

**Intentions to Use Contraceptives in Pakistan:
Implications for Behavior Change Campaigns**

Sohail Agha, Ph.D.
Senior Technical Advisor, PSI
Adjunct Associate Professor, Tulane University
School of Public Health and Tropical Medicine

Greenstar Research Department
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Abstract

Objectives:

To identify factors motivating and deterring the adoption of specific family planning methods among married men and women in Pakistan.

Methods:

A nationally representative survey of 2030 married women aged 15-49, and 2032 (unrelated) men married to women aged 15-49 was conducted in Pakistan in 2007. Informed consent was obtained from all respondents. In addition to social and demographic characteristics of respondents, the survey questionnaire collected information on psychosocial correlates of family planning behavior. All non-pregnant wives and husbands whose wives were not pregnant were included in the analysis. This comprised a total of 1788 married, non pregnant, women and 1805 men whose wives were not pregnant. Principal components analysis was conducted to identify the underlying constructs that were important for men and women. Logistic regression analysis was conducted to determine the correlates of male intentions to use the condom and withdrawal and female intentions to sterilization, rhythm, and hormonal methods or the IUD.

Results:

The perception that a responsible, caring husband uses family planning to improve the standard of living of his family and to protect his wives' health was the most important determinant of a man's intention to use a condom. The inability to discuss family planning with their spouse is a barrier to contraceptive adoption that both men and women face. Men do not make unilateral decisions regarding the use of male methods: their ability to discuss family planning with their spouse increases their intention to use a condom and lowers their intention to use withdrawal. Women who discuss family planning with their spouse were more likely to have the intention to use sterilization and rhythm. The strongest and most persistent deterrent to a woman's forming an intention to use various family planning methods was her perception that her in-laws did not support family planning use. Among women who were not constrained by social and cultural barriers to the adoption of family planning, the perception that there was a lack of choice of methods and an absence of facilities with competent staff in their neighborhoods was a substantial barrier to the intention to use contraceptive methods.

Conclusions:

To motivate men to increase condom use, campaigns should focus on the message of male responsibility towards the family. To increase use of family planning methods among women, a communications campaign must convince mothers-in-law to support the use of contraception by their daughters-in-law. Interventions that increase husbands' and wives' skills and ability to negotiate contraceptive use are recommended. Increasing the provision of a choice of contraceptive methods and high quality family planning facilities at the neighborhood level is likely to be extremely important.

INTRODUCTION

There is growing consensus regarding the factors that best explain preventive behavior (IOM Committee on Communication for Behavior Change in the 21st Century: Improving the Health of Diverse Populations, 2002; Salem et al., 2008). A given behavior is more likely to occur if the intention to practice it is strong, if there are no environmental barriers to performing it, and if an individual has the skills and ability to perform the behavior (Fishbein and Cappella, 2006). Although intentions are conceptually very important, few studies have looked at predictors of contraceptive intentions (Bhatia, 1982). A rare study that examined the predictive effect of contraceptive use intentions on subsequent contraceptive use found that the strength of their effect was second only to that of previous contraceptive use (Curtis and Westoff, 1996).

The intention to perform a behavior is driven by the perceived costs of that behavior and the motivation to practice it. This is consistent with Easterlin's Synthesis Framework (Easterlin, 1975) in which the regulation of fertility is determined by the a) level of motivation to avoid pregnancy and b) the costs of regulating fertility (including both real and perceived social, psychological, health and monetary costs).

Previous studies that have examined barriers to contraceptive adoption in Pakistan have considered "family planning" as a general behavioral category without explicitly taking into account the possibility that the barriers and motivation to using specific methods may be different. When a strict definition of what constitutes a behavior is used (Fishbein and Cappella, 2006), it becomes clear that sterilization use is a different behavior than injectable use. For the development of behavior change campaigns, it is important to know whether factors motivating the use of sterilization are similar or different from those motivating the use of a hormonal method. Previous analyses have also not examined how gender influences the adoption of family planning methods in Pakistan. To design effective communications campaigns, it is important for campaign planners to know whether (and how) the perceived costs of using a method vary for men and women. If factors motivating men and women to adopt methods are different, these determinants of male and female contraceptive use behavior should be addressed through behavior change campaigns.

By assessing the perceived costs and motivations for specific contraceptive use behaviors, this study takes a step towards providing information which may help the development of a more effective behavior change communication strategy in Pakistan. The findings of this study will also have implications for the marketing of contraceptive methods to married men and women in Pakistan.

BACKGROUND

Studies that have examined the determinants of contraceptive use in Pakistan have looked at two main areas: a) the social and psychological costs of contraception and b) the contraceptive supply environment. Reporting on findings from the Pakistan IMPACT survey conducted in West Pakistan in 1968-69, Sirageldin et al. (1976) found that while

awareness of a family method was universal, knowledge of family planning personnel and facilities was low. Contraceptive prevalence was low at 5.5%, with urban prevalence more than twice that of rural prevalence (9.8% vs. 3.9%). Visits to a facility which gave family planning advice were very low (5%) and were highly correlated with the use of family planning. Latent demand for family planning was high: 38% of urban wives and 31% of rural wives reported that their number of living children equaled or exceeded their ideal number and that they did not want any more children. When they examined intentions to use family planning in the future, the authors found that a woman's intentions to use family planning increased by 31% if her husband approved of family planning and her intentions to use family planning were higher if a family planning facility was less than 30 minutes away. Sirageldin et al. (1976) concluded that while latent demand for family planning existed, cultural and social constraints such as husband's approval prevented this demand from being converted into family planning use within a discrete period of time. Moreover, the supply of information and services was too weak to catalyze latent demand into the use of family planning. The authors found that knowledge of or access to facilities was limited even among those who did not face serious social or cultural constraints— particularly in rural areas. The study concluded that the program delivery system was seriously inadequate.

