Mistimed and Unwanted Pregnancies in Jordan: A Modern Woman's Conundrum.

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ABSTRACT

Context: Over the past two decades in Jordan, contraceptive use has risen, and total fertility has declined. However, the proportion of pregnancies resulting in live births that are reported as wanted but mistimed, or reported as occurring at a time when the woman had decided that she wanted no more children, has risen over time; there is thus a need to explore the risk factors for experiencing unintended pregnancy in the Jordanian context.

Methods: Two multinomial logistic regression analyses of the risk factors for unintended pregnancy (both unwanted and mistimed) were conducted using a subsample of women who were interviewed for the 2002 Jordan Population and Family Health Survey. The study sample for the first analysis consisted of 3,881 women whose most recent pregnancy occurred between January 1997 and October 2002; the second analysis selected from this group the 2,030 women who had used a contraceptive method prior to the index pregnancy within the five years before the survey, in order to determine the effect of contraceptive source and contraceptive method on probability of experiencing an unplanned pregnancy.

Results: The multivariate analysis indicated that several factors significantly influenced the likelihood that a woman would classify her most recent pregnancy as unwanted or mistimed. Risk factors that independently increased the likelihood of an unintended pregnancy included ever-use of modern contraception, use of the contraceptive pill, and number of previous births. Factors associated with pregnancy reported as intended included use of the IUD, obtaining contraceptive services from private medical providers, and ability to pay for health care with little difficulty.

INTRODUCTION:

The impending birth of any child takes place within a complex of social relations, the dynamics of which carry implications for the pregnancy itself, the family affected by the pregnancy, and the community and society within which the pregnancy and birth take place. When a pregnancy comes sooner than desired, or comes at a time when the mother had wished for no more children, the complexities associated with the birth of that child are more likely to be perceived as complications.

Previous research has shown that women with unintended pregnancies are less likely to get the recommended health care (Eggleston, 2000; Bitto, Gray, Simpson, Queenan et al. 1997; Joyce & Grossman, 1990); that children whose conceptions were unintended have poorer health and educational outcomes (Marston & Cleland, 2003; Eggleston, Tsui & Kotelchuck, 2001; Kallan, 1993; Sable, Spencer, Stockbauer, Schramm, Howell & Herman, 1997; Myhrman, Olsén, Rantakallio, & Läärä, 1995; Bustan & Coker, 1994; but see Joyce, Kaestner & Korenman, 2000); and that women who become unintentionally pregnant have poorer health outcomes (Barber, Axinn & Thornton, 1999) and are more likely to have experienced spousal violence (Campbell, Pugh, Campbell & Visscher, 1995; Gazamararian, Adams, Saltzman, Johnson, Bruce et al. 1995). In the aggregate, nations with high levels of unintended pregnancy incur higher rates of population growth, often stressing national resource availability and distribution, than they would if couples were able to effectively implement their fertility preferences (see Petro-Nustas and Al-Qutob, 2002: 517). It is thus of interest, from a public health, gender, and population perspective, to explore the risk factors for unintended pregnancy, to enable policymakers and program planners to better understand and address this issue via legislation and targeted provision of relevant services.

The analyses presented in this article examine the risk factors associated with having a mistimed pregnancy, or a pregnancy that occurred at a time when the mother wished for no more children[1], in the Hashemite Kingdom of Jordan. Social, geographic, and economic indicators, as well as demographic indicators, will be assessed for their influence on the probability that a woman has a mistimed or unwanted pregnancy.

Over the past two decades, the total fertility rate has declined in Jordan, from 7.4 lifetime births per woman in 1976 to 3.7 births per woman in 2002. This decline in fertility is partially the result of a concomitant increase in proportions of ever-married women currently using modern contraception, rising from 27% in 1990 to a plateau of 38-39% in 1997 and 2002[2]. Despite these improvements in key fertility-related indicators, the proportion of births reported as mistimed or unwanted has not decreased since 1990, when the Jordan Population and Family Health Survey (JPFHS) indicated that 32% of births to ever-married women within the five years preceding the survey were unintended; 21% of pregnancies resulting in live births were considered unwanted, while 11% were mistimed. The 2002 JPFHS revealed that the proportion of unintended pregnancies was equally high, at 33%, but differently distributed: 16% of births were considered unwanted, and 17% were considered mistimed. If the unwanted pregnancies

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[1] For the sake of parsimony, from this point on I will refer to the status of pregnancies that occurred earlier than desired as 'mistimed,' and those that occurred at a point in time when the woman had decided that she wanted no more children as 'unwanted.' Children born later than desired are not considered, in the literature on unintended fertility, to be mistimed.

[2] In order to maintain comparability between the 1997 and 2002 figures, I have not included those who report using LAM as a contraceptive method in the 2002 figures for current modern method use, as LAM was not considered a modern method in 1997, and as almost all women who report that they use LAM in Jordan are in fact ineligible to use the method effectively, due to either reported breastfeeding behaviors incompatible with LAM, the return of menses, or the age of the infant being greater than 6 months.

reported in the 2002 JPFHS had been prevented, Jordanian women would have had an average of 2.6 births per woman, rather than the current 3.7 births.

Jordan has had an explicit and official national population policy since the 1990s, aimed at promoting improved maternal and child health, as well as reducing fertility, through advocating increased birth intervals. Contraception is also widely used and approved of: 81 percent of currently married women have ever used a method of contraception, and the large majority of Islamic religious leaders (82 percent of male and 98 percent of female religious leaders) justify the use of family planning within the context of the national religion (Underwood, 2000). As health facilities are reasonably accessible to the vast majority of the population, and the use of contraception is popularly accepted, it is of significant concern that such a large proportion of women of childbearing age continue to report mistimed and unwanted pregnancies, despite government efforts to enable families to plan their fertility.

In an attempt to determine the relevant underlying issues, this paper presents two separate analyses: the first seeks to determine risk factors for unplanned pregnancy among women who have had a birth in the five years prior to the survey, or are currently pregnant. The second analysis restricts the sample used in the first analysis to those women who report using some kind of contraceptive method prior to the index birth or current pregnancy, but within the five years preceding the survey. The purpose of the second analysis is to allow for an assessment of the effects of contraceptive method, as well as the effects of the source of contraceptive method, on the planning status of the woman's most recent pregnancy.

Background

There exists a significant body of research in the area of unintended pregnancy, which identifies several risk factors for experiencing mistimed or unwanted pregnancy. One limitation of the current literature, however, is the lack of analyses of pregnancy intendedness using data from the developing world, despite the availability of appropriate data from the multi-national Demographic and Health Surveys program. The large majority of work on this topic has analyzed data from the United States, rather than from developing countries, with the exception of one analysis of mistimed and unwanted pregnancy in Ecuador (Eggleston 1999).

