EFFECT OF EXPOSURE TO MASS MEDIA AND FAMILY PLANNING WORKERS ON CURRENT AND FUTURE CONTRACEPTIVE USE IN PAKISTAN

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ABSTRACT

This study aimed to determine the net effect of Pakistan's national family planning program factors (mass media exposure and visits by family planning workers) on modern contraceptive use and intentions to use in the 12 months following the survey of currently married women. Data were drawn from the Pakistan Reproductive Health and Family Planning Survey (PRHFP, 2001) which surveyed 6,579 women.

The results indicate that only one-fifth of the respondents were currently using modern contraceptives and almost the same proportion was intending to use any method in the near future. Half of the respondents had not been exposed to mass media and almost three-fourths had not been exposed to family planning workers' visits. Multilevel logistic modeling results suggest that the odds of using modern contraception were significantly higher among those who were being visited by family planning workers and who discussed family planning with them. Radio and family planning workers' visits were negatively associated with intentions to adopt contraception in the near future after controlling for social and demographic factors. These findings are inconsistent with previous studies and provide little evidence to support the hypothesis set for this study.

There is a need for further careful investigation regarding the effects of mass media and family planning workers exposure on contraceptive use behavior along with more focused information, education, and communication campaigns which expand the coverage and improve family planning services and adoption.

KEY WORDS: MASS MEDIA/ FAMILY PLANNING WORKERS VISITS/ CURRENT CONTRACEPTIVE USE/ FUTURE USE/ PAKISTAN

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CHAPTER 1
INTRODUCTION

With the population of 169 million Pakistan is the 6th largest country in the world, with a natural rate of increase of 2.3 percent annually. It is estimated that with this pace of increase it will become the third most populous country in 2050. The total fertility rate is 4.1 children and only about 30 percent women of reproductive age are using a contraceptive method (Population Reference Bureau, 2007). In the 1950s the government apprehended the pressure and hazards of growing population and its adverse effects on economy and socio-economic development of the country. This situation necessitated the government to adopt family planning program to address the problems of a rapidly growing population.

1.1 Pakistan's family planning program

Pakistan is among the pioneering countries that started family planning programs in the 1950s through its successive five-year development plans. In 1965 the government installed a regular program with specific objectives to counter the rapid growth rate and took measures to reduce fertility. Since its inception, the program has passed through different experimental phases and programmatic actions, mostly coinciding with successive five-year developmental plans for the country and has been referred to under various titles during these periods (Rukanuddin, 2000).

Under this program various interventions were put in place and redesigned according to the situation. During 1960-65, family welfare centers were installed for community based family planning services. In the next half of the decade (1965-70), mass scale information, education, and communication (IEC) activities were introduced. Reproductive health centers were opened in all public hospitals at district and sub-district levels. During 1970-75, continuous motivation system was introduced by recruiting trained male and female motivators at grass root level. However, during 1975 to 1980, family planning activities were suspended and lost momentum due to political situation of the country and re-organization of the program (Hakim et, al.,

1999). The lack of political commitment and support for family planning program, from 1969 to 1988, was widely noted. The governments rarely supported the program openly. In the late 1970s, IEC activities were almost dormant, and field activities were eventually dysfunctional (Rukanuddin, 2000). The absence of political ownership and committed program administration after 1969 might be the major obstacles in the acceptance of family planning program among people (Sathar & Casterline, 1998).

Many administrative changes were undertaken in the 1980s and multisectoral and multi-dimensional approach was adopted to broad the program coverage. During this decade, field activities were provincialized, the role of NGOs was encouraged, coordination with provincial line departments was institutionalized, and National Institute of Population Studies (NIPS) was established for undertaking research on population and development (Hakim et, al., 1999).

In early 1990s the government adopted a major initiative of installation of family planning workers, a component of IEC/BCC strategies, at the community level for the door step provision of family planning services. For the physical coverage of the program Village-Based Family Planning Workers (VBFPWs) were deployed under the Ministry of Population Welfare. The deployment of this female cadre (VBFPWs) at the village level was made according to population density, without taking into consideration the population size of the village. The evaluation of the VBFPWs scheme revealed that their presence in the community not only helped to increase the knowledge of family planning services, but also increased the contraceptive prevalence rate (National Institute of Population Studies, 2001).

The IEC activities of the program strengthened in the 1990s as the Ministry of Population Welfare disseminated the message of small family size through mass media (television, radio, printed material and press media). During this period many drama serials, ads, posters, brochures were produced to build awareness among people about family planning services and access points. Thus mass media campaigns appeared as vital and important sources of information about family planning and revealed a significant association to contraceptive use in the country (Ministry of Population Welfare, 2002).

Pakistan launched its first ever population policy in 2002, consistent with International Conference on Population and Development (1994) agenda. This policy includes a broad scope of the issues, from demographic rights to socio-economic uplift of the population. The population policy adopted a vision of achieving replacement level fertility in 2020. Other goals were set as a decline in the population growth rate from 2.1 percent to 1.6 percent by 2012, an increase in contraceptive prevalence rate from the existing 30 percent to 43 percent in 2004 to 57 percent in 2012. The program coverage was targeted to increase from 65 percent in 2001 to 100 percent by 2012. Along with other objectives, efforts initiated to provide door step services for unmet need through female health workers; narrowing the gap between knowledge, attitude, and practice and expanding social marketing of contraceptives (Ministry of Population Welfare, 2002).

Various surveys conducted in Pakistan over time has documented that the family planning program has achieved significant progress and is moving ahead. A rise in the contraceptive prevalence rate from 12 percent to 28 percent during the decade 1990-2000 has been observed and nearly the same trend in use of modern methods of contraceptives recorded. On the bases of these trends, the government has anticipated that contraceptive prevalence rate may be doubled by the target year of 2011 with the implementation of redesigned strategies (Ministry of Population Welfare, 2002).

