their husbands and married to husbands who approve family planning are more likely to experience double unintendedness. The proportion for these women exceeds one out of every five women, while the corresponding proportion is less than one out of every six women for others. We can speculate that this relation is attributed to two different factors. The first factor attributes the higher proportions of unintendedness and double time unintendedness to the fact that those couples are strong believers in fertility planning and consider any failure to achieve their predetermined and preplanned number of children has to reported as unintended births. The other factor attributes these high proportion to the reverse effect of having unintended pregnancy on the couple that increases their discussions of family planning and encourages husbands to approve family planning. Unfortunately, we do not have the needed data to examine the validity of these two factors.

**Circumstances of unintended pregnancies?**

In this paper, we attempt to establish the link between unintended pregnancy and studies of unmet needs for contraceptives within the context of developing countries. Women who perceive their current pregnancy unintended can be classified by their ever use of contraceptives into ever users who fail to fulfill their fertility plans, and nonusers whose needs if satisfied would decrease the prevalence of these pregnancies. The data show that almost one third of women with unintended pregnancies has never used contraceptive. This proportion increases to two-fifth if we include ever users who have not used any methods for the last five years. As expected, the circumstances that surround the

conception of unintended pregnancy differ for ever-users and never-users. The following subsections examine these circumstances and highlight some factors that can be address through policy intervention.

Ever users

Although ever users of contraceptives have the knowledge and previous experience that enable them to fulfill their reproductive goals, 48% of ever-users currently pregnant women perceives her current pregnancy unintended classified into 19% with mistimed perception and 29% with unwanted perception. This poses a question regarding the underlying circumstances that surround these pregnancies. One way of assessing these circumstances can be achieved through examining women's pattern of contraceptive use during the period that preceded this conception. The Egyptian DHS (1995) embodies a calendar that examines pregnancy history and contraceptive use over the five years period before the survey.

The examination of the calendar shows that at least 65% of currently pregnant women perceiving their current pregnancy unintended stopped use of contraceptives at least one month before conception. This proportion was higher among those with mistimed conception than those with unwanted perception (70% and 62%, respectively). Examination of reasons for discontinuation of contraceptives use among currently pregnant women carrying unintended pregnancy show that side effects and health concerns are the most mentioned reason. 44% of the women reported that reason. Method failure was the second most mention reason for discontinuation and was reported by 27% of women. Wanting to become pregnant was reported by 16% of women. Other reasons

such as accessibility, husband's approval, search for more effective methods and others were less important, each contribute by less than 5%.

Table 8 also shows that there is no difference between women who perceive their current pregnancies mistimed or unwanted except for the relative importance of method failure and wanting to become pregnant. Those who perceive their current pregnancy unwanted exhibit more relative importance for method failure than wanting to become pregnant, while those who have mistimed perception about their current pregnancy mention wanting to become pregnant more frequently than method failure.

ii) Never users

Never users represent the main target population for family planning programs and the principle component of unmet need. The importance of this group is magnified if their current pregnancies were reported to be unintended. In the current data, almost half currently pregnant women who never use contraceptives described their current pregnancies as "unintended." Furthermore, the majority of the unintended pregnancies were classified as mistimed rather than unwanted (30% of the never users reported current pregnancy was mistimed compared with 19% reporting it unwanted). This high prevalence of mistimed pregnancy is mainly attributed to the spacing needs of the never users rather than the limiting needs and the wide mis-conception of contraceptives as methods for limiting rather than spacing among never users.

Table 9 explores the effect of having an unintended pregnancy on future intentions regarding fertility and contraceptive use among never users. It shows that 78% of the never users who had an "unintended" pregnancy want no more children in the future. This

figure increases to almost 90% among never users who are currently pregnant with unwanted pregnancy. In addition, almost 5 % of never users with "unintended" pregnancies were undecided with regard to their future fertility plans. In other words, there is 83% potential demand among never users currently bearing "unintended" pregnancies if they were approached appropriately.