One study has looked at the independent effects of service access on the use of contraception in Pakistan. In their evaluation of the village-based family planning worker program initiated by the Ministry of Population Welfare in 1992, and of the community-based health “lady health workers” program initiated in 1994 by the Ministry of Health, Sultan et al., (2002) assessed the impact of three program variables on women's use of a modern, reversible method of family planning in rural Pakistan: having community-based workers within 5 km; having a static facility with staff trained in family planning within 5 km; having a private practitioner who provided family planning services within 5 km. Sultan et al., (2002) found that 37% of rural women lived within 5 km of a lady health worker or a village-based family planning worker while an additional 10% lived within 5 km of both types of workers, about 43% of rural women lived within 5 km of a static family planning facility, and about 24% of rural women lived within 5 km of a private practitioner who provided contraceptive services. After controlling for a range of community, household and individual characteristics of married women, the study found that the presence of two or more community based workers was associated with higher reversible modern method use among rural women. The presence of a private practitioner providing family planning services within 5 km was also associated with higher reversible method use in rural Pakistan. The presence of a static facility with trained family planning staff had no impact on reversible contraceptive use. The findings showed that certain types of service access were associated with higher contraceptive use in rural Pakistan.

Besides Sirageldin et al. (1976), several studies have examined the influence of social and cultural factors on contraceptive use in Pakistan. These studies have emphasized the influence of the mother-in-law and the husband on family planning decision-making (Pasha et al., 2001; Kadir et al., 2003) and have highlighted the importance of communication between spouses on the use of contraception (Mahmood and Ringheim,

1996; Saleem et al., 2008). Religious beliefs, particularly the belief that family planning is up to God, has also been found to have a powerful impact on the adoption of family planning (Mahmood and Ringheim, 1996).

In a notable study, Casterline et al., (2001) focused on identifying the range of social and psychological costs of family planning and their impact on Punjabi women's intentions to use family planning in the near future. This study was conducted with the perspective that scant empirical attention to various types of contraceptive costs has resulted in an underestimation of the magnitude of their impact. Based on a review of the literature on Pakistan, instruments were developed to capture social and psychological costs of method adoption. The study identified six major obstacles to contraceptive use in the Punjab: the strength of the motivation to avoid pregnancy, knowledge and awareness of contraception, the perceived social and cultural acceptability of contraception, a woman's perceptions of her husband's attitudes and preferences and woman's health concerns and her perceived access to services. Three of these obstacles had an important impact on intentions to use family planning: a woman perception that using a contraceptive would be in conflict with her husband's attitudes towards family planning or his fertility preferences; her perception that contraceptives were socially or culturally unacceptable; her knowledge of contraception.

A limitation that is found in most studies that have examined the correlates of contraceptive adoption in Pakistan is their reliance on women's reports of obstacles to contraceptive adoption. The reliance on women's reports of barriers to contraceptive adoption has resulted in men being portrayed as obstacles to contraceptive adoption. While the male role in the contraceptive adoption process in Pakistan is undeniable, the virtual absence of published information on attitudes towards and use of contraceptives among men in Pakistan is a great limitation of the literature and a constraint to the development of effective strategies to reach men through mass media and interpersonal communication campaigns.

METHODS

Study Design

The data for this analysis comes from the Pakistan Social Marketing Survey (PSMS) 2007. The PSMS is a nationally representative survey of currently married women 15-49 and men married to women 15-49. Men and women in the sample are from different households. The data for PSMS were collected by AcNielsen for Greenstar Social Marketing, with technical from the Tulane University School of Public Health and Tropical Medicine. The survey was conducted in both urban and rural areas of all four provinces of Pakistan, with the exception of the Federally Administered Tribal Areas and the Federally Administered Northern Areas. A multi-stage, stratified, disproportionate, sampling methodology was used and 4,062 male and female respondents were interviewed. The sample was split evenly by gender and urban/rural residence. Weights were attached to the data to take the sampling strategy into account. The PSMS sample has been described in more detail elsewhere (Agha et al., 2007).

The questionnaire included sections on socio-demographic characteristics of respondents, their reproductive intentions, their knowledge and use of family planning and their intentions to use contraceptive methods in the next 12 months. An important section of the questionnaire comprised of 36 statements regarding perceptions of the quality and availability of family planning services, norms about family planning, perceived social support for family planning, concerns about side effects of family planning and spousal support for family planning. Responses to these statements were on a five point scale, from strongly disagree to strongly agree. These attitudinal statements were originally developed by the PSI Research Division for a reproductive health survey conducted by Oasis International for Greenstar Social Marketing and Key Social Marketing (Population Council, 2006). The PSI Research Division developed these questions after a review of the international literature on family planning. These statements were pretested on a sample of 100 Pakistani respondents in 2004 and modified based on the results of the reliability analysis conducted.