It is conceptually difficult to apply the findings in the American literature on mistimed an unwanted pregnancy to the situation in Jordan. First, very little fertility occurs outside of marriage in Jordan, while 32% of all births in the United States occur outside of marriage (Sawhill 1999); these non-marital pregnancies are more likely to be considered mistimed or unwanted. Secondly, although abortion has become progressively more difficult to obtain in the United States, it remains legal and available upon demand. In Jordan, abortion on demand is not legal; it is permitted exclusively on the grounds of saving the life of the mother, or to preserve her physical or mental health, in which cases the procedure must be certified by two licensed physicians (United Nations Population

Division, 2002). Given that those who opt for the termination of a pregnancy are more likely to consider that pregnancy unwanted, it is probable that most American data on wantedness of pregnancy are biased by the availability of abortion[3]. Thus, findings regarding the determinants of unwanted pregnancy in the American setting may not translate well to the Jordanian context.

Another limitation of the current body of research on this topic is that there is a tendency in the literature to use of a fairly narrow range of explanatory variables in the analyses. Most analyses on the topic of mistimed or unwanted fertility incorporate only basic demographic variables as predictors of an outcome that occurs in a highly dynamic and multidimensional context. Since adoption of changing ideas and behaviors, such as desiring smaller family sizes and using contraception, is a social process steeped in human interaction with a social environment, it stands to reason that social factors should account for some of the variation in pregnancy planning status. This analysis includes several variables that attempt to tap social dimensions likely to be associated with mistimed or unwanted pregnancy, such as indicators of women's empowerment, attitudes toward fertility and contraception, and economic variables; a geographic variable is also included to assess the affect that distance from health facility has on pregnancy planning status.

Methodology
Survey data
The data in this study come from the Demographic and Health Surveys (DHS). These nationally and regionally representative surveys have been carried out since 1984 in over 70 less-developed countries. Many countries have had periodic DHS surveys, including Jordan, which has had three Demographic and Health Surveys (1990, 1997, and 2002), as well as a World Fertility Survey in 1976 and a Fertility and Family Health Survey in 1983. The surveys are based on scientifically selected samples of households and inquire about household and household members' characteristics. Basic characteristics of all members and overnight guests are collected in a schedule format, similar to that of a census, with information provided by any adult member of the household. Individual women of reproductive age (15 to 49 years) are interviewed individually in face-to-face interviews on their background characteristics, work status, fertility levels and desires, contraceptive use, and use of maternal and child health services. Infant and child mortality is obtained through a birth history. Nutritional status of children and women is determined through anthropometry, and anemia status is measured by use of portable hemoglobinometers.

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[3] For example, some of the datasets most frequently used for analysis of pregnancy intention in the United States such as the PRAMS (Pregnancy Risk Assessment Monitoring System) or the NSFG (National Survey of Family Growth), collect wantedness information from mothers who recently gave birth to a live infant. Pregnancy terminations (induced or miscarried) therefore are not assessed for their wantedness status (d'Angelo, Gilbert, Rochat, Herold & Santelli, 2001; Petersen and Koos, 1997).

The DHS surveys interview between 3,500 and 90,000 households, with 5,000 to 8,000 being typical. On average, approximately one woman per household is found to be of reproductive age, though all such women are interviewed.

The data used in this analysis are drawn from a nationally-representative sample of ever-married women, collected during the fielding of the Jordan Population and Family Health Survey, between July and September of 2002. The sample was designed to be reliably representative of the country as a whole, of urban and rural areas, of each of the three regions of Jordan, and for each of the three major governorates of Amman, Irbid and Zarqa. A stratified two-stage cluster design was employed, such that 7,907 households were sampled; of those, 7,825 households were interviewed, for a 99% household response rate. Only ever-married women between the ages of 15 and 49 were eligible for interview; 6,151 were selected, and 6,006 were interviewed, for an individual response rate of 98%.

Women were selected for this analysis on the basis of having given live birth in the five years preceding the survey, between January 1997 and October 2002, or having been pregnant at the time of the interview; this subsample comprises 3,881 women, or 65% of the total sample. Only the most recent pregnancy ending in a live birth, or a woman's current pregnancy, is included in the analysis, to control for multiple pregnancies that may have occurred to the same woman during the five years preceding the survey. Eighteen percent of the women in the study were pregnant at the time of the survey.

Weaknesses of the analyses
One weakness of this analysis is that it is possible to know the wantedness status only for either current pregnancies or most recent pregnancies that resulted in a live birth – women were not asked about the wantedness of either terminations or miscarriages. This is problematic, in that pregnancies that are unwanted are more likely to end in induced termination, or miscarriage, since the evidence is strong that women who do not intend to become pregnant are less likely to seek timely antenatal care. However, in Jordan, the fact that abortion is not freely available is likely to mitigate some of the bias introduced by the limitations of the data.

Another potential weakness of this analysis is that of recall bias: women may not remember their feelings about their pregnancy upon learning of it; they may also rationalize away any prior feelings of unwantedness once the child is born and becomes a beloved member of the family. To limit recall bias, only the most recent pregnancy resulting in a live birth within the five years preceding the survey is included in this analysis, or, if the woman is currently pregnant, she is asked about her feelings about the current pregnancy, in which case both recall bias as well as post-birth rationalization become relative non-issues (for more discussion, see Petersen and Moos, 1997). For those pregnancies for which it is not possible to mitigate post-birth rationalizations, it is assumed that some small proportion of women will not report accurately the feelings that they had about the pregnancy at the time that they became pregnant, such that an unintended pregnancy would be reported as wanted. A measurement error of this type

would bias the results such that there would be an underestimation of pregnancies that were either mistimed or unwanted.

A final possible weakness is that the concept of intendedness or wantedness of pregnancy may not be viable for some of the respondents; the belief that the number of children that one has, and the circumstances of their arrival, are up to God may render irrelevant a question on the timing of a pregnancy or its wantedness. However, given the degree to which fertility control is espoused in Jordan – 81 percent of currently married women in Jordan have ever done something in an effort to contracept – mitigates the influence of this potential weakness.

Analytical approach
It is of interest to discern the odds of a woman having a pregnancy that is wanted at the time of conception, a pregnancy that is wanted but mistimed, or a pregnancy that occurred at a time when the woman did not want any more children. Because the circumstances of women who report planned, mistimed, or unwanted pregnancies have been shown to differ (Eggleston 1999), and because the bivariate results of this analysis supported an approach that treated each category of intendedness as distinct, such that factors associated with mistimed pregnancies differed from those associated with unwanted pregnancies, multinomial logistic regression was determined to be the most appropriate method of multivariate analysis. For bivariate analysis, chi-square tests of independence were implemented.

Only the results of the reduced multivariate models are shown and discussed here; covariates were removed from the full models on the basis of the likelihood ratio test, which describes the relationship of each independent variable to the dependent variable. Various combinations of the independent variables were entered into the models in both forward and backward sequences in order to ensure that the best-fitting subset of covariates remained in the final reduced models.