During the past decades the program enjoyed full political support and commitment, yet it lacked backing from the community. The community-based approach could not be fully materialized due to religious, social and cultural norms of the society. Although Islamic teachings don’t directly opposed the adoption of contraception but religious leaders seemed the practice of contraception as conflicting with Islamic teachings. Son preference and an agricultural economy encouraged people to have large families (Mahmood, 2005). Low literacy particularly among women, restrictions on their work, and leave their houses unaccompanied were major impediments in the way of program success. However, with the process of modernization, and urbanization, exposure to mass media, rising cost of living, and economic cost of children have changed the perception of people that large families are no longer affordable (Hakim & Miller, 1998; Rukanuddin, 2000).

1.2 Rationale of the study

Despite having a long history of the family planning program, Pakistan's contraceptive prevalence rate is low compared with other Asian countries (Guest, 2003; Miller et al, 2000). Pakistan started its family planning program in 1950s, its impact on fertility decline remained less successful (Rukanuddin, 2000; Hakim 2000) and Pakistan still has one of the highest total fertility rate (4.1) in Asia. However, a reasonable increase in contraceptive prevalence rate has been observed. As recorded in the Pakistan Fertility Survey (1975), the contraceptive prevalence rate was just 5.2 percent, while according to recent estimates it has increased to 30 percent (all methods) and 22 percent (modern methods) among married women (Population Reference Bureau, 2007).

Though the knowledge of family planning services among women in Pakistan is almost universal (97 percent), the unmet need for contraception has remained high through many decades and recently it has been reported at 32 percent. Women who wanted to limit and space their fertility, 56 percent shown their intention to use contraceptives in future (Mahmood, 2002). To reduce the size of unmet need, more rigorous and planned program strategies, as intensified and focused IEC activities, improved reproductive health and family planning services are needed (Chaudhary, 2001).

The IEC activities have contributed to tangible evidence of fertility transition in Pakistan. The ideal family size has dropped from 4.9 children in 1985 to 3.6 in 1995 and TFR has declined from 6.3 in 1975 to 4.1 in 2005. However, these IEC activities could not address a number of issues important for the adoption of contraceptives. The communication programs have mainly focused on the urban population to increase awareness about reproductive health services and paid little attention to the rural segment of the population (Ministry of Population Welfare, 2007). Moreover, from 1993 to 2000, ban was imposed on family planning messages to display in media, though for limited time periods, and these messages were restricted to go on air during prime time especially on TV (Kingfield *et al*, 2000).

Contraceptive prevalence is considered an indicator of the effects of family planning programs. While it is obvious that IEC activities in Pakistan have helped to increase family planning knowledge up to a universal level, yet the contraceptive

prevalence rate remains very low. Few studies have been conducted in Pakistan on the role of family planning program factors contributions toward the increase of contraceptive prevalence rate but these studies could not measure the net impact due to cross-sectional nature of the data. Conversely, the initial decline in fertility and increase in contraceptive use may be attributed to the gradual changes in social, economic, and cultural conditions (Rukanuddin, 2000; Mahmood, 2005). Therefore, family planning program factors' influence on contraceptive use behavior in Pakistan remains unknown and unclear.

Keeping in view this situation, this study aims to determine whether and how Pakistan's family planning program factors such as family planning exposure in mass media and family planning workers' visits are associated with current and future contraceptive use among married women in Pakistan. As many other factors may influence contraceptive use and intentions, socio-demographic and cultural characteristics of the respondents will be controlled for. In this way, this study will attempt to specify and distinguish the net effect of exposure to mass media and family planning workers on contraceptive use and intentions to use from other factors.

The findings of this study may help policy makers and program managers to understand the contributions of IEC activities, redesigning and strengthening of these IEC interventions for promoting family planning practices.

1.3 Research question

- Whether exposure to mass media and family planning workers has any effect on current and future modern contraceptive use among married women?

1.4 Research objective

- To determine the net effect of exposure to mass media and family planning workers on current and future modern contraceptive use among married women

CHAPTER 2
LITERATURE REVIEW

The literature on contraceptive use among married women offers insights into what contributing factors should be considered in determining the effect of exposure to mass media and family planning workers on contraceptive use and intentions to use. Along with this social, demographic and cultural factors also play vital role to shape the individual's behavior on adoption of contraceptives.

2.1 Program factors

2.1.1 Family planning exposure in mass media

Family planning programs have designed the strategies to popularize small family norms including information on contraception services and their access. An analysis of various studies conducted to assess the impact of mass media in different countries over the past years comes up with conclusion that mass media has influential effects to adopt low fertility norms. In changing ideation and behavior of people these effects are consistent empirically with both cross-sectional and longitudinal evidence (Hornik & McAnany 2001).

An evaluative study of family planning performance in Uganda reported that family planning messages in media had shown a strong influence on the use and intention to use modern contraceptives among women (Gupta *et al*, 2003). Olenich (2000) suggested that regular viewing of TV and exposure to specific family planning messages by women have demonstrated ample effects on adoption of modern contraceptive methods in Pakistan, India, and Bangladesh. While another study suggests that in Bangladesh, radio has been appeared the most effective medium to disseminate family planning awareness followed by TV. The exposure to mass media is also associated with the possession of devices, economic conditions and residential areas. The decision to use and intension to use modern contraception by women was found in the expected direction (Islam & Hasan, 2000).

Kingfield and others (2000) reported that the contribution of mass media, particularly TV, towards an increase of family planning knowledge in Pakistan is undeniable. Further, the importance of TV on other communication media is that people visualize the message and remember far better than other mass media. The family planning campaign on mass media has shown significant effects on unmet need for contraception while these messages on TV and radio have had a positive effect on contraceptive use among married women in Pakistan (Mahmood, 2002).

However, studies on the role of mass media's influence on contraceptive use behavior in Pakistan lack using of appropriate statistical modeling as almost all studies used cross-sectional data to derive their conclusions. To understand mass media contributions, other background factors are necessary to be considered, which may have more influential effects on contraceptive use and intentions to use.