Strengths and limitations

A unique feature of the PSMS design is that both men and women were included in the survey. To our knowledge, the last publicly available nationally representative survey of Pakistan that included data on men was the Pakistan Demographic and Health Survey conducted in 1990-91. This study has many of the same limitations present in observational studies that make inferences based on correlations from cross sectional data.

Statistical Analysis

Principal components analysis was conducted to identify the perceived costs of fertility regulation among married men and women in Pakistan. A varimax-rotated solution with eight factors produced the simplest structure for men: 1) responsible, caring husbands use family planning to improve standard of living and protect mother's health; 2) my in-laws support family planning; 3) I can easily obtain family planning methods or advice; 4) most people disapprove of family planning; 5) providers can be trusted to maintain confidentiality, to advise on method use and side-effects; 6) I am not able to discuss family planning with my spouse or to convince my spouse to use family planning; 7) family planning clinics have competent, friendly staff; 8) contraceptives can make a woman sterile, harm her womb, are dangerous.

The varimax rotation identified seven factors for women: 1) child spacing protects a mother's health, caring spouses use family planning; 2) my in-laws support family planning; 3) I have access to choice of methods and facilities with competent providers; 4) providers can be trusted to maintain confidentiality, to advise on method use and side-effects; 5) I am not able to discuss family planning with my spouse or to convince my spouse to use family planning; 6) husband decides if wife can use family planning, God decides number of children; 7) family planning can harm a woman's womb, modern methods can be very dangerous. Tables 1 and 2 in the appendix show results from the principal components analysis.

Geographic (region, urban/rural) and socio-demographic variables (age, gender, education, household wealth, number of children), a proxy for motivation to regulate fertility (whether the respondent wanted to limit childbearing or space additional children) and beliefs and perceptions about family planning were included in the logistic regression analyses. Intentions to use specific contraceptive methods were used as the binary outcome variables for the logistic regression analyses.

RESULTS

Table 1 shows the characteristics of the sample of married men whose wives were not pregnant at the time of the survey and the characteristics of the sample of married women who were not pregnant at the time of the survey. About a quarter of respondents were from Sindh, 56% from the Punjab, 14% from the Frontier and 5% from Baluchistan. About one-third of respondents lived in urban areas. Men were older than women, with 39% of men being 40 or older, compared to 13% of women. Men had received more formal schooling than women: 58% of women and 31% of men had received no formal education. Although the mean number of living children was about the same (3.7 for males vs. 3.8 for females), a higher proportion of men had 0-1 children (22% vs. 17%). Women were more likely to not want any more children in the future (62% vs. 58%). Consistent with a higher level of desire to not have more children, women reported a higher level of current use (38% vs. 34%) and a higher level of intention to use a method in the next 12 months (42% vs. 35%).

Table 1 about here

Intentions to use a condom

Table 2 (Column 1) shows factors associated with a man's intentions to use condoms in the next 12 months. Odds ratios from multivariate logistic regression analyses are shown. Men in the Frontier province were more likely to have an intention to use a condom in the next 12 months than men in Sindh (odds ratio=4.26). Urban men were more likely than rural men to have an intention to use a condom (odds ratio=1.67). Men 30-39 were more likely than men 40 and older to have an intention to use a condom (odds ratio=1.88). After controlling for other factors, education was not associated with the intention to use a condom. Income was associated with higher condom use intentions: the odds of a man in the second income quintile having the intention to use a condom in the next 12 months were 1.93 that of a man in the lowest income quintile; the odds of a man in the highest wealth quintile having an intention to use a condom in the next 12 months was 2.40 times that of a man in the lowest wealth quintile. A man who had six or more children was less likely to have the intention to use a condom than a man with fewer than two children. Compared to a man who wanted more children in the future or to a man who was undecided, a man who wanted to delay childbearing for more than one year (odds ratio=3.05) or a man who did not want more children (odds ratio=2.44) was more likely to have the intention to use a condom.

Table 2 about here

In terms of perceptions and beliefs, a man who believed that a responsible and caring husband used family planning to improve the standard of living of the family and to protect the health his wife was more likely to have the intention to use a condom (odds ratio=1.33). A man who felt that he could easily obtain a family planning method or advice was more likely to have the intention to use a condom (odds ratio=1.2). A man's lack of self-efficacy in discussing family planning with his wife and his inability to convince his wife to use family planning was associated was less likely to have an intention to use a condom (odds ratio=0.84).

Intention to use withdrawal

Table 2 (Column 2) shows the factors associated with a man having the intention to use withdrawal in the next 12 months. Compared to Sindh, a man in the Punjab was less likely to have an intention to use withdrawal (odds ratio=0.55). A man aged 30-39 was more likely than a man aged 40 and older to have the intention to use withdrawal (odds ratio=1.84). Education was associated with having the intention to use withdrawal: compared to a man with no education, a man with secondary education (odds ratio=2.04) or with matriculate or higher education (odds ratio=2.10) was more likely to have the intention of using withdrawal. Compared to a man in the lowest (fifth) income quintile, a man in most other wealth quintiles was more likely to have the intention to use a condom. After controlling for other factors, the intention to use withdrawal was higher among men who did not want more children (odds ratio=2.01).