Respondent's intentions for future use show that almost 84% of never users who are currently bearing an "unintended" pregnancy have the intention to use contraceptive in the future with more than 67% of them intend to use within the next 12 months and 17% later. No substantial difference can be observed between those carrying mistimed or unwanted pregnancies. Among those who do not intend to use or not sure about the timing of future use (28 respondents), 10 respondents reported that their husbands disapprove family planning or that religious prohibits use of family planning methods, 7 respondents had health concerns or fear side effects, 6 were unable to report reasons for not using and 3 desired more children.

## VI. Conclusion

Unintended pregnancies are at the main core of the unmet need. The true essence of the unmet need lies in the avoidance of this type of pregnancies. Therefore, an examination of women attributes and the circumstances that surrounded these pregnancies can highlight main policy areas that contribute to decrease the number of these pregnancies.

An examination of the characteristics of women who bear unintended pregnancies indicated the importance of education in the reduction of these pregnancies in particular high levels of education (secondary levels and beyond). This relationship highlights the need for more comprehensive programs that can target women with low levels of

education attainment and identify their specific needs. The analysis also stresses the need for promoting contraceptives not only as means of limiting fertility but also as means of spacing particularly among never users. The false perception of contraceptives as limiting methods among never users has lead to their high proportions of mistimed pregnancies. Furthermore, husbands' involvement in the family fertility clearly support and reinforce women's ability to efficiently fulfill their fertility plans. More active role of husbands in the fertility and fertility related subject contributed to the decline in the incidence of unintended pregnancies.

The circumstances surrounding the conception of the unintended pregnancies among ever users of contraceptives indicated the importance of three main factors. The first, the fear of side effects and health concerns that was indicated by more than two out of every five women. This was followed by method failure and wanting to become pregnant respectively. These factors indicate women's need for efficient family planning counseling that would address their fear, health concerns and their needs. Furthermore, the data shows that special attention is warrant for those women who experience these unintended pregnancies in order to avoid their reoccurrence. Finally, fulfilling the needs for spacing and limiting of non-users can substantially decrease these unintended pregnancies.

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Table 1 Distribution of the unintended status of current pregnancies in Egypt ( EDHS, 1992 & 1995)

| At the time you became pregnant, did you want to become pregnant | 1992 | 1995 |
|---|---|---|
| All women | | |
| Then | 58.3 | 63.1 |
| Later | 16.0 | 18.7 |
| Not at all | 25.6 | 18.2 |
| Number of cases | 938 | 1452 |
| Women with at least one child | | |
| Then | 46.5 | 51.7 |
| Later | 18.7 | 23.3 |
| Not at all | 34.8 | 25.0 |
| Number of cases | 685 | 1040 |

Table 2 Descriptive statistics of the study sample, currently pregnant women in the EDHS,1995.

| Variables | | Mean |
|---|---|---|
| Age | | 27.6 |
| | | (5.7) |
| Respondent's education | no education | 41.0 |
| | primary | 20.9 |
| | Secondary and higher | 37.3 |
| Place of residence | urban | 36.4 |
| | Rural | 63.6 |
| Region | Urban gov. | 16.7 |
| | Lower Egypt | .37.5 |
| | Upper Egypt | 44.6 |
| | Frontier | 1.3 |
| Number of living children | | 2.4 |
| | | (1.6) |
| Number of living sons | | 1.2 |
| | | (1.2) |
| Number of living daughters | | 1.2 |
| | | (1.1) |
| Ideal number of children | | 2.8 |
| | | (1.2) |
| Number of births in the last 3 years | 0 | 36.7 |
| | 1 | 58.6 |
| | 2+ | 4.7 |
| Survival status of previous birth | | 5.7 |
| | Dead | 94.3 |
| | Alive | |
| Preceding birth interval | | 31.7 |
| | | (17.1) |
| Previous birth[ii] | wanted | 77.5 |
| | mistimed | 10.7 |
| | unwanted | 11.8 |
| Use of contraceptives | never use | 36.7 |
| | Traditional | 2.8 |
| | Modern | 60.5 |
| Husband's education | no education | 23.2 |
| | Primary | 28.4 |
| | Secondary | 36.9 |
| | higher | 11.4 |
| Husband approve family planning | approve | 79.5 |
| Discuss FP with husband | often | 26.1 |
| | once in while | 35.4 |
| | Never | 38.5 |

[ii] Among those who have a birth in the last five years.