2.1.2 Family planning workers

Social networks and diffusion theory (Rogers, 2003) emphasizes that individuals are rooted in an intricate structure of social network. In this lieu, individuals are substantially influenced by the interpersonal influence regarding the acceptance of new ideas and behaviors. Interpersonal communication stimulates awareness, knowledge, and approval about new idea or practices, and persuades the individual to adopt or reject those new ideas and behaviors**.**

The importance of family planning workers for improvement in knowledge and contraceptive use practices has been highly recognized during the past few decades (Hennink & Clements, 2005). The major task of these community based family planning workers is to supply contraceptives, particularly oral pills and injections, to women who are unable to visit any health facility due to certain reasons.

The acceptance of contraceptive use behavior can be enhanced through community based workers, who can communicate and provide accurate knowledge and information to potential contraceptive adopters. Thus, these workers facilitate potential users by considering their family restrictions and cultural situations (Mahmood, 2005).

Evidence from an evaluative study of the community based Lady Health Workers Program in Pakistan, based on nationally representative sample, by

Douthwaite & Ward (2005) documented that women in areas exposed to the program were 50 percent more likely to use contraception than women in control areas. The same study found that women's mobility in Pakistan is severely restricted, in this situation, the family planning workers emerged as successful source in the provision of doorstep health services and modern contraceptive methods in rural areas. Lady Health Workers' role appeared quite successful in educating the rural women about healthy practices and supplying them modern contraceptive methods. This work force was approaching 40 to 50 percent of eligible clients with variety of services (Arif, Ward & Riemenschneider, 2002). However, the lack of follow up, lack of communication skills, and absenteeism by family planning workers causes poor adoption of family planning methods among married women who are in need of contraception (Rukanuddin, 2000).

The above mentioned findings of the studies, therefore, indicate that mass media and visits by family planning workers may play an important role in promoting contraceptive use. Thus, these family planning program factors form an integral part of the conceptual framework of this study.

2.2 Socio-demographic and cultural factors

Socio-demographic and cultural factors play a key role in the decision of fertility desires and contraceptive use. It is equally important to take into account local socio-cultural context while analyzing the effects of family planning program factors regarding fertility limitation practices (Stephenson & Hennink, 2004; Mahmood, 2005).

2.2.1 Age

Age is a proxy for important biological processes that play a vital role in adoption of contraceptives among women. Various research studies conducted in Pakistan indicate that the use of contraception is proportionally higher among women with higher ages (Javeed, 2003; Fikree et al, 2001; Chaudhary, 2001). Because women at ages 35-44 years have already completed their desired family size and want no more children, therefore, demand for contraception tends to be higher (Mahmood, 2002). In an analysis of family planning program, background characteristics and contraceptive

use in Malawi, Cohen (2000) has found that communication campaign about family planning revealed significant effect on women who were exposed to the campaign and were in the age of 25-30 years.

2.2.2 Education

Education is a powerful tool in human life to shape individual's behavior. In regard to fertility norms and reproductive health all studies have stressed the role of women's education in enhancing better outcomes. A national study on women's autonomy and education in Pakistan reports that there is a significant relationship between education and ever and current contraceptive use (Saleem, and Babok, 2005). Similar findings have been found by Mahmood (2002) while analyzing the effect of education on unmet need of contraceptives in Pakistan. This study reported that women having less than primary education were two times less likely to use contraceptives for spacing than women with college level education.

Using the panel data of Morocco DHS 1992-95, Magnani and others (1999) have found that women with high level of education had higher odds to use contraceptives in future. Another study on contraceptive use and future intentions to use in Ethiopia revealed that only education of woman and family members increases the likelihood of contraceptive use and future intentions to use (Hogan & Biratu, 2004). Other studies come up with the same findings in different countries (Sultana Haque, and Thaver, 2001; Chaudhary, 2001).

2.2.3 Number of children

Contraceptive use is significantly associated with number of children. Mahmood (2002) reported that Pakistani women having four or more children used contraceptives at higher rates than women with 0-2 children. While analyzing the Indonesian contraceptive use behavior, Schoemaker (2005) reported that the odds were higher for women with three or four children of using contraceptive than women with two or less children. Interestingly, women having five or more children revealed lower odds for contraceptive use, presumably due to their older age or secondary

sterility. Almost the same results have been reported by other studies (e.g. Gupta et al, 2003; Magadi and Curtis, 2003).

2.2.4 Desire for more children

The desire for additional children reflects fertility preferences of the couples, which provides basis to adopt family planning methods. Zaheer (2001) has reported that there is a substantial demand for more children among Pakistani women when they had 2 children. About one in three women don't desire more children when they had three children. Similarly, recent national survey revealed that demand for additional child decreases among women having 4 or more children depicting the need of contraception (NIPS, 2001; Mahmood, 2002).

2.2.5 Place of residence

In a comparative study of urban-rural areas of Pakistan, Javeed (2003) reported that contraceptive use among currently married couples wa higher in urban areas than those in rural areas. A similar study conducted in Pakistan revealed that urban and literate women were more likely to use contraceptives (Sultana, Haque, & Thaver, 2001). Women living in urban areas demonstrated higher odds of using contraceptives than rural women (Schoemaker, 2005). Magnani and others (1999) have reported that the likelihood of intention to use contraceptive among urban resident women were higher. Other studies (Gupta et al 2003; Chaudhary, 2001) are consistent with these findings.

2.2.6 Husband's approval

In many societies men are primary decision makers regarding family issues. A study conducted in Osun state, Nigeria, Amos (2007) found that the use of modern contraceptive among married women was significantly related to the approval of husband. Husband's approval to use contraceptives raised the odds eight times more likely to use modern methods than those without husband's approval on this issue. The cultural settings in Pakistan are very traditional and use of contraception or future intentions to use by women are largely associated with husband's approval (Chaudhary, 2001). Mahmood (2005) argues that neglecting the role of men in family

planning policies has hindered the program, because the influence of the husband in decision making process is strong in patriarchal system of Pakistan.