By chance accuracy exceeds the 25 percent criteria for all multivariate models presented; that is, the proportional by chance accuracy rates of the models exhibit at least a 25 percent improvement in predictions of group membership (whether the pregnancy was wanted then, mistimed, or unwanted) over the rate of accuracy achievable by chance alone.

Dependent variable
The outcome of interest for these analyses, pregnancy intention status, is a retrospective measure of a woman's feelings about her pregnancy at the time that she learned she was pregnant. Women who were pregnant at the time of the survey were asked "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 want</u> to have any (more) children at all?" Women who were not pregnant at the time of the survey, but had had a birth in the five years preceding the survey, were asked approximately the same question: "At the time you became pregnant with (NAME), did you want to become pregnant <u>then</u>, did you want to wait until <u>later</u>, or did you <u>not want</u> to have any (more) children at all?"

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Explanatory variables

The covariates included in this analysis can be categorized into a few broader groupings: basic demographic indicators, socioeconomic indicators, social context indicators, and fertility-related indicators. A geographic indicator is also included.

The demographic indicators include urban/rural residence and age. These variables are important in their own right as potentially being able to distinguish among intendedness categories; they are also important as control variables in these models. Socioeconomic status indicators include the education levels of the husband and the wife; the long-run economic status of the household, as measured by the DHS wealth index[4]; and the acute economic status of the household, as measured by the response to a question on whether having money to pay for health care was a big problem or not. Indicators of the social context in which decisions about contraception are made, and in which pregnancies occur, are important in order to obtain a more comprehensive understanding of unintended pregnancy. To that end, variables reflecting a woman's employment status, whether she has the final say in making decisions about her own health care, and whether she has a say (either solely or jointly) in making financial expenditure decisions for the household are included. Overlapping the social context category of variables are the fertility-related indicators that have been included: the degree to which the fertility preferences of the husband and wife are consonant, whether the husband approves of the use of contraception, whether the woman herself has ever used a modern contraceptive method, and the number of children a woman has borne, exclusive of the index pregnancy or birth. Finally, a geographic measure was included of the distance in kilometers to a public health facility from the center of the sampling cluster from which the respondent's household was selected[5]. Including this measure should allow an

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[4] Recent advances in the use of survey-based household assets data allow researchers to evaluate the distribution of poverty in populations (Filmer and Pritchett 1998). The wealth index used here is one recently developed and tested in a large number of countries with regard to inequities in household income, use of health services, and health outcomes (Rutstein, Johnson and Gwatkin 2000). It is an indicator of wealth that is consistent with, though different from, expenditure and income measures (Rutstein 1999). It is best interpreted as an indicator of a household's permanent income status. The wealth index was constructed using household asset data (including country-specific assets) and principle components analysis. The asset information was collected through the DHS household questionnaire, and concerns household ownership of a number of consumer items ranging from a television to a bicycle or car, as well as dwelling characteristics such as type of drinking water available, sanitation facilities used, roofing and flooring. Each asset was assigned a weight (factor score) generated through principle components analysis, and the resulting asset scores were standardized in relation to a standard normal distribution with a mean of zero and a standard deviation of one (Gwatkin et al. 2000). Each household was then assigned a score for each asset, and the scores were summed by household. The sample was weighted by number of members in each household, and then divided into population quintiles; each quintile was designated a rank, from one (poorest) to five (wealthiest), and individuals were ranked according to the total score of the household in which they resided.

[5] This measure was calculated "as the bird flies," rather then via road networks, since the road network data were not comprehensive; since in most urban areas, it is shorter to walk to your destination than to drive; and since, in rural areas, where the distance between cluster and facility is expected to be greatest, over terrain that is fairly flat, little information is lost by using straight-line estimations of distance as opposed to estimations based on distance traveled by road. Also note that these are measures only of distances to

assessment of whether proximity to a health facility influences the likelihood of unintended pregnancy; it is believed that proximity to a public health facility, which is expected to be a source of both contraceptive information as well as modern contraceptive methods, should decrease the probability of having an unplanned pregnancy.

Results

The results of the analyses will be presented separately; the first set of results will present the findings for the analysis of the risk factors for unintended pregnancy for all women who have had a birth in the five years preceding the survey. The second set of results will present the findings for the analysis of unintended pregnancy for women who had a birth, before which they used a contraceptive method, in the five years preceding the survey.

<u>Results of Analysis One: Risk factors for unintended pregnancy among all women with a birth in five years prior to the survey</u>.

Background characteristics
Among currently-married Jordanian women who had recently been pregnant, 75 percent lived in an urban setting, while the remainder lived in rural areas (Table 1). Most women were between the ages of 25 and 34, with 16 percent of women in age group 20-24 and 17 percent in age group 35-39; there were very few teenaged mothers in this sample. The education level of women as well as of their husbands was fairly high, with more than 60 percent having secondary or higher education. Respondents fell disproportionately into households ranked at the lower end of the wealth index, although most women (72 percent) reported that paying for health care was not a big problem for them. The large majority of women were not employed at the time of the survey (90 percent).

In terms of women's ability to negotiate personal and household matters of importance, 61 percent of women reported that they had the final say in matters of their own health care, and 78 percent of women reported that they had at least joint input into making either large or small household purchases. Over half of women (53 percent) said that they agreed with their husbands on how many children they wished to have, while 29 percent of women report that their husband wants more children than they do, and 13 percent report that their husband wants fewer. The great majority of women (89 percent) report that their husbands approve of contraceptives, and 76 percent of women have ever used a modern method of contraception. The women in this sample have an average of 3.9 children. The average distance a woman must travel to get from her neighborhood to a public health facility is 1.1 kilometers.

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public/government health facilities; private facilities also exist, but GIS (global information systems) datapoints for these were not available.

Pregnancy intention status – bivariate analysis
About 60 percent of women reported that their most recent pregnancy was wanted at the time, 20 percent reported that the index pregnancy was mistimed, and 20 percent reported that it was unwanted (Table 2). Pregnancy intention varied significantly by most variables; only those with significant relationships in the bivariate will be discussed here. It is important to note that the bivariate results indicate distinctions between women with mistimed pregnancies and those with unwanted pregnancies.

Urban women were more likely to report that their pregnancy was wanted then than were rural women (62 percent as compared to 55 percent). Rural women were much more likely that urban women to report a pregnancy as mistimed (24 percent compared to 18 percent), but were only marginally more likely than urban women to report a pregnancy as unwanted.

Age has a monotonic relationship with wantedness: as age increases, the proportion of women reporting their pregnancy as wanted decreases, from 76 percent at age 15-19 to 44 percent at age 40-49. The reverse is true for unwantedness, such that unwantedness increases with age, from 5 percent among those 15-19 years old to 48 percent among those 40-49 years old. Mistimed pregnancy has an inverted U-shaped relationship with age: 20 percent of those age 15-19 reported that their most recent pregnancy was mistimed, 25 percent of those age 25-29 reported mistiming, while 7 percent of women age 40-49 reported their last pregnancy as mistimed. Women below the age of 30 were much more likely to say that their pregnancies were mistimed as opposed to unwanted; women above the age of 34 were more likely to say that their pregnancies were unwanted as opposed to mistimed. Women in the age group 30-34 were equally likely to say that their pregnancy was mistimed as they are to say that it was unwanted.