Table 3 Description of the variables included in the regression analysis

| Variables | definition | | | |
|---|---|---|---|---|
| Age 30 and older | 1 | if age is 30 or older | 0 | otherwise |
| No education | 1 | if respondent has no education | 0 | otherwise |
| Primary or less education | 1 | if respondent has 1-6 years of education | 0 | otherwise |
| Rural Lower Egypt | 1 | if region is rural Lower Egypt | 0 | otherwise |
| Rural Upper Egypt | 1 | if region is rural Upper Egypt | 0 | otherwise |
| Urban Lower Egypt | 1 | if region is urban lower Egypt | 0 | otherwise |
| Urban Upper Egypt | 1 | if region is urban Upper Egypt | 0 | otherwise |
| 1-2 living children | 1 | if living children=1 or 2 | 0 | otherwise |
| 3-4 living children | 1 | if living children=3 or 4 | 0 | otherwise |
| Zero male child | 1 | if respondent has zero male child | 0 | otherwise |
| One male child | 1 | if respondent has one male child | 0 | otherwise |
| Zero female child | 1 | if respondent has zero female child | 0 | otherwise |
| One female child | 1 | if respondent has one female child | | |
| Preceding birth interval 0-1 yr. | 1 | if preceding birth interval is 0-1 yr. | 0 | otherwise |
| Death of preceding birth | 1 | if preceding birth is dead | 0 | otherwise |
| Ever use of contraceptives | 1 | if respondent never use contraceptives | 0 | otherwise |
| Husband with no education | 1 | if respondent's husband has no education | 0 | otherwise |
| Husband with primary or Less education | 1 | if respondent's husband has 1-6 years of education | 0 | otherwise |
| | 1 | | | |
| Discuss FP with husband | 1 | if respondent discussed family planning with her husband | 0 | otherwise |
| Husband approve FP | 2 | if respondent husband's approves family planning | 0 | otherwise |

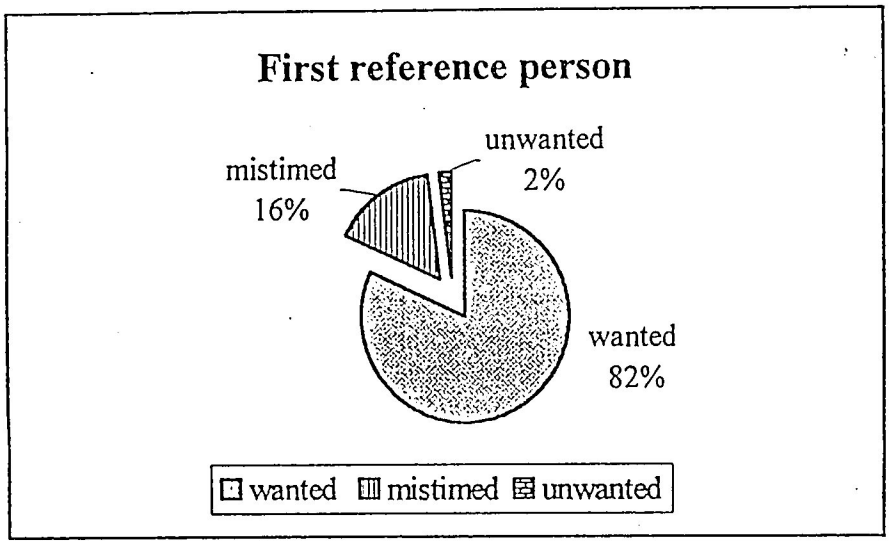
Table 4 Odds ratio of unintended pregnancies by the respondents attributes