In terms of beliefs and perceptions, a man's lack of self-efficacy in discussing family planning with his wife or in being able to convince her to use family planning had the strongest impact on the intention to use withdrawal: a man who was unable to discuss family planning with his spouse or unable to convince her to use family planning was more likely to use withdrawal (odds ratio=1.61). A man who believed that a responsible, caring, husband used family planning for the economic security of his family and to protect the health of his wife was less likely to have an intention to use withdrawal (odds ratio=0.79). A man who felt that his in-laws did not support the use of family planning was less likely to have an intention to use withdrawal (odds ratio=0.66).

Intentions to use a hormonal method (pill or the injectable) or an IUD

The first column of Table 3 shows factors associated with a woman's intention to use a hormonal method or an IUD. Women in the Frontier (odds ratio=2.21) and in Baluchistan (odds ratio=2.82) were more likely to have an intention to use a hormonal method or IUD than women in Sindh. A recent national survey showed the popularity of hormonal methods and the IUD was greater in the Frontier province than in Sindh, and the popularity of the pill was greater in Baluchistan than in Sindh (NIPS and Macro International, 2008). Compared to a woman aged 40 and older, the intention to use a hormonal method or an IUD was higher in a woman in her peak reproductive ages, ages 15-29 (odds ratio=5.01), and among women aged 30-39 (odds ratio=2.20). Education was not associated with the intention to use a hormonal method or the IUD. There was no systematic income differential in the use of a hormonal method or an IUD. The odds of having an intention to use a hormonal method or an IUD increased with the number of children. Compared to a woman who wanted more children or was undecided, a woman

who wanted to delay having a birth for at least one year was more likely to intend using a hormonal method or an IUD (odds ratio=3.16). A woman who wanted to limit childbearing was also more likely to intend using a hormonal method or an IUD (odds ratio=2.11).

Table 3 about here

In terms of beliefs and perceptions, several beliefs had strong effects on a woman's intention to use a hormonal method or an IUD. The belief that child spacing protects a mother's health and that a husband and wife who care for one another use family planning increased the likelihood of a woman having the intention to use a hormonal method or an IUD (odds ratio=1.60). A woman's perceptions that her in-laws support family planning had an equally strong impact on her intention to use a hormonal method or an IUD (odds ratio=1.60). A woman who perceived that a choice of methods was available and facilities with competent providers were present in her neighborhood was more likely to have an intention to use a hormonal method or an IUD (odds ratio=1.45).

Intention to use female sterilization

Column 2 of Table 3 shows factors associated with a woman's intention to use female sterilization. A woman in the Frontier was less likely to have an intention to use female sterilization than a woman in Sindh (odds ratio=0.45). A recent national survey shows that sterilization use is lower in the Frontier and Baluchistan than in Sindh and Punjab (NIPS and Macro International, 2008). There was no educational differential and no systematic income differential in the intention to use female sterilization. The intention to use female sterilization increased with the number of living children: the odds of a woman with 4-5 children having an intention to use female sterilization was 2.08; the odds of a woman with 6 or more children having the intention to use female sterilization was 2.17. Women who wanted no more children were much more likely to have an intention to use female sterilization than a woman who wanted more children (odds ratio=11.01).

In terms of beliefs and perceptions, the factor most strongly associated with an intention to use female sterilization was a woman's perception that her in-laws supported family planning (odds ratio=1.57). Women who perceived that a choice of methods and facilities with competent providers were available in her neighborhood were more likely to have an intention to use the female sterilization (odds ratio=1.31). A woman's perception that providers gave advice on side-effects, method use and maintained confidentiality increased her intention to use female sterilization (odds ratio=1.19). Lack of efficacy in discussing family planning with her husband lowered a woman's intention to use female sterilization (odds ratio=0.80). A woman's belief that the use of family planning was a husband's decision and that the number of children a person had was determined by God was associated with a lower intention to use female sterilization (odds ratio=0.77). A woman's belief that family planning could harm a woman's womb lowered her intention to use female sterilization (odds ratio=0.77).

Intention to use rhythm

Table 3 (Column 3) also shows correlates of a woman's intentions to use rhythm. A woman in the Punjab (odds ratio=5.61) or in the Frontier (odds ratio=8.92) was more likely to have an intention to use rhythm than a woman in Sindh. A recent national survey showed that the use of rhythm was most popular among women in the Punjab (NIPS and Macro International, 2008). A woman's desire to delay childbearing for at least a year was positively associated with the intention to use rhythm (odds ratio=4.99).