Wantedness varies directly with both men's and women's education such that those with no education were much less likely to report their pregnancy as wanted than those with secondary or higher education; the converse is true for unwantedness, such that unwantedness decreases monotonically with education. Only those with no education were less likely than other educational groups to say that their last pregnancy was not mistimed.

There is little relationship between the long-run economic status of the household in which a woman lives, as reflected by the wealth index, and the wantedness of her most recent pregnancy. However, there is a negative and monotonic relationship between wealth and the reporting of mistimed pregnancy: only 14 percent of the women in the wealthiest quintile reported their most recent pregnancy as mistimed, whereas about 21 percent of those in the two poorest quintiles reported their pregnancy as mistimed. As far as unwantedness, only the wealthiest quintile was distinctly more likely than the others to report a pregnancy as unwanted; quintiles 1 through 4 range from 18 percent to 20 percent reporting their last pregnancy was unwanted, as compared to 25 percent for those in the fifth, or wealthiest, quintile. Those who said that paying for health care is a big problem were much more likely to report a mistimed or unwanted pregnancy, and were less likely to report a wanted pregnancy: 54 percent of those who said that paying for

health care was a big problem said that their pregnancy was wanted then, while 63 percent of those for whom paying for health care was not a problem said that their pregnancy was wanted.

Women who reported that they have the final say on their own health care were somewhat more likely to report mistimed or unwanted pregnancies. Women whose fertility preferences matched those of their husbands were most likely to report their last pregnancy as wanted (64 percent); those women whose husbands want more children than they do, or who do not know their husband's fertility preferences, were least likely to say that their pregnancy was wanted (about 54 percent). Those who don't know their husband's fertility preference were also the most likely to report an unwanted pregnancy (25 percent).

The variable that distinguishes women most clearly by wantedness status is that of ever-use of modern contraception. Women who have ever used modern contraception were much less likely than those who never have used it to report their last pregnancy as wanted: 56 percent of ever-users reported their last pregnancy as wanted, compared to 75 percent of those who have never used modern contraception. While users of modern contraception were more likely to report a mistimed pregnancy than non-users (21 percent as compared to 15 percent), they were even more likely to report an unwanted pregnancy (23 percent as compared to 10 percent).

Increased parity was significantly associated with unwanted pregnancies: the mean number of previous births among women reporting their last pregnancy as unwanted was 4.7, while the corresponding averages for mistimed and wanted pregnancies were 2.8 and 2.3, respectively (table not shown).

Multivariate analysis

As stated previously, only the reduced multivariate models are discussed here; many of the variables that showed significance in the bivariate failed to show a significant overall relationship to the dependent variable in the multivariate analysis, and were therefore dropped from the final models. Variables that remained in the model include area of residence, age, woman's education, difficulty of paying for health care, whether or not the respondent has a say in household economic decisions, whether the husband approves of contraceptives, whether the woman has ever used modern contraception, and the number of previous births a woman has had. Results for the first multivariate analysis are shown in Table 3.

Unwanted vs. wanted then: Women with no education were about 40 percent less likely than women with more than secondary education to say that their most recent birth or current pregnancy was unwanted as opposed to wanted then. Those who said that paying for health care was not a big problem were one-third less likely than those who had trouble paying for health care to say that the index pregnancy was unwanted. Women who said that their husbands do not approve of contraception were 35 percent

less likely than women whose husbands do approve of contraceptive use to say that the index pregnancy was unwanted, while women who have never used modern contraception were also 35 percent less likely to say that their most recent pregnancy was unwanted as opposed to wanted then. Every additional birth increased the likelihood that a woman reported her most recent pregnancy as unwanted rather than wanted at the time by almost 60 percent.

Mistimed vs. wanted then: The relationship between age and mistimed pregnancy, as opposed to wanted pregnancy, is negative. Women age 15-24 were about 12 times more likely than women age 40-49 to say that a pregnancy is mistimed, rather than wanted then. Women age 25-29 were almost 9 times more likely than women age 40-49 to say that the index pregnancy was mistimed as opposed to wanted at the time, while women age 30-34 and 35-39 were respectively about 5 times and 2 times more likely than women age 40-49 to say that their more recent pregnancy was mistimed as opposed to wanted then. These age-related results correspond with those achieved by Eggleston (1999) in a similar analysis. With regard to education, all education groups were 57 (no education) to 34 percent (secondary) less likely than women with higher than secondary education to report that a pregnancy was mistimed as opposed to wanted at the time. Those who said that paying for health care was not a big problem were one-fifth less likely than those who said paying for health care was a big problem to say that the index pregnancy was mistimed. Women who have never used modern contraception were 41 percent less likely to say that their most recent pregnancy was mistimed as opposed to wanted then, and every additional birth that a woman has had increased the likelihood that she reported her most recent pregnancy as mistimed rather than wanted at the time by 37 percent.

Mistimed vs. unwanted: Women living in urban areas were 23 percent less likely than women living in rural areas to report the index pregnancy as mistimed, as opposed to unwanted. The relationship of age to planning status of the index birth is such that the youngest women (15-24) were about 10.5 times more likely than the oldest women to say that their pregnancy was mistimed, as opposed to unwanted. As women increased in age, they were less likely than younger women to characterize their pregnancies as mistimed rather than unwanted, but still much more likely to do so compared to women in the reference category age group of 40-49. Only women who had secondary education were significantly less likely than women with higher than secondary education to characterize their most recent pregnancy as mistimed, rather than unwanted. Women who said that they do not have input into household spending decisions are 30 percent less likely than women who do have economic decisionmaking power to report the index pregnancy as mistimed, as opposed to unwanted, while women who said that their husbands do not approve of contraception are 45 percent more likely than women whose husbands approve of contraceptive use to report that a pregnancy was mistimed, rather than unwanted. Every additional birth that a woman has had decreased the probability that she would characterize the index pregnancy as mistimed, rather than unwanted.

Results of Analysis Two: Risk factors for unintended pregnancy among women who had a birth, before which they used a contraceptive method, in the five years prior to the survey

Background characteristics
The women in the subsample selected for the second analysis, for which inclusion was determined on the basis of both having had a birth in the five years preceding the survey, as well as having used contraception prior to that birth but also within the five years preceding the survey, are similar to those in the sample used for the first analysis for all characteristics except for age – they are more concentrated in the 25-34 age group – and except for indicators of women's empowerment (Table 4). Women in this subsample were somewhat more likely to have the final say on the matter of their own health care (64 percent have the final say) and to have input on decisions to make household purchases (80 percent have input on purchases); the finding of an association between empowerment and contraceptive use supports existing evidence in the literature (Schuler and Hashemi, 1994). These respondents were also more likely to report that their husbands approve of contraceptive use, but that is to be expected given that the subsample was selected on the basis of recent use of contraception.