| | Reference category | I | II | III | IV |
|---|---|---|---|---|---|
| Age 30 or older | Less than age 30 | 1.53 *** | 0.97 | 0.99 | 1.02 |
| Respondent's education | | | | | |
| No education | More than primary education | 1.14 | 0.77 | 0.88 | 1.08 |
| Primary or less education | | 1.55 *** | 1.27 | 1.35 * | 1.46 * |
| Place of resident | | | | | |
| Rural Lower Egypt | Urban governorates | 2.34 *** | 2.35 *** | 2.27 *** | 2.13 *** |
| Urban Lower Egypt | | 1.43 | 1.98 ** | 1.80 ** | 1.85 ** |
| Rural Upper Egypt | | 1.75 *** | 1.38 * | 1.57 *** | 1.57 ** |
| Urban Upper Egypt | | 2.05 *** | 1.90 *** | 1.83 ** | 1.69 ** |
| Number of children | | | | | |
| 1-2 children | More than 4 children | | 0.62 | 0.60 | 0.53 * |
| 3-4 children | | | 0.96 | 0.92 | 0.85 |
| Children's sex composition | | | | | |
| 0 male child | More than 1 male child | | 0.23 *** | 0.25 *** | 0.23 *** |
| 1 male child | | | 0.49 *** | 0.52 *** | 0.50 *** |
| 0 female child | More than 1 female child | | 0.42 *** | 0.43 *** | 0.41 *** |
| 1 female child | | | 0.69 * | 0.70 * | 0.72 |
| Other fertility related factors | | | | | |
| Preceding birth interval <1 yr | More than 1 yr birth interval | | 2.81 *** | 3.17 *** | 3.13 *** |
| No. of births in last three yrs. | Continuous | | 1.38 ** | 1.51 *** | 1.50 *** |
| Death of previous birth | Previous birth is alive | | 0.49 ** | 0.44 *** | 0.51 ** |
| Use of contraceptives | | | | | |
| Ever use of contraceptives | Never use contraceptives | | | 1.88 *** | 1.43 ** |
| Husband's attributes | | | | | |
| No education | More than primary education | | | | 0.76 |
| Primary or less education | | | | | 1.03 |
| Discuss FP often with Husband | Never or rarely discuss FP | | | | 1.66 *** |
| Husband approve FP | Does not approve FP | | | | 1.87 *** |
| Log likelihood | | -763.07 | -684.44 | -675.92 | -658.37 |
| df | | 7 | 16 | 17 | 21 |

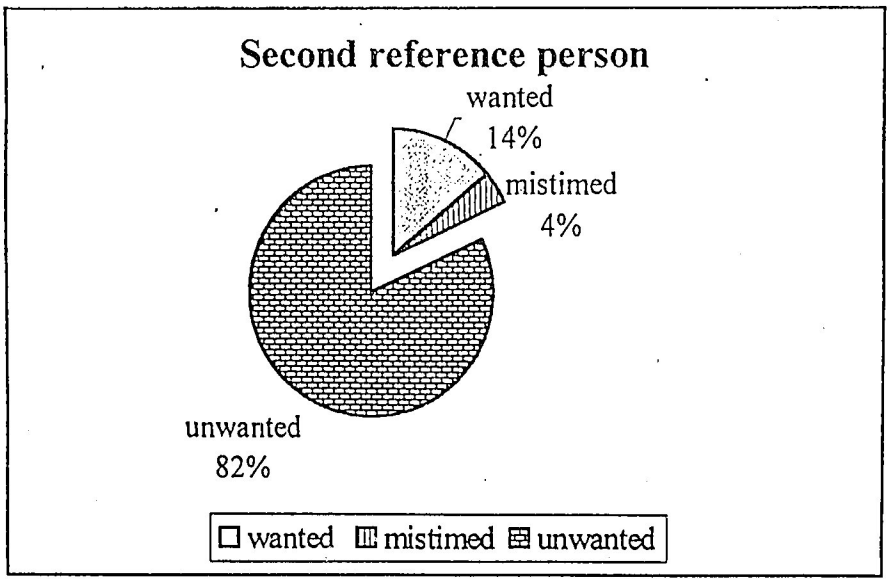
Table 5 Relative risk ratio of unintended status of current pregnancy by the respondents' attributes