In terms of beliefs and perceptions, provider counseling had the strongest impact on a woman's intention to use rhythm: a woman's perception that providers gave advice regarding side-effects of methods and their use, and maintained confidentiality, made her much less likely to have the intention to use rhythm (odds ratio=0.51). Her perception that her in-laws supported family planning increased her intention to use rhythm (odds ratio=1.62). A woman's belief that child spacing protects a mother's health (odds ratio=1.48) and that a choice of methods and facilities with competent providers were present in her neighborhood (odds ratio=1.35) were associated with having the intention to use rhythm. A woman's perceived lack of self-efficacy in being able to discuss family planning with her spouse or to convince her spouse to use family planning (odds ratio=0.82) and her perception that the decision to use family planning fell in her husband's domain (odds ratio=0.73) lowered her intention to use rhythm.

Prospects for future use of contraceptive methods

Figure 1 shows current use and intentions to use specific contraceptive methods among currently married men whose wives were not pregnant. The male condom is the method most commonly used by men: about 12.5% of men reported current use of a condom at the time of the survey. About 14.7% of men reported an intention to use the male condom in 12 months following the survey. These findings suggest that there is opportunity to increase the adoption of male condoms in a relatively short period of time and that there is latent demand for condoms. Female sterilization was the second most commonly used method reported by men: 8.6% of men reported that their wives use female sterilization. There appears to be a very substantial interest in the adoption of the two natural methods: about 3% of men were current users of withdrawal and 8% had the intention to use withdrawal; about 2% of men were current users of rhythm and 7% had the intention to use rhythm.

Figure 1 about here

Figure 2 shows current use and intentions to use specific contraceptive methods among currently married, non-pregnant, women. Female sterilization is the method most frequently used by women: 11% of women were using female sterilization. About 11.9% reported an intention to use sterilization in the 12 months following the survey. Condoms were the second most frequently used contraceptive method reported by women: 9.5% of women reported that their husbands currently use a condom. As with men, women showed considerable interest in adopting withdrawal and rhythm: about 3% of women were using rhythm at the time of the survey while 9% had the intention to use it; about

4% of women were using withdrawal at the time of the survey, while 6% had the intention to use it.

Figure 2 about here

The relationship between intentions to use family planning and current use of family planning was strong: 80.4% of women and 81.1% of men who intended to use family planning in the 12 months following the survey were current users of family planning (not shown).

DISCUSSION

These findings show that the psychosocial factors that influence men and women's adoption of family planning methods are different. A man who believed in sharing the responsibility for family planning with his wife was more likely to intend using a condom and less likely to intend to use withdrawal. Support for family planning from her in-laws and the perception that a choice of methods and facilities with competent providers are available in her neighborhood motivate a woman to use family planning.

The fact that men who wanted no more children had the intention of using a condom or of using withdrawal emphasizes the limited options available to men who want to limit childbearing. This suggests that there is an opportunity to market more effective, longer-term, methods to men interested in limiting family size. An appropriate marketing and distribution strategy developed for male sterilization may provide men with a much-needed alternative to the two male methods available presently. Men should also be considered a secondary target audience for the marketing of longer-term female methods. A greater understanding of how longer-term female methods function and of their side-effects may enable men who want to limit childbearing to encourage their wives to use longer-term, more effective methods, than the condom or withdrawal.

Men who were able to discuss family planning with their wives were more likely to have an intention to use a condom and were less likely to have an intention to use withdrawal. These findings suggest that a decision to use the male condom is not a unilateral decision made by a man: some married men face opposition to family planning from their wives and their ability to discuss family planning and convince their wives to use family planning helps them to implement modern method use. When they are unable to discuss family planning with their wives, men are more likely to use withdrawal – a less effective method than the condom.

Much of the previous literature on Pakistan emphasizes the role of the husband as an obstacle to family planning. These findings show that wives who are not open to discussing family planning can prevent their husbands from forming an intention to use family planning. An effective communications campaign must try and reduce dissonance between husbands and wives in the acceptance of family planning. While the international literature has looked at dissonance in couples' fertility goals, there has been

relatively little examination of couples' dissonance in terms of their attitudes towards and intentions towards the use of specific family planning methods.

A woman's perception that her in-laws supported family planning was associated with having an intention to use all family planning methods. No other variable had such a consistent, positive impact on the intention to use family planning methods. These findings suggest that a woman's perception that her in-laws support family planning is essential to her forming an intention to use family planning. Managers of communications campaigns should consider directly targeting mothers-in-laws to increase their support for the use of family planning. Such a strategy is likely to result in an increase in contraceptive use among reproductive age women.

A woman was more likely to form an intention to use sterilization or to form an intention to use rhythm if she was able to discuss family planning with her husband. Both these methods require the husband's cooperation: in Pakistan, the protocol for providing a female sterilization requires a woman's getting explicit permission from her husband; rhythm cannot be used as a family planning method without the husband's involvement. By contrast, a woman who felt that decision-making regarding family planning was her husband's domain or that the number of children that a person had was decided by God was less likely to form an intention to use these methods. However, a woman's discussion of family planning with her husband was not associated with the formation of an intention to use a hormonal method or an IUD. Nor was the formation of an intention to use a hormonal method or an IUD associated with her perception that the decision to use family planning fell in her husband's domain or was decided by God. These findings suggest that Pakistani women are less dependent on their husbands for the adoption of certain family planning methods. With the exception of hormonal methods or the IUD, however, the findings indicate that collaboration between husband and wife increases the use of contraceptive methods.