2.2.7 Inter-spousal communication

Inter-spousal discussion on fertility desire has a definite effect on use of contraceptives. An analysis of correlates of unmet need for family planning in Pakistan refers that among the couples who discussed family planning often with each other 17 percent were contraceptive users to space their fertility as compared to 10 percent couples who had communicated once or twice, while among the couples who never discussed family planning the percentage amounted only 2.5 (Mahmood, 2002). Analyzing the panel data from 1994 to 1999 in Nepal, Sharon and Valente (2002) has reported that couples who had high frequency of discussion regarding family planning were more likely to adopt family planning methods.

2.2.8 Women's mobility

Female mobility in Pakistan is linked with cultural and religious recognition, even restricted to visit health facilities for utilization of services (Douthwaite & Ward, 2005). Previous demographic surveys suggest that for women who have autonomy to visit health facility unaccompanied the contraceptive use is much higher than those whose mobility is limited to go outside the home (National Institute of Population Studies, 2002). Mahmood (2002) reported that the odds of contraceptive use were higher among women who can visit health facility alone. The flexibility in restrictions regarding women's mobility can improve the conditions for contraceptive adoption and can address the unmet need effectively, which ultimately would lead to reduce family size (Mahmood, 2005).

Taken together, the factors above indicate that contraceptive use and intention to use is also influenced by prevailing socio-demographic and cultural factors rather than only family planning program activities.

2.3 The conceptual framework

The findings from existing literature provide the foundations for the conceptual frameworks of this study with two outcome variables being tested. The first

framework depicts the expected effects of family planning exposure in mass media (e.g. TV, radio, newspaper, posters, and leaflets/brochures), and family planning workers' visits on modern contraceptive use. Other component entails socio-demographic and cultural factors e.g. age, education, place of residence, number of living children, desire for additional children, husband's approval for contraception, inter-spousal communication, and women mobility. Both components are considered to affect the outcome variable of contraceptive use.

The second framework contains the same independent variables and an additional variable namely desire for more children. This framework shows expected effects of the same set of independent variables on future intentions of contraceptive use.