| | Reference category | Mistimed | Unwanted |
|---|---|---|---|
| Age 30 or older | Less than age 30 | 0.56 ** | 1.81 *** |
| Respondent's education | | | |
| No education | more than primary education | 1.08 | 1.06 |
| primary or Less education | | 1.28 | 1.58 * |
| Place of resident | | | |
| Rural Lower Egypt | Urban governorates | 1.40 | 3.59 *** |
| Urban Lower Egypt | | 1.34 | 3.35 *** |
| Rural Upper Egypt | | 1.21 | 2.24 *** |
| Urban Upper Egypt | | 1.33 | 2.22 ** |
| Number of children | | | |
| 1-2 children | More than 4 children | 1.21 | 0.42 ** |
| 3-4 children | | 1.41 | 0.95 |
| Children's sex composition | | | |
| 0 male child | More than 1 male child | 0.42 *** | 0.08 *** |
| 1 male child | | 0.63 * | 0.40 *** |
| 0 female child | More than 1 female child | 0.67 | 0.21 *** |
| 1 female child | | 0.94 | 0.49 *** |
| Other fertility related factors | | | |
| Preceding birth interval <1 yr | More than 1 yr birth interval | 3.92 *** | 1.56 * |
| No. of births in last three yrs. | Continuous | 1.42 * | 1.84 *** |
| Death of previous birth | Previous birth is alive | 0.53 * | 0.42 ** |
| Use of contraceptives | | | |
| Ever use of contraceptives | Never use contraceptives | 0.93 | 3.03 *** |
| Husband's attributes | | | |
| no education | More than primary education | 0.53 *** | 1.30 |
| primary or less education | | 0.90 | 1.40 |
| Discuss FP often with Husband | Never or rarely discuss FP | 1.66 *** | 1.73 *** |
| Husband approve FP | Does not approve FP | 1.71 *** | 1.95 *** |

Figure 1 predicted probability for the unintended status of current pregnancy




The first reference woman is less than 30 years of age, with more than primary education who live in an urban governorate, has one female child born more than one year ago, used contraceptives before and married to a husband with more than primary education who approves family planning and frequently discusses it with his wife.




The second reference women is more than 30 years of age, with no education who live in rural Lower Egypt, has more than 4 sons and daughters with the youngest one born less than year ago and died, her youngest two children were born with the last three years, used contraceptives before and married to a husband with no education who disapproves family planning and never discusses it with his wife.

Table 6 Unintended status of current pregnancy and last birth

| Unintended status | % |
|---|---|
| Intended current pregnancy and last birth | 49.6 |
| Intended current pregnancy but not last birth | 4.1 |
| Did not intended current pregnancy but intended last birth | 27.2 |
| Did not intended current pregnancy or last birth | 19.1 |
| No. of cases | 970 |