Pregnancy intention status – bivariate analysis
Women in this subsample were less likely than those in the first analysis to report their most recent pregnancy as wanted (54 percent as compared to 61 percent); 24 percent reported that the index pregnancy was mistimed, and 22 percent reported that it was unwanted (Table 5). Pregnancy intention varied significantly by eight of the twelve variables included in the analysis.

Urban women were more likely than rural women to say that the reference pregnancy was wanted, and less likely to say that it was mistimed; there was no regional difference according to unwantedness – both urban and rural women were equally likely to report their pregnancy as unwanted. The relationship of age to wantedness describes an inverted-U shape, such that 41 percent of women in the youngest age group said that their most recent pregnancy was wanted then, about 57 percent of women in the 25-29 and 30-34 age groups said their pregnancy was wanted, and 35 percent of women in the oldest age group reported the same. This inverted U-shape is reversed for the relationship of age to unwantedness: 24 percent of women age 15-19 said that their last pregnancy was unwanted, 10 percent of those age 20-24 and 13 percent of those 25-29 said that their last pregnancy was unwanted, and almost 60 percent of those age 40-49 reported their most recent pregnancy as unwanted. Mistimed pregnancies have a negative and monotonic relationship to age, with the youngest being most likely to say that their pregnancy was mistimed (35 percent), and the oldest being the least likely (6 percent).

Wantedness and unwantedness have monotonic relationships with education level, in opposite directions: women with no education were the least likely to say that their last pregnancy was wanted (37 percent), while women with higher than secondary education were the most likely to say so; in turn, the most educated women were least likely to

report their pregnancy as unwanted, while the least educated women were the most likely to do so. There is little variation in mistimed pregnancy by education level. The relationship of wealth and difficulty of paying for health care to the intendedness of the index pregnancy is the same in this subsample as it was for the original sample.

Because the women in this subsample reported using a contraceptive method (either modern or traditional) prior to their most recent pregnancy, but also within the five years preceding the survey, it was possible to assess the relationship between the source of the contraceptive and intendedness status of the index pregnancy, as well as the relationship between the contraceptive method itself and pregnancy intendedness. Both of these additional explanatory variables have a significant relationship to intendedness at the bivariate level. Table 5a shows the percent distribution of methods according to source.

Women who obtained the contraceptive method that they used prior to the index birth from a private hospital, clinic, or doctor were far more likely to say that their pregnancy was wanted (65 percent), while those who got their method from friends or relatives, from some 'other' provider, from a pharmacy, or from a government facility were among the least likely to say that their pregnancies were wanted (50-53 percent). Mistimed pregnancies were also least reported among those who acquired their contraceptive method from a private medical provider (12 percent), and greatest among those who obtained their method from friends, relatives, or other sources (28-30 percent). Women who obtained their method from UNWRA were most likely to report an unwanted pregnancy (28 percent), while those who obtained their method from some other source were least likely to say their pregnancy was unwanted (20 percent).

With regard to the contraceptive methods themselves, 70 percent of women using IUDs reported a wanted pregnancy, while 55 percent of withdrawal users and 50 percent of pill users reported the same. Periodic abstinence was the method least likely to be associated with a wanted pregnancy (44 percent). IUD users were also the least likely to report either a mistimed or an unwanted pregnancy. Those who said they were using LAM were the most likely to report a mistimed pregnancy, while those who were using the pill were the most likely to report an unwanted pregnancy.

As before, increased parity was significantly associated with unwanted pregnancies: the mean number of previous births among women reporting their last pregnancy as unwanted was 4.6, while the corresponding averages for mistimed and wanted pregnancies were 2.8 and 2.7, respectively (table not shown).

Multivariate analysis
Because the variable indicating the source of contraceptive method is highly correlated with the variable indicating the type of method used, two multinomial logistic regressions were run that were exactly the same, except that the first regression included the source of the method, and excluded the method type. The second regression included the method type, while excluding the source of the method. Results are shown in Table 6.

<u>Women who had a birth, before which they used a contraceptive method, in the five years prior to the survey</u>: <u>source of method</u>.

Unwanted vs. wanted then: Women age 30-39 were significantly less likely than women age 40-49 to say that a pregnancy was unwanted, as opposed to wanted. Women with no education were less likely than women with more than secondary education to say that a pregnancy was unwanted. Women who said that paying for health care is not a big problem were less likely to report an unwanted pregnancy than those for whom paying for health care is a big problem. For each additional previous birth, women were 56 percent more likely to say that the pregnancy was unwanted.

Mistimed vs. wanted then: Women age 15-19 were thirteen times more likely than the oldest women to say that a pregnancy was mistimed, while women age 20-24 were ten times more likely than the oldest women to say that a pregnancy was mistimed rather than wanted. Women with basic or secondary education were 32-40 percent less likely to report a pregnancy as mistimed, rather than wanted, than women with more than secondary education. Compared with those who obtained their method from friends or relatives (all of which are traditional methods, save for three instances of condom use and one IUD), only women who got their method from either a private hospital/clinic/doctor, the JAFPP[6], or UNRWA[7] were less likely to report a mistimed, as opposed to a planned, pregnancy. For each additional previous birth, women were 30 percent more likely to say that the pregnancy was mistimed, as opposed to wanted then.

Mistimed vs. unwanted: Women age 20-24 were almost 13 times more likely than women age 40-49 to say that their most recent pregnancy was mistimed, as opposed to unwanted. Women age 25-29 were 11 times more likely, women age 30-34 were 6.5 times more likely, and women age 35-39 were 3.6 times more likely than women in the oldest age category to say that their most recent pregnancy/birth was mistimed rather than unwanted. Compared to those who got their methods from friends or relatives, those who got their methods from a private medical provider or from UNRWA were significantly less likely to say that the pregnancy was mistimed as opposed to unwanted.

<u>Women who had a birth, before which they used a contraceptive method, in the five years prior to the survey</u>: <u>type of method</u>.
When method type was substituted in the equation for source of method, the relationships of the other independent variables to the dependent variable changed negligibly. Therefore, only the findings associated with the method variable will be discussed here.

Unwanted vs. wanted then: Women who used the pill prior to their most recent pregnancy were 42 percent more likely than women who used withdrawal to say that the index pregnancy was unwanted; however, women who used an IUD as their method prior to the index pregnancy were 44 percent less likely to say that the pregnancy was unwanted, as opposed to wanted then.

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[6] Jordan Association of Family Planning and Protection
[7] United Nations Relief and Works Agency

Mistimed vs. wanted then: Again, women who used an IUD were significantly less likely to say that their pregnancy was mistimed, as opposed to wanted then, whereas women who used periodic abstinence were significantly more likely to say that their most recent pregnancy was mistimed, compared to women who used withdrawal for their contraceptive method.