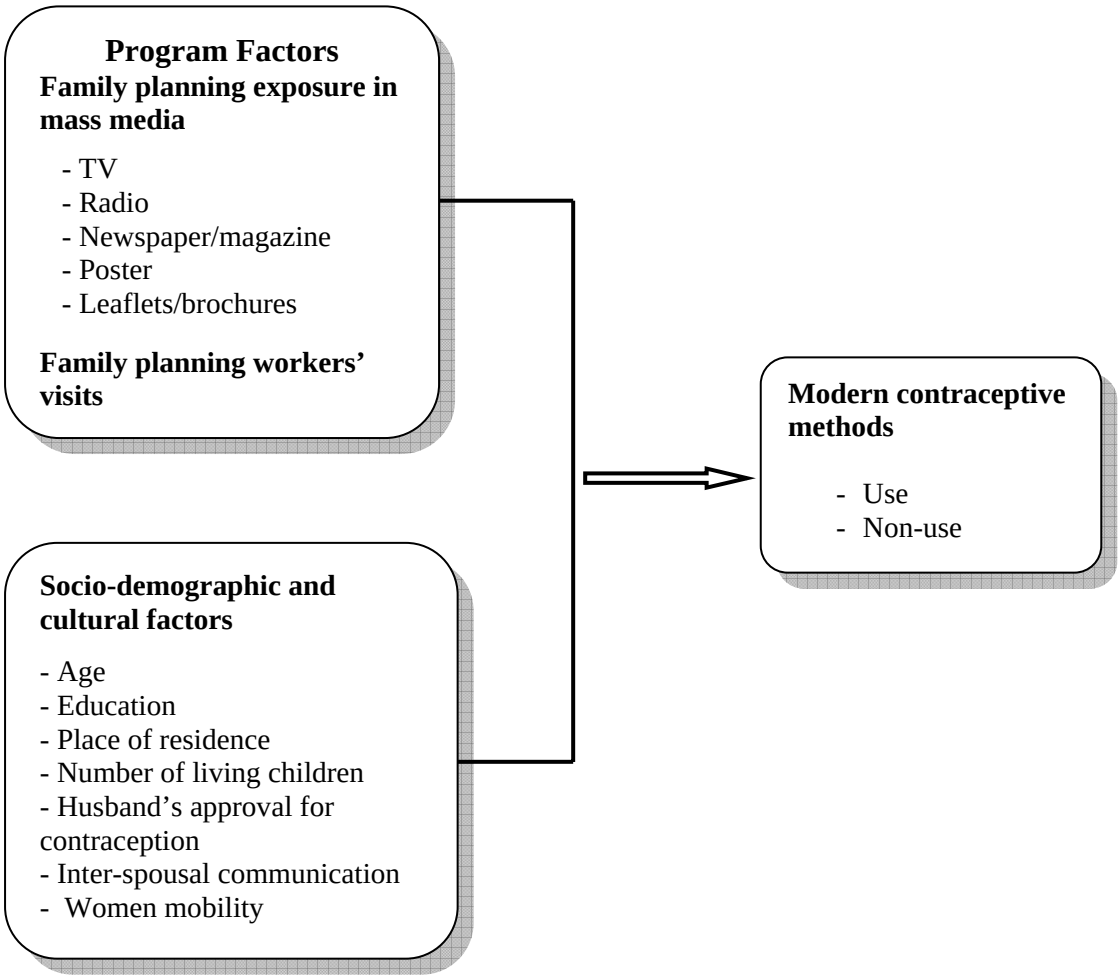

Figure 1: Conceptual framework 1

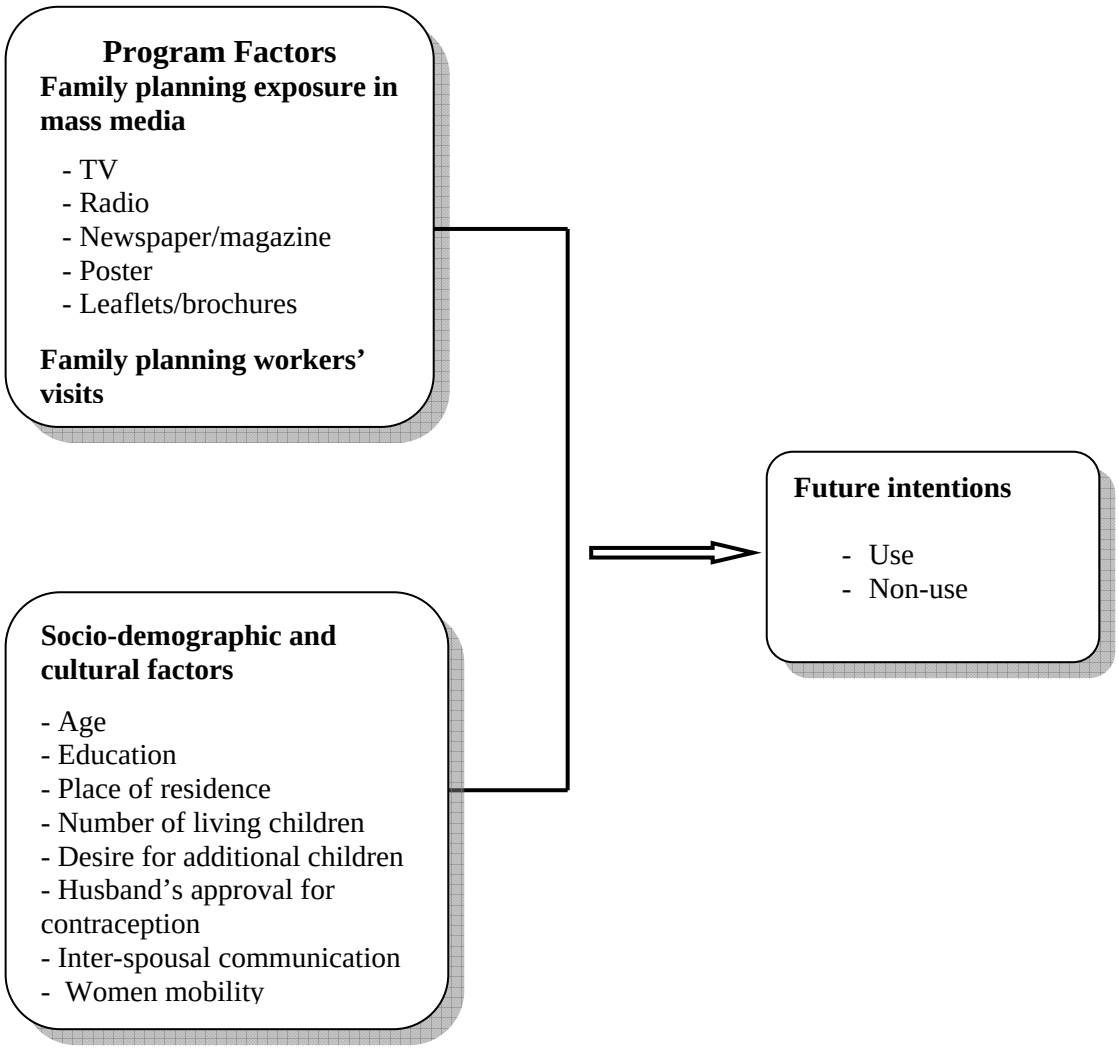

Figure 2: Conceptual framework 2

2.4 Hypothesis

- Exposure to mass media and family planning workers has positive effect on current modern contraceptive use and future intentions to use.

CHAPTER 3
MATERIALS AND METHODS

3.1 Data source

The Pakistan Reproductive Health and Family Planning Survey 2000-01, which was conducted by National Institute of Population Studies, was used for this study. This survey collected data on all components of reproductive health with specific objectives to assess fertility level, contraceptive level, safe motherhood situation, infant and child mortality, and maternal mortality conditions in the country.

3.2 Sampling design and sample size

The data for this survey was collected in 2000/01 using a list of clusters based on the 1998 census. A two-stage stratified sampling technique was used. The first stage included area units and households at second stage. The sampling frame was further stratified on a standard scheme i.e. stratification by urban/rural areas and sub-strata of urban/rural into high, medium and low-income areas. Altogether 367 primary sampling units were selected in all provinces.

A household list was prepared for each selected cluster, and information was obtained from eligible respondents employing *de jure* method (members who were usual residents in the selected household). Initially, a total of 7,332 households were selected from all 367 primary sampling units, out of which 6,857 were visited indicating 93.5 percent of the response rate. Among visited households 7,411 eligible women were identified, with 6,579 women being successfully interviewed comprising overall response rate of 89 percent.

3.3 Data collection tool

A questionnaire, containing two parts, was administered to collect the information. The first part contained background characteristics of the household and usual members, while the second part was focused on various aspects of demographic

and reproductive characteristics of eligible respondents. The questionnaire was translated into Urdu (national language) and other regional languages to make it fully understandable for the respondents. The questionnaire was pre-tested and analyzed comprehensively before using for data collection.

3.4 Variables used in this study

3.4.1 Dependent variables

Current modern contraceptive use

This outcome variable refers to the current use of any modern method of contraception by women at the time of interview. This variable has dichotomous response, therefore, the response for currently using modern contraceptives was measured on nominal scale and coded as not use = 0 and current use = 1. Only 20.2 percent (N=1,287) were using modern contraceptives at the time of interview.

Future intentions to use modern contraceptive

This variable refers to future intentions to use any modern method in next 12 months by non-users at the time of interview. This variable was also measured on nominal scale and was coded on the same scheme i.e. no intention = 0 and intention to use = 1. Only 22.0 percent women were intending to use any modern method in future.