Table 7 Attributes of women by the unintended status of their current pregnancy and last birth

| Variables | Intended the two | Intended only one | Did not intend the two |
|---|---|---|---|
| **Age ***** | | | |
| Age less than 30 yr. | 53.9 | 33.8 | 12.3 |
| Age 30 yr. and older | 39.4 | 25.4 | 35.2 |
| Average age | 26.2 | 26.5 | 29.7 |
| std | (5.1) | (5.1) | (5.5) |
| **Education****** | | | |
| No education | 49.49 | 29.77 | 20.47 |
| Primary or Less education | 38.80 | 34.43 | 26.78 |
| More than primary education | 55.52 | 32.49 | 11.99 |
| **Region **** | | | |
| Urban governorates | 54.55 | 31.31 | 14.14 |
| Urban Lower Egypt | 50.00 | 38.71 | 11.29 |
| Rural Lower Egypt | 43.01 | 32.26 | 24.73 |
| Urban Upper Egypt | 48.35 | 29.67 | 21.98 |
| Rural Upper Egypt | 47.79 | 32.63 | 19.58 |
| **No. children ***** | | | |
| 1-2 | 59.22 | 33.33 | 7.44 |
| 3-4 | 34.86 | 29.36 | 35.78 |
| More than 4 | 28.68 | 26.47 | 44.85 |
| Average | 2.1 | 2.3 | 3.9 |
| std | (1.5) | (1.5) | (1.8) |
| **Male children***** | | | |
| Zero | 61.20 | 30.80 | 8.00 |
| One | 53.61 | 31.24 | 15.15 |
| More than one | 33.68 | 31.96 | 34.36 |
| **Female children***** | | | |
| Zero | 56.19 | 36.12 | 7.69 |
| One | 55.11 | 31.25 | 13.64 |
| More than one | 37.30 | 26.96 | 35.74 |
| **Preceding birth intervals ***** | | | |
| 0-1 yr. | 36.59 | 41.62 | 21.79 |
| more than one yr. | 57.19 | 25.33 | 17.48 |
| **Death of previous birth** | | | |
| Preceding birth is dead | 50.00 | 24.14 | 25.86 |
| Preceding birth is alive | 49.56 | 31.80 | 18.64 |
| **Use of contraceptives **** | | | |
| Ever use | 47.18 | 30.49 | 22.33 |
| Never use | 52.31 | 32.31 | 15.38 |
| **Husband's education***** | | | |
| no education | 52.8 | 26.4 | 20.7 |
| primary or less education | 43.3 | 31.9 | 24.7 |
| more than primary education | 51.6 | 33.9 | 14.4 |
| **Discussion of FP with Husband***** | | | |
| often | 42.14 | 35.36 | 22.50 |
| rarely or never | 59.76 | 25.85 | 14.39 |
| **Husband's attitude towards FP***** | | | |
| approve | 45.69 | 34.17 | 20.14 |
| does not approve | 60.80 | 23.20 | 16.00 |

The standard deviation of the averages are shown in the parentheses.

Table 8 Reasons for unintended pregnancies among ever users

| Reasons | Mistimed | Unwanted | Total |
|---|---|---|---|
| Became pregnant while using | 20.2 | 32.3 | 27.5 |
| Wanted to become pregnant | 32.6 | 11.8 | 16.5 |
| Husband disapprove | 1.1 | 1.4 | 3.1 |
| More effective method | 1.5 | .0.0 | 0.6 |
| Side effects + health concerns | 45.7 | 42.4 | 43.8 |
| Access + cost + inconvenient | 2.6 | 3.6 | 3.2 |
| Others | 5.2 | 5.6 | 5.4 |
| Total | 119 | 179 | 298 |

Table 9 Fertility and contraceptive use intentions among never users with unintended pregnancies

| | Later | Not at all | Total |
|---|---|---|---|
| Intention for future fertility | | | |
| - no more | 70.8 | 90.2 | 78.4 |
| - undecided | 7.0 | 2.8 | 5.4 |
| - wants more | 22.2 | 7.0 | 16.2 |
| | | | |
| Intention for future use | | | |
| - use in the next 12 month | 67.7 | 66.8 | 67.4 |
| - use later than 12 months | 16.2 | 18.9 | 17.2 |
| - unsure ( timing and/or use) | 8.2 | 6.2 | 7.4 |
| - not intend to use | 7.9 | 8.2 | 8.0 |
| Total | 124 | 81 | 205 |