Women with concerns that family planning use can harm their womb were less likely to have an intention to use sterilization. Campaigns to increase sterilization use should communicate the message that sterilization does not harm a woman's womb. Exploratory work to determine women's perceptions regarding how sterilization impacts their bodies may be useful.

Since the data analyzed in this study is cross-sectional, the findings should be treated with caution. However, the strong relationship between the intention to use and actual use of family planning suggests that once the intention to use a specific family planning is formed it is likely to translate into increased use of that method. This suggests that the focus of communications campaigns should be on increasing the intention to use a family planning method among those who are not currently using a method. In other words, since the relationship between intention and use is strong, program planners should invest resources in increasing the intention to use a family planning method – it seems likely that those who intend to adopt a method will adopt it. These data suggest that barriers that might keep intenders from becoming users of family are not particularly strong. The focus of communications campaigns should be to lower psychosocial barriers to adoption

of methods. At the same time, there is a need to improve the quality of services available in neighborhoods where women live: even among those who do not face social and cultural constraints to the adoption of family planning, the quality of care remains a barrier to contraceptive adoption.

This study shares Casterline et al.'s (2001) perspective regarding the need to identify the range of different costs that are faced by potential users of contraception. At the same time, we believe that the use of specific contraceptives reflect distinct behaviors that may be motivated by distinct consumer considerations. A more precise picture of factors influencing the use specific methods is likely to be more useful for program planners interested in developing messages to increase the use of specific modern methods and in reducing the use of less effective natural methods.

This study was conducted with the perspective that males and females may be motivated by somewhat different factors and may consider the costs of contraceptive use or non-use differently. Several authors have noted the transformation in male attitudes towards fertility regulation (Levack and Rahim, 1998; Sathar and Casterline, 1998; Casterline et al., 2001). Married men are engaged in the practice of contraception in Pakistan: about 22% of women report modern method use in Pakistan, and 11% report use of methods that cannot be used without men taking the initiative (condoms and withdrawal) (NIPS and Macro International, 2008). The family planning program needs to be cognizant of the needs of men and design behavior change campaigns that will be effective in reaching them. The failure to motivate Pakistan couples who have been reached by the family planning program either through mass media or outreach activities but not convinced to use family planning (Mahmood and Ringheim, 1996) calls for renewed efforts to launch effective behavior change campaigns that are supported by strong service delivery initiatives.

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Table 1. Characteristics of married men whose wives are not pregnant and married non-pregnant women in the PSMS-1 sample

	Males (n=1805)	Females (n=1788)
Province		
Sindh	25.4%	25.4%
Punjab	55.9%	55.7%
Frontier	14.0%	13.7%
Baluchistan	4.8%	5.3%
Urban	34.4%	32.9%
Age ^{***}		
15-29	25.4%	45.3%
30-39	35.6%	41.7%
40 plus	39.0%	13.0%
Education ^{***}		
None	31.1%	57.9%
Primary	8.0%	7.4%
Middle	30.4%	18.1%
Secondary	15.4%	9.8%
Matriculate or higher	15.1%	6.8%
Wealth		
Fifth quintile	19.6%	19.2%
Fourth quintile	22.4%	18.1%
Third quintile	20.2%	19.2%
Second quintile	18.9%	22.7%
First quintile	18.9%	20.9%
Number of living children ^{**}		
0-1	21.8%	17.4%
2-3	26.0%	30.4%
4-5	28.9%	28.6%
6 or more	23.4%	23.6%
Fertility desires ^{**}		
Want more or undecided	33.6%	28.4%
Want more but after 1 year	8.5%	9.1%
Do not want more children	57.9%	62.4%
Currently using a method ^{**}	33.7%	38.0%
Intend using a method in the next 12 months ^{***}	35.3%	41.7%

* p<0.05 ** p<0.01 *** p<0.001

Table 2. Odds ratios associated with intentions to use condoms and withdrawal among men

	Intend using condoms in next 12 months (n=1805)	Intend using withdrawal in next 12 months (n=1805)
Province (ref: Sindh)		
Punjab	0.91	0.55*
Frontier	4.26***	0.93
Baluchistan	1.05	0.93
Urban (ref: rural)	1.67**	1.40
Age (ref: 40 plus)		
15-29	1.51	0.91
30-39	1.88***	1.84**
Education (ref: none)		
Primary	0.51	1.32
Middle	0.81	1.53
Secondary	1.23	2.04*
Matriculate and higher	0.99	2.10*
Wealth (ref: Fifth quintile)		
Fourth quintile	1.00	3.08*
Third quintile	1.14	3.50**
Second quintile	1.93*	2.38
First quintile	2.40**	3.62**
Number of living children (ref: 0-1)		
2-3	0.96	1.65
4-5	0.75	1.75
6 or more	0.49*	1.34
Fertility desires (ref: want more children or undecided)		
Want more but after 1 year	3.05***	1.04
Do not want more children	2.44***	2.01*
Beliefs and perceptions		
Responsible, caring husbands use FP to improve standard of living and protect mother's health	1.33***	0.79*
My in-laws support FP	1.14	0.66***
I can easily obtain FP methods or advice	1.20*	1.14
Most people disapprove of FP	0.98	0.93
Providers can be trusted to maintain confidentiality, to advise on method use and side-effects	0.94	1.02
I am not able to discuss FP with spouse or convince spouse to use FP	0.84*	1.61***
FP clinics have competent, friendly staff	1.16	1.35*
Contraceptives can make a woman sterile, harm her womb, are dangerous	1.02	1.18
Pseudo R ²	19.1%	20.2%