3.4.2 Independent variables

Family planning program factors:

Mass media

This variable was one of the main components of the family planning program factors for the analyses. In the survey questionnaire women were asked to report their channel of mass media through which they were exposed to family planning messages in the previous few months. This included the following: i) having heard a family planning message on the radio; ii) having seen a family planning message on TV; and iii) having read any material about family planning in newspapers, posters, leaflets or brochures. These three individual variables were merged into one variable having eight categories as

0 No exposure
1. Radio only
2. TV only
3. Print media (newspapers/magazines, posters, leaflet/brochure)
4. Radio & TV,
5. Radio & print media
6. TV & print media
7. All three media.

The purpose of making these categories was to avoid potential multicollinearity among these individual variables.

Family planning workers visits

The second factor of the family planning program was visits by family planning workers to women at their home. In the questionnaire, the respondents were asked (i) "Were you visited at home by a health or family planning worker in the last 12 months?", and (ii) "On the last visit, did she discuss about family planning?" This variable was classified as no visit, visit and talked about family planning. These two questions were merged and classified as

0. No visit
1. Visit with family planning discussion
2. Visit without talking about family planning

Control variables

There are other independent variables that measure socio-demographic or background characteristics that were used as control variables in this study. These independent variables were controlled to assess the effect of independent variables on dependent variables by using logistic regression models. The operational definitions of control variables are given below.

Age of respondent

Age refers to the completed years of current age of respondent at the time of interview. In this study age has been grouped into four categories: 15-19 (as reference category for logistic analysis), 20-29, 30-39, 40-49 and measured at the ordinal scale.

Education of women

Education of women refers to the number of years of formal education completed from '0' years to the observed higher years of study. For this study it has been coded into four distinct categories: 0 years = no education, 1 to 5 years = primary education, 6 to 10 for secondary education, and 11 to 16 as the higher education. This variable is also measured at the ordinal scale.

Place of residence

Place of residence refers to the usual living place of the respondents at the time of interview. Three categories were classified as major urban, other urban and rural residence.

Number of living children

This variable refers to the total number of living children of the respondents and was categorized into 0-2, 3-4, and 5+ children.

Desire for more children

This variable reflects future desire of the respondents to have another child or no desire for child within next one or two years. The desire for child was categorized into no more child, want another child, respondent can't get pregnant, up to God, and undecided/don't know. For logistic analysis this variable was included only in second outcome variable i.e. future intention of contraceptive use.

Spousal communication

This variable refers to the discussion between husband and wife about adoption of family planning methods in the past year. To measure this three responses were classified: never in the past, once or twice, and more often.

Husband's approval for contraception

Husband's approval refers to his acceptance of the idea to use contraception by his wife. This variable is measured on three categories: disapprove by husband, approval for contraception, and don't know.

Women's mobility

This variable refers to the settings where women can visit any health or family planning facility alone or accompanied having some restriction to move alone. This variable was constructed by merging two questions, first question was asked "have you visited a health/FP facility for any reason in the past 12 months", and "did you

visit the health/FP facility alone or someone accompanied you". In this way, three responses were categorized: no visit, accompany, and alone.

3.5 Operational definitions of variables

Table 3.1: Description of dependent variables and independent variables along with their scale of measurement

Variables	**Operational definitions**	**Level of measurement**
Dependent variable		
Current use	Women who were currently using modern contraceptives. Not use = 0, Current use = 1	Nominal
Intention to use	Women who were currently not using modern contraceptives, but have intention to use in future. No intention to use = 0, Intention to use = 1	Nominal
Independent variables		
Program variables ***-Mass media exposure*** - TV - Radio - Print media - Radio & TV - Radio & print media - TV & print media - All three media	Women who heard/read about family planning on radio/TV/newspaper/poster/leaflets, brochures during the past few months. (0 = No exposure, 1 = Exposure)	Nominal
- ***Family planning workers visits***	Women who were visited at home by a family planning worker (female) in the past 12 months. (0 = No visit, 1 = Visit with family planning discussion, 2= visit without family planning discussion)	Nominal
Socio-cultural factors		
Age	Age of the respondents, grouped into 4 categories as 0= 15-19, 1= 20-29, 2= 30-39, 3= 40-49	Ordinal
Education	Education level of the respondents categorized into 0= No education , 1= primary 2= secondary, 3= higher secondary and above	Ordinal

Table 3.1: Description of dependent variables and independent variables along with their scale of measurement (cont.)

Variables	Operational definitions	Level of measurement
Place of residence	Usual residential place of the respondents e.g. 0 = rural, 1= major urban, 2 = other urban	Nominal
Number of living Children	Total number of living children respondents had at the time of interview 0= 0-2, 1= 3-4, 2= 5+	Ordinal
Desire for more children	Women desires for additional children in future. 0= no more child, 1= want another child, 2 = up to God, 3 = undecided/don't know	Nominal
Spousal communication	Talk/discussion between husband and wife about family planning in the last year. 0 = never in the past, 1 = once or twice, 2 = more often	Ordinal
Husband's approval for contraception	Husband's approval or disapproval of using a method to avoid pregnancy. 0 = disapprove, 1 = approve, 2= don't know	Nominal
Women mobility	Women visit to health/FP facility alone or someone accompanying them. 0= no visit, 1= accompany, 2= alone	Nominal

3.6 Data analysis

As mentioned earlier the PRHFP survey contained an eligible sample of 6,579 ever-married women. For this study the eligible sample was currently married women who were using any modern method of contraceptives and were intending to do so in future. Of the original sample, therefore, 209 women were identified who were not currently in marriage union. Hence, I analyzed data regarding current use of modern contraceptives from the remaining 6,370 women. For the second outcome variable i.e. intention to use, the sample size consisted of the non-users of modern contraception totaling of 5,083 women. The statistical tests were employed on weighted data to

correct the unequal probabilities of selection due to the sampling design of the survey data.

In order to determine whether exposure to mass media and family planning workers have any net effect on contraceptive use and intentions to use, socio-demographic and cultural variables were included as potential confounding factors, such as age, education, residence, number of living children, desire for more children, spousal communication, husband's view about family planning adoption, and women mobility to any health/family planning facility. Multivariate logistic regression models were employed for binary responses of two outcome variables separately.