Mistimed vs. unwanted: Women who reported that they used LAM were 76 percent more likely than women who used withdrawal to say that their pregnancy was mistimed as opposed to unwanted.

Discussion and conclusions

These results present significant opportunities for interventions that could improve women's ability to achieve their desired fertility. The overall picture painted by these results indicates that it is the women who, along with their husbands, are most accepting of the idea and practice of fertility control, and are most educated, who are also most likely to report mistimed or unwanted pregnancies. This finding alone may narrow the scope for action: Jordan may make the largest strides in terms of reducing unwanted fertility as well as overall national levels of fertility by strengthening or improving the services and resources available to those who already are using a contraceptive method (c.f. Jain 1999).

The analysis of all Jordanian women who had a current pregnancy or live birth in the five years preceding the survey showed that while urban women were less likely to report a pregnancy as mistimed rather than wanted, they were also in fact more likely to report a pregnancy as unwanted rather than mistimed. This seems to indicate that although urban women may have improved access to contraceptive services, and in general are more likely to achieve their fertility preferences, when urban women do have an unintended pregnancy, it is more likely to be identified as unwanted. While improving service provision to rural women, the continuing needs of urban women should not be overlooked.

The bivariate data on the relationship of age to pregnancy indicate that the oldest women rarely report their pregnancies as mistimed – they are split almost evenly between reporting them as wanted or as unwanted. This sheds some light on the multivariate relationship showing that as age decreases, the probability of reporting a pregnancy as mistimed, rather than wanted, increases. Younger women are also more likely than older women to say that a pregnancy is mistimed, rather than unwanted; the older a woman is, the more likely she is to say that her pregnancy is unwanted. These data indicate a real need for services to address the timing and spacing needs of younger women, while also addressing the limiting needs of older women.

Women for whom paying for health care is not problematic are less likely to have a mistimed or unwanted pregnancy than those who say that paying for health care is a big problem; this indicates a need to ensure that quality contraceptive services are reaching

the women who may not be able to obtain appropriate reproductive health care on their own.

It is important that women be empowered to participate in decisions that directly affect their lives; the analysis indicates that women who do not have a say in making either large or small household purchases are more likely to say that their most recent pregnancy was unwanted. If women are not empowered enough in their homes to make even small household expenditure decisions, they are unlikely to be sufficiently empowered to implement their fertility preferences. This indicates the importance of women's autonomy to the progress of nations: when women are able to implement their fertility preferences freely, society as a whole can benefit; in this case, society would benefit from reduced fertility.

Women who have never used contraception, or who have husbands who do not approve of contraception, are more likely to say that their pregnancies are wanted, or if they are unintended, that they are mistimed, than women who have used modern contraception or have husbands who approve of it. Conversely, it is the women who have ever used modern contraception, and who have husbands who approve of its use, who are the most likely to report their most recent birth or current pregnancy as mistimed or unwanted. These results highlight two kinds of social perspectives on fertility and family building – one being more traditional and less likely to espouse the idea of being able to control the number or timing of the children they will bear, and the other being more modern in terms of their acceptance of the idea of fertility control to space and/or limit. It is encouraging to note, in the context of these two apparently incompatible ideologies, that fertility in Jordan can be significantly reduced by providing more effective services to those women who already express a desire to limit their fertility, without impinging on the rights of couples who choose not to subscribe to the practice of contraception at this time.

Finally, it is clear that the number of previous children a woman has had is a distinct determinant of whether or not the index pregnancy in mistimed, unwanted, or wanted at the time of conception. Additional births increase the likelihood that a pregnancy will be unwanted as opposed to wanted, as well as increase the likelihood that a pregnancy will be mistimed as opposed to wanted. Further, the number of previous births increases the likelihood of unwantedness as opposed to mistiming. It may be useful to focus family planning campaigns more intensively on those families that already have 2 or more children.

The analysis of the Jordanian women who had used a method of contraception prior to their most recent pregnancy within the five years before the survey revealed information about the relationship of contraceptive methods and services to the wantedness of pregnancies that should be useful for planning and programmatic efforts.

The results indicate that the source of the contraceptive method used is a significant risk factor for unintended pregnancy. Compared to women who got their (largely traditional) contraceptive method from friends or relatives, only women who were served by private

hospitals, clinics or doctors, by JAFPP, or by UNRWA were less likely to report a mistimed pregnancy. However, women who get their methods from private hospitals, clinics or doctors, or UNRWA, were also more likely to report an unwanted, as opposed to a mistimed, pregnancy. This may be due to an association between modern method use, and high expectations for the efficacy of modern methods of fertility control: we have already seen that women who have ever used modern methods are the most likely to report unwanted pregnancies. Women who obtain their modern methods from an ostensibly reliable source are likely to have higher expectations of the efficacy of their method. If those expectations are not met, through, for example, method failure, the pregnancy is more likely to be defined as unwanted, rather than mistimed.

The results showing the effect of the source of contraception are further elucidated when the effect of the type of contraceptive method is taken into consideration. Most women in this sample were using withdrawal as a method prior to their most recent pregnancy. While it is not surprising to find that the use of the IUD significantly reduces the odds of both mistimed and unwanted pregnancies, it is sobering to note that the use of the pill actually increases the probability of unwanted pregnancy by 42 percent. This suggests that passive, long-term, non-user-dependent methods such as the IUD are more effective in allowing couples to regulate their fertility. It also raises the possibility that the contraceptive pill, which is highly dependent on user education and user compliance for its effectiveness, is being distributed without the necessary educational component; users need to understand how the pill works and how it must be taken for maximal effectiveness. Another potential explanation for the poor performance of the contraceptive pill in preventing unwanted pregnancy is the possibility of supply stock-outs, such that women who normally use pills are not able to purchase them from their normal source; this would then leave those women susceptible to unintended pregnancy. Thirty-eight percent of pills are distributed from public or government facilities, and 33 percent of pills are obtained at pharmacies; these sites could be primary targets for interventions to improve the delivery of contraceptive information and methods.

Overall, there appears to be a significant demand from Jordanian women for effective contraceptive methods. However, the evidence presented here suggests that the level of distribution of contraceptive methods, along with appropriate education on contraceptive use, is lagging behind the demand, resulting in excess fertility at the national level, and in unintended pregnancy at the individual level. Unintended pregnancy is clearly a public health issue, a gender issue, and a population issue; effectively addressing such a problem will result in multidimensional improvements for Jordanian woman and Jordanian society.

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Table 1. Percentage distribution of currently-married Jordanian women age 15-49 who
have had a birth in the five years prior to the survey, or who are currently pregnant,
by selected characteristics, JPFHS 2002 (n = 3,881).