* p<0.05 ** p<0.01 *** p<0.001

Table 3. Odds ratios associated with intention to use hormonal and sterilization among women

	Intend using a hormonal method or an IUD in next 12 months (n=1788)	Intend using female sterilization in next 12 months (n=1788)	Intend using rhythm in next 12 months (n=1788)
Province (ref: Sindh)			
Punjab	0.96	1.30	5.61 ^{***}
Frontier	2.21 ^{**}	0.45 [*]	8.92 ^{***}
Baluchistan	2.82 ^{**}	0.57	3.50
Urban (ref: rural)	0.87	0.79	1.41
Age (ref: 40 plus)			
15-29	5.01 ^{***}	1.18	1.08
30-39	2.20 ^{**}	0.99	1.44
Education (ref: none)			
Primary	0.63	0.82	0.74
Middle	1.19	0.78	1.39
Secondary	1.40	0.63	0.81
Matriculate and higher	1.59	0.58	1.42
Wealth (ref: Fifth quintile)			
Fourth quintile	2.04 ^{**}	1.25	2.86 ^{**}
Third quintile	1.12	2.06 ^{**}	1.32
Second quintile	1.41	1.50	1.59
First quintile	1.00	1.28	1.03
Number of living children	(ref: 0-1)	(ref: <3)	(ref: 0-1)
2-3	2.19 ^{**}	-	1.19
4-5	2.45 ^{**}	2.08 ^{**}	1.34
6 or more	3.17 ^{**}	2.17 ^{**}	1.28
Fertility desires	(ref: want more or undecided)	(ref: want more, or want > 1 yr)	(ref: want more or undecided)
Want more but after 1 year	3.16 ^{***}	-	4.99 ^{**}
Do not want more children	2.11 ^{**}	11.01 ^{***}	1.45
Beliefs and perceptions			
Child-spacing protects mother's health, caring spouses use FP	1.60 ^{***}	1.25 [*]	1.48 ^{***}
My in-laws support FP	1.60 ^{***}	1.57 ^{***}	1.62 ^{***}
I have access to choice of methods, and facilities with competent providers	1.45 ^{***}	1.31 ^{**}	1.35 ^{**}
Providers can be trusted to maintain confidentiality, to advise on method use and side-effects	1.03	1.19 [*]	0.51 ^{***}
I am not able to discuss FP with spouse or convince spouse to use FP	0.97	0.80 ^{**}	0.82 ^{**}
Husband decides if wife can use family planning, God decides number of children	0.95	0.77 ^{**}	0.73 ^{**}
Family planning can harm a woman's womb, modern method can be very dangerous	0.96	0.77 ^{**}	1.02
Pseudo R ²	18.0%	27.7%	26.3%

* p<0.05 ** p<0.01 *** p<0.001

Figure 1. Current use and intentions to use methods among men whose wives were not pregnant at the time of the survey