3.7 Limitations of the study

Owing to cross-sectional nature of the data, it is difficult to establish the cause-effect relationship between independent and dependent variables and to evaluate the family planning program's impact on the outcome variables.

Further the survey was conducted in 2000-01, the most recent available data set for this study, which may raise the questions on its timeliness. It is, therefore, limited to existing available variables within the survey. For instance, an important question on the program side such as distance to family planning centre, and some background questions e.g. family type, religion, are not available in the data.

CHAPTER 4
RESULTS AND DISCUSSION

This chapter consists of four sections. The first section deals with current family planning status of the respondents, and contraceptive use and future intentions to use according to their background characteristics. This section also entails the relationship of exposure to mass media and family planning workers with current use of modern contraceptive and future intentions to use. The second section describes the relationship between respondents' background characteristics and exposure to mass media and family planning workers' visits. The third section documents the net effect of exposure to mass media and family planning workers on modern contraceptive use and intentions to use in future by using logistic regression analyses. The fourth section discusses the results of analyses of this study.

4.1.1 Family planning status of the respondents

Table 1 presents family planning status of the respondents. The proportion of women who were currently using any modern method at the time of the survey was only 20 percent. While among non-users of modern contraceptives only 22 percent were intending to use any modern contraceptive method in the near future.

Table 4.1: Family planning status of the respondents by contraceptive use and future intentions to use

Family planning status	Contraceptive use (%)	Intention to use (%)
Any method	27.6	-
Any traditional method	7.4	22.0 (N= 1,115)
Any modern method	20.2 (N= 1,287)	-
Not currently using modern method/intentions to use	79.8 (N= 5,083)	78.0 (N= 3,968)
Total	**100.0 (N= 6,370)**	**100.0 (N= 5,083)**

4.1.2 Socio-demographic characteristics of the respondents, their current contraceptive use and intentions to use

Table 4.2 shows that among the current users, contraceptive level was higher in age group of 30-39 (47%) than women of other age groups. Women without formal education demonstrated higher level of current contraceptive use (59%) followed by women with secondary education (18%). Using a modern method among women living in major urban areas (51%) was almost three times greater than that of rural women. Contraceptive use increased with an increase in the number of children as 28 percent and 58 percent among women having 3-4 and 5 or more children respectively.

Contraceptive use was noted at 23 percent among women who talked about family planning with their husbands more often, which was lower than the proportion of women (38%) who didn't discuss family planning with their husbands. In societies where men are prime decision makers contraceptive use is mostly linked with approval from husbands. Data indicate that husbands' approval was associated with adoption of contraceptives at higher rate (89%) than women whose husbands did not agree to use contraception (9%). More than half of women, who stated that they didn't visit any health facility, were using contraceptives, while current use of contraceptive was only 10 percent among women who reported that they can go any health/family planning facility alone.

Table 4.2 also shows that among currently married non-users, only 22 percent of women intended to use contraceptives in the near future. Women in middle age groups (20-29 and 30-39) revealed higher intention to use contraceptives in next 12 months as compared to younger and older ages. Interestingly, women with secondary or higher education showed a low tendency (13 and 5% respectively) than non-educated women (69%). Similarly, urban residents intended to use contraception more than rural residents. Again, increase in number of children was associated with increased intention to adopt contraception. It is clear that women with higher number of children want to adopt contraception to limit their family size.

Table 4.2: Percentage distribution of respondents who were currently using modern contraceptive and were intending to use, according to socio-demographic characteristics

Socio-demographic characteristics	Current users of modern contraceptives (N= 1,287)	Intended to use contraceptives (N= 1,115)
	%	%
Age		
15-19	0.6	7.1
20-29	25.4	47.7
30-39	46.6	37.2
40-49	27.4	8.0
Education		
No education	59.2	69.0
Primary	16.5	13.0
Secondary	18.2	13.0
Higher Secondary & above	6.0	5.0
Place of residence		
Rural	14.8	66.6
Other Urban	34.4	19.4
Major Urban	50.9	14.0
No of living children		
0-2	13.8	35.5
3-4	28.2	22.4
5+	58.0	42.2
Discussion with husband		
Never in the past	38.1	38.3
Once or twice	38.8	43.5
More often	23.1	18.2
Husband's views about FP		
Disapprove	9.0	16.8
Approve	89.0	73.1
Don't Know	2.0	10.0
Mobility		
No visit to any health/FP facility	61.2	64.6
Accompany while going to health/FP facility	28.8	30.7
Can go alone	10.0	4.7
Total	20.2	22.0

Women who had discussed family planning with their husbands once or twice were intended to use contraceptives (44%) more than other women. Three-fourths of women intended to adopt contraception in future who reported that their husbands

approved to do so. Around two-thirds of women who were not visiting any health or family planning facility showed their intention to use contraceptives in the near future followed by who were being accompanied by anyone from their home.

4.1.3 Exposure to mass media and family planning workers by contraceptive use and intentions to use

Table 4.3 indicates that half of respondents had not been exposed to family planning messages via the media. TV had one-fourths of exposure to women regarding family planning messages followed by radio & TV (12%) and only radio (6%). This indicates that electronic media has yet to play a key role in disseminating family planning messages to large proportion of the population. Other kinds of media were remarkably low in disseminating family planning messages to women. Similarly, around three-fourths of respondents reported that they had not been visited by family planning workers at home. However, among women who had been visited by family planning workers, there was almost no difference between respondents who talked family planning matters with those workers and who had not talked (14 percent and 15 percent respectively).