Characteristic	%
Intendedness of most recent birth or current pregnancy	
wanted pregnancy then	60.6
mistimed but wanted	19.6
wanted no more	19.9
Area of residence	
Urban	78.4
Rural	21.6
Current age group	
15-19	2.8
20-24	16.2
25-29	26.3
30-34	28.8
35-39	17.3
40-49	8.7
Education status (wife)	
none	3.8
basic	31.7
secondary	37.4
higher	27.1
Education status (husband)	
none	1.9
basic	35.7
secondary	33.1
higher	29.3
Wealth of household	
poorest quintile	23.1
2nd quintile	25.2
3rd quintile	21.2
4th quintile	17.4
wealthiest quintile	13.1
Difficulty of paying for health care	
small problem	72.0
big problem	28.0
Employment status	
Not currently working	90.5
Currently working	9.5
Has final say on own health care	
no	39.1
yes	60.9
Has a say in economic decisions	
no	21.8
yes	78.2
Consonance of fertility preferences	
both want the same	53.1
husband wants more	28.9
husband wants fewer	12.7
don't know/missing	5.2
Husband approves of contraceptives	
no/don't know	11.5
yes	88.5
Ever used modern contraception	
no	24.3
yes	75.7
Number of children - 1	
mean	2.9
standard deviation	2.3
Distance from public health facility	
mean	1.1
standard deviation	1.0

Table 2. Percentage distribution of currently-married Jordanian women age 15-49 who
have had a birth in the five years prior to the survey, or who are currently pregnant,
by intention status of most recent pregnancy, JPFHS 2002 (n = 3,881).
*p<0.05; **p<0.01; ***p<0.005

Characteristic	wanted then	mistimed	unwanted	total
All women	60.5	19.6	19.9	100.0
Area of residence ***				
Urban	62.1	18.3	19.6	100.0
Rural	54.7	24.3	21.0	100.0
Current age group ***				
15-19	75.7	19.6	4.7	100.0
20-24	66.5	24.8	8.7	100.0
25-29	63.4	25.1	11.5	100.0
30-34	62.2	19.2	18.6	100.0
35-39	53.4	13.1	33.5	100.0
40-49	44.2	7.4	48.4	100.0
Education status (wife) ***				
none	50.3	16.1	33.6	100.0
basic	57.6	20.0	22.4	100.0
secondary	62.2	19.0	18.8	100.0
higher	63.0	20.5	16.5	100.0
Education status (husband) ***				
none	50.7	14.7	34.7	100.0
basic	57.0	20.3	22.7	100.0
secondary	62.7	20.0	17.3	100.0
higher	62.9	18.7	18.5	100.0
Wealth of household ***				
poorest quintile	59.4	21.2	19.3	100.0
2nd quintile	60.6	21.9	17.5	100.0
3rd quintile	59.9	19.9	20.2	100.0
4th quintile	62.6	18.0	19.4	100.0
wealthiest quintile	60.3	14.1	25.5	100.0
Difficulty of paying for health care ***				
small problem	62.9	18.8	18.3	100.0
big problem	54.3	21.8	24.0	100.0
Employment status				
Not currently working	60.2	19.8	20.0	100.0
Currently working	63.2	17.4	19.3	100.0
Has final say on own health care *				
no	63.0	18.9	18.1	100.0
yes	58.9	20.1	21.0	100.0
Has a say in economic decisions				
no	61.6	17.5	20.9	100.0
yes	60.2	20.2	19.6	100.0
Consonance of fertility preferences ***				
both want the same	63.9	18.1	18.0	100.0
husband wants more	55.3	22.1	22.6	100.0
husband wants fewer	60.8	19.8	19.4	100.0
don't know/missing	54.2	20.7	25.1	100.0
Husband approves of contraceptives				
no/don't know	61.3	18.4	20.2	100.0
yes	60.4	19.8	19.9	100.0
Ever used modern contraception ***				
no	75.0	14.9	10.1	100.0
yes	55.8	21.1	23.1	100.0

Table 3. Odds ratios from multinomial logistic regressions showing the likelihood that a woman's most recent pregnancy within the five years preceding the survey was either mistimed or unwanted, among ever-married women who have had a birth in the past five years or are currently pregnant, controlling for selected background characteristics, JPFHS 2002.
*p<0.05; **p<0.01; ***p<0.005   ® reference category

REDUCED MODEL

Characteristic	unwanted vs. wanted	mistimed vs. wanted	mistimed vs. unwanted
Area of residence			
Urban	0.96	0.75***	0.78*
Rural ®	1.00	1.00	1.00
Current age group			
15-19	1.08	11.17***	10.32***
20-24	1.18	12.85***	10.90***
25-29	1.05	8.76***	8.35***
30-34	0.87	4.60***	5.30***
35-39	0.86	2.05***	2.40***
40-49 ®	1.00	1.00	1.00
Education status (wife)			
none	0.61*	0.43***	0.70
basic	0.78	0.63***	0.81
secondary	0.96	0.66***	0.68**
higher ®	1.00	1.00	1.00
Difficulty of paying for health care			
not a big problem	0.67***	0.79**	1.17
a big problem ®	1.00	1.00	1.00
Has a say in economic decisions			
no	1.20	0.84	0.70***
yes ®	1.00	1.00	1.00
Husband approves of contraceptives			
no/don't know	0.65***	0.95	1.45*
yes ®	1.00	1.00	1.00
Ever used modern contraception			
no	0.65***	0.59***	0.90
yes ®	1.00	1.00	1.00
Number of previous births	1.59***	1.37***	0.86***

-2 Log Likelihood: 3713.642

Table 4. Percentage distribution of currently-married Jordanian women age 15-49 who have had a birth before which they used a contraceptive method in the five years prior to the survey, by selected characteristics, JPFHS 2002 (n = 2,030).

Characteristic	%
Intendedness of most recent birth or current pregnancy	
wanted pregnancy then	53.8
mistimed but wanted	24.0
wanted no more	22.2
Area of residence	
Urban	79.1
Rural	20.9
Current age group	
15-19	0.9
20-24	12.8
25-29	30.9
30-34	32.6
35-39	15.8
40-49	7.0
Education status (wife)	
none	3.2
basic	30.1
secondary	37.7
higher	29.0
Education status (husband)	
none	1.4
basic	33.7
secondary	34.1
higher	30.7
Wealth of household	
poorest quintile	22.0
2nd quintile	26.7
3rd quintile	21.9
4th quintile	17.3
wealthiest quintile	12.1
Difficulty of paying for health care	
small problem	71.0
big problem	29.0
Employment status	
Not currently working	89.6
Currently working	10.4
Has final say on own health care	
no	36.1
yes	63.9
Has a say in economic decisions	
no	19.8
yes	80.2
Consonance of fertility preferences	
both want the same	53.7
husband wants more	28.3
husband wants fewer	13.2
don't know/missing	4.8
Husband approves of contraceptives	
no/don't know	8.7
yes	91.3
Last source for contraceptive method	
Public/gov't facility	19.4
Private hosp/clinic/doctor	10.8
Pharmacy	10.7
JAFPP	9.2
UNRWA or other NGO	4.9
Friends/relatives	31.1
Other	13.9
Last contraceptive method used	
pill	21.0
IUD	20.7
condom	8.5
periodic abstinence	14.3
LAM	11.2
withdrawal	24.4