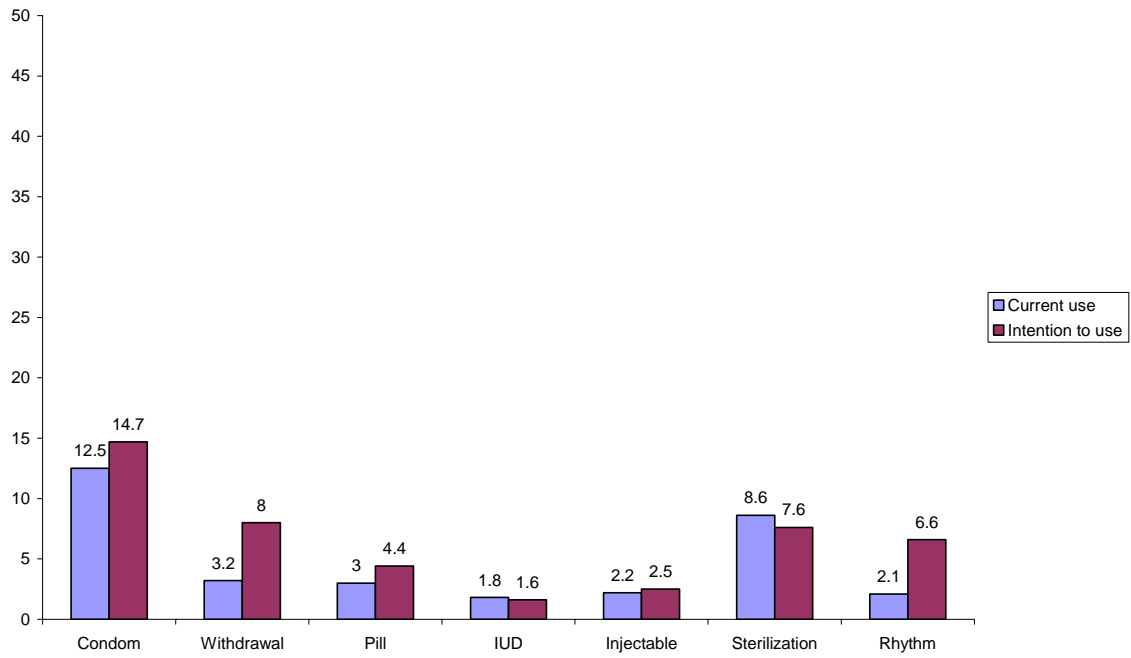
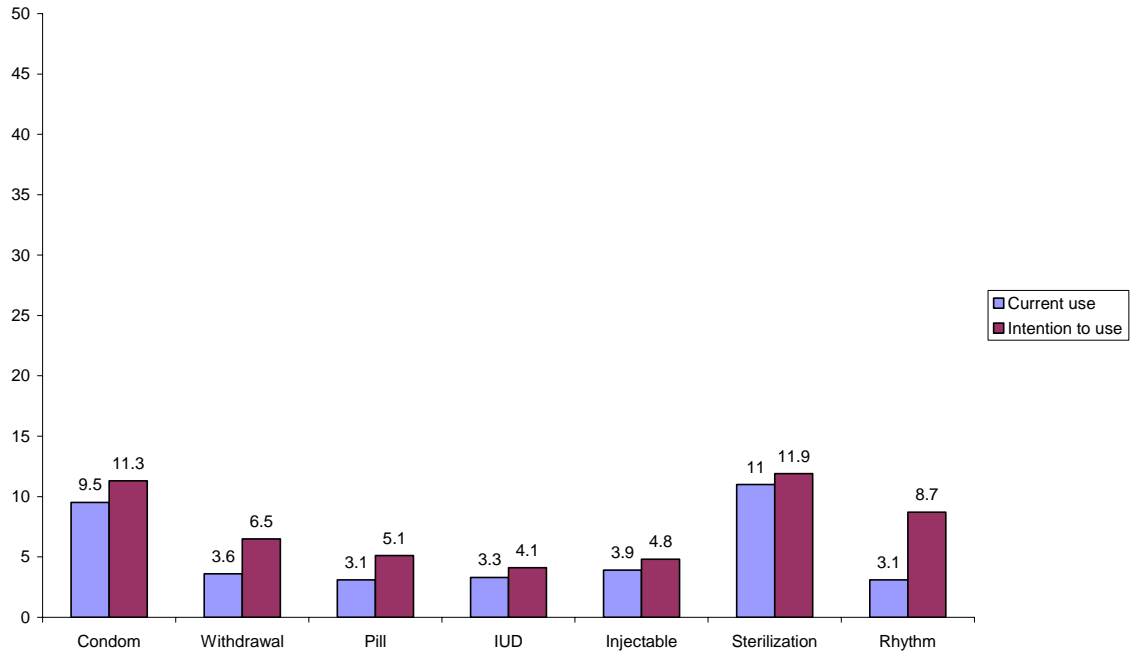


Figure 2. Current use and intentions to use methods among married women who were not pregnant at the time of the survey



APPENDIX, Table 2: Rotated Component-Matrix - Women

	1	2	3	4	5	6	7
Child spacing protects the health of the mother	0.828						
Spouses who care for one another will use family planning	0.813						
Family planning can help improve one's standard of living	0.806						
Men should share the responsibility of family planning	0.780						
If I decided to use FP my in-laws would support me		0.889					
If I used FP and had problems, in-laws would support me		0.876					
My friends are all positive about the use of FP		0.761					
My parents would support my decision regarding childbearing		0.742					
There are many types of FP methods available in this area			0.878				
There is clinic where I could get FP advice in neighborhood			0.875				
Family planning services have knowledgeable staff			0.845				
I know a place nearby where I can obtain contraceptives			0.837				
Medical staff at FP clinics around here is helpful & friendly			0.835				
FP clinics in this area have doctors available			0.771				
I can easily obtain the FP method that I want to use			0.751				
FP products are usually of good quality			0.680				
Providers give good advice on the use of methods			0.643	0.563			
You can trust FP providers to keep questions confidential			0.632	0.510			
Providers advise on how to deal with method side-effects			0.602	0.574			
FP methods are expensive			0.473				
I am hesitant to discuss FP with my spouse					0.726		
If my spouse opposes FP use, I am unable to convince him					0.715		
There is nothing I can do about getting pregnant too soon					0.711		
FP should only be used by older women who don't want children					0.658		
FP not considered a good thing among most people I know					0.647		
Among people I know, FP is done secretly					0.488		
For most couples, husband decides whether wife can use FP						0.633	
Only God determines the number of children a couple has						0.596	
Contraceptives can harm your womb							0.824
Modern contraceptives are very dangerous for a woman's health							0.819
Contraceptives can make you sterile							0.799
Contraceptives are not effective in preventing pregnancy							0.741
Using some contraceptives can lead to side-effects							0.740
Lots of rumors that make me wonder if contraceptives work							0.732
Woman using contraceptives won't be able to get pregnant							0.619