Table 5. Percentage distribution of currently-married Jordanian women age 15-49 who
have had a birth before which they used a contraceptive method in the five years
prior to the survey, by selected characteristics, JPFHS 2002 (n = 2,030).
*p<0.05; **p<0.01; ***p<0.005

Characteristic	wanted then	mistimed	unwanted	total
All women	53.8	24.0	22.2	100.0
Area of residence*				
Urban	55.2	22.6	22.2	100.0
Rural	48.6	29.2	22.2	100.0
Current age group***				
15-19	41.2	35.3	23.5	100.0
20-24	55.0	35.0	10.0	100.0
25-29	56.8	29.9	13.2	100.0
30-34	57.6	21.3	21.0	100.0
35-39	48.6	15.9	35.5	100.0
40-49	34.5	6.3	59.2	100.0
Education status (wife)***				
none	36.5	25.4	38.1	100.0
basic	51.5	23.4	25.1	100.0
secondary	55.1	23.5	21.4	100.0
higher	56.6	25.1	18.3	100.0
Wealth of household*				
poorest quintile	51.3	28.3	20.4	100.0
2nd quintile	55.2	24.5	20.3	100.0
3rd quintile	53.7	24.7	21.6	100.0
4th quintile	56.0	21.6	22.4	100.0
wealthiest quintile	52.8	17.1	30.1	100.0
Difficulty of paying for health care***				
small problem	56.5	23.5	20.1	100.0
big problem	47.4	25.3	27.3	100.0
Employment status				
Not currently working	59.6	23.0	17.4	100.0
Currently working	53.2	24.1	22.7	100.0
Has final say on own health care				
no	55.3	23.5	21.3	100.0
yes	53.0	24.3	22.7	100.0
Has a say in economic decisions				
no	50.4	23.2	26.4	100.0
yes	54.7	24.2	21.1	100.0
Consonance of fertility preferences				
both want the same	56.1	22.8	21.1	100.0
husband wants more	50.3	25.0	24.7	100.0
husband wants fewer	55.2	23.1	21.6	100.0
don't know/missing	46.9	32.7	20.4	100.0
Husband approves of contraceptives				
no/don't know	52.0	22.0	26.0	100.0
yes	54.1	24.1	21.8	100.0
Source for contraceptive method prior to pregnancy***				
Public/gov't facility	53.4	24.1	22.5	100.0
Private hosp/clinic/doctor	64.5	12.1	23.4	100.0
Pharmacy	52.8	22.5	24.8	100.0
JAFPP	59.4	19.3	21.4	100.0
UNRWA or other NGO	54.5	17.2	28.3	100.0
Friends/relatives	50.7	28.4	20.9	100.0
Other	50.0	30.1	19.9	100.0
Type of method used prior to pregnancy***				
pill	49.1	22.5	28.4	100.0
IUD	70.1	13.4	16.5	100.0
condom	45.8	28.2	26.0	100.0
periodic abstinence	44.2	31.0	24.8	100.0
LAM	46.6	33.3	20.1	100.0
withdrawal	54.8	25.4	19.8	100.0

Table 5a. Percent distribution of women by source where method was obtained, according to the method used, in the five years prior to the survey, before most recent birth or pregnancy, Jordan 2002 JPFHS

	pill[1]	IUD	condom[2]	periodic abstinence	LAM	withdrawal	total
Public/govt facility	38.4	31.1	35.4	4.0	4.8	1.0	19.4
Pvt hosp/clinic/doctor	10.5	30.8	2.2	7.6	0.0	1.9	10.9
Pharmacy	32.6	0.4	42.7	0.0	0.0	0.0	10.7
JAFPP	7.3	31.5	3.9	1.0	0.5	0.4	9.2
UNRWA or other NGO	11.0	5.5	13.5	0.3	0.5	0.2	4.9
Other	0.2	0.7	0.0	25.7	31.2	29.2	13.8
Friends/relatives	0.0	0.0	2.2	61.4	63.0	67.2	31.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	427	454	178	303	189	479	2030

[1] The category "pill" includes 28 cases of injectable use.

[2] The category "condom" includes 1 case of diaphragm use, 2 cases of 'other' method use, and 28 cases of foam/jelly use.

Table 6. Odds ratios from multinomial logistic regressions showing the likelihood that a woman's most recent pregnancy within the five years preceding the survey was either mistimed or unwanted, among ever-married women who have had a birth in the past five years and have used contraception prior to that birth, controlling for selected background characteristics, JPFHS 2002.
*p<0.05; **p<0.01; ***p<0.005   ® reference category

Characteristic	REDUCED MODEL: **source**			REDUCED MODEL: **method**		
	unwanted vs. wanted	mistimed vs. wanted	mistimed vs. unwanted	unwanted vs. wanted	mistimed vs. wanted	mistimed vs. unwanted
Current age group						
15-19	3.39	13.26***	3.92	3.57	13.98***	3.91
20-24	0.80	10.06***	12.73***	0.89	11.00***	12.42***
25-29	0.63	6.67***	10.67***	0.69	7.21***	10.45***
30-34	0.54**	3.54***	6.50***	0.60*	3.83***	6.42***
35-39	0.51**	1.83	3.57***	0.56**	1.89	3.37***
40-49 ®	1.00	1.00	1.00	1.00	1.00	1.00
Education status (wife)						
none	0.53*	0.59	1.11	0.49*	0.56	1.13
basic	0.75	0.60***	0.80	0.75	0.62***	0.82
secondary	0.95	0.68**	0.71	0.93	0.68**	0.73
higher ®	1.00	1.00	1.00	1.00	1.00	1.00
Difficulty of paying for health care						
not a big problem	0.67***	0.79	1.21	0.66***	0.80	1.22
a big problem ®	1.00	1.00	1.00	1.00	1.00	1.00
Last source for contraceptive method						
Public/gov't facility	0.92	0.80	0.87			
Private hosp/clinic/doctor	1.13	0.41***	0.36***			
Pharmacy	0.92	0.69	0.75			
JAFPP	0.68	0.57**	0.84			
UNRWA or other NGO	1.03	0.43**	0.42*			
Other	0.81	1.03	1.27			
Friends/relatives	1.00	1.00	1.00			
Last contraceptive method used						
pill				1.42*	0.97	0.68
IUD				0.56***	0.42***	0.74
condom				1.08	1.27	1.18
periodic abstinence				1.40	1.49*	1.06
LAM				0.80	1.41	1.76*
withdrawal				1.00	1.00	1.00
Number of previous births	1.56***	1.30***	0.83***	1.59***	1.33***	0.84***
-2 Log Likelihood:		2220.57			2278.01	