Table 4.3: Percentage distribution of respondents who were currently using modern contraceptives and were intending to use, according to exposure to mass media and family planning workers' visits

Program factors	All respondents (N= 6,370)	Current users of modern contraceptives (N= 1,287)	Intended to use contraceptives (N= 1,115)
Mass media	%	%	%
None	49.2	35.4	47.1
Radio only	5.9	4.2	5.5
TV only	25.3	33.1	26.3
Print Media	1.0	1.1	0.8
Radio & TV	11.8	14.7	13.3
Radio & Print media	0.2	0.5	0.3
TV & Print media	3.4	6.1	3.2
All media	3.1	5.0	3.3
Visits by FP workers			
None	71.5	67.9	71.1
Visit with FP Discussion	13.6	20.0	14.0
Visit without FP Discussion	14.9	12.1	14.9
Total	100.0	20.2	22.0

Table 4.3 also shows that the current use of contraceptives was higher among women who had not been exposed to any family planning messages through media (35%) followed by women exposed to TV (33%) and radio & TV (15%). A fairly similar pattern exists among women who intended to use contraceptive methods in the near future. Fewer than half of women, who had not been exposed to family planning messages, intended to use contraceptives in the near future. The proportion of intended users exposed to family planning messages on TV was 26 percent followed by radio & TV (13%) and only radio (6%).

Substantial difference, in terms of current use and intention to use, can be noted among those non-exposed and exposed to family planning workers. Contraceptive prevalence was higher among women who were not being visited by family planning workers at homes (68%) as compared to women having visited (20%) and discussed family planning during the past few months. A large proportion of intended users (71%) had not been exposed to family planning workers. On the other hand, women who had been exposed to family planning workers, either they talked about family planning or not with workers, the proportion of intended users was quite low (14 and 15% respectively).

4.2.1 Relationship between socio-demographic characteristics and mass media exposure

Table 4.4 displays the relationship between background characteristics of the respondents and exposure to media. There is almost no difference among age groups about non-exposure to any media. TV as a single source of family planning exposure had the highest proportion across all age groups followed by radio & TV. The results indicate that higher the level of education, the higher the exposure to media. Non-exposure to any media was striking in rural areas (60%), more than twice than urban areas. Women with large numbers of children reported higher level of non-exposure.

Table 4.4: Percent distribution of the respondents exposed to mass media, according to socio-demographic characteristics

Socio-demographic characteristics	Mass media								
	None	Radio only	TV only	Print media	Radio & TV	Radio & Print media	TV & Print media	All media	χ^2
Age									
15-19	52.6	6.4	23.0	1.0	13.8	0.0	1.5	1.8	37.1*
20-29	47.7	6.3	24.8	1.1	12.7	0.2	3.7	3.6	
30-39	48.7	5.7	25.7	1.0	11.4	0.4	4.2	2.9	
40-49	52.0	5.5	26.4	0.5	10.5	0.2	2.2	2.8	
Education									1862.2***
No education	60.7	7.2	19.8	0.8	10.3	0.2	0.6	0.5	
Primary	28.1	3.6	37.3	1.2	19.5	0.4	5.3	4.6	
Secondary	17.3	2.3	42.2	1.3	14.4	0.5	11.6	10.3	
Higher secondary & above	8.4	1.5	34.2	1.8	8.7	0.7	22.5	22.2	
Place of residence									1097.2***
Rural	59.7	8.0	16.7	0.8	11.5	0.2	1.3	1.7	
Urban	26.9	0.7	46.4	1.2	9.6	0.2	9.5	5.4	
Major urban	29.8	3.3	36.6	1.3	17.4	0.3	4.8	6.7	
Number of living children									132.9***
0-2	45.5	5.3	25.8	1.4	13.2	0.1	4.2	4.4	
3-4	43.1	6.6	28.9	0.7	12.4	0.2	4.8	3.3	
5+	56.0	6.1	22.8	0.7	10.4	0.3	2.0	1.8	
Discussion with husband									314.9***
Never	56.3	5.6	23.7	0.9	8.7	0.1	2.3	2.3	
Once or twice	39.5	7.0	27.0	1.2	17.6	0.2	4.6	2.9	
More often	33.7	5.2	30.3	0.8	15.5	0.8	6.4	7.1	
Husband's views									546.9***
Disapprove	63.6	5.9	18.7	0.9	7.9	0.2	1.8	0.9	
Approve	37.1	5.3	31.1	1.1	15.1	0.3	5.0	4.9	
Don't know	63.3	7.8	18.2	0.7	8.0	0.0	1.3	0.7	
Visit to health/FP facility									130.4***
No Visit	51.4	5.6	25.9	1.0	10.7	0.2	3.0	2.1	
Accompany while going to health/FP facility	43.6	7.5	25.0	0.7	14.4	0.2	3.9	4.6	
Alone	47.9	1.8	19.6	0.9	14.1	0.0	6.7	8.9	

* Significant at p = 0.05, ** p = 0.01, *** p = 0.001

It is important to mention that women whose husbands disapprove or they don't know about contraceptive use, the proportions of non-exposure to mass media were as high as almost two-thirds. Thus, it can be seen that media can play a vital role to modify the views of couples about practicing modern contraception.

Women's mobility to any health/FP facility demonstrated almost the same pattern of non-exposure to media. It is obvious from the results that TV emerged as disseminating family planning messages and having much penetration followed by the combination of radio & TV, and all kind of media among women respectively. While print media seemed not popular among women regarding family planning messages exposure.

4.2.2 Relationship between socio-demographic characteristics and family planning workers' visits

Table 4.5 depicts the relationship between background characteristics of the respondents and family planning workers' visits to women at their doorstep. Almost three-fourths of women across all age groups had not been visited by family planning workers. The proportion of women in all age groups, who discussed family planning with family planning workers on their visit, was very small.

Women with higher education were not being visited and if visited did not discuss family planning issues. One plausible explanation could that they might be already aware with family planning issues and they are not in need of such kind of exposure as compared to non-educated or low educated women. In rural areas almost three in four women had not been exposed to family planning workers. Among those who were visited, the majority did not discuss family planning. Almost the same pattern can be observed for number of children, discussion with husband, husband's views and visit to any health/FP facility. However, women who discussed with their husbands more often and can visit any health/FP facility were more likely to discuss family planning matters with family planning workers on their home visit.

Table 4.4: Percent distribution of the respondents exposed to family planning workers visits, according to socio-demographic characteristics

Socio-demographic characteristics	FP workers' visits			
	None	Visit with FP talk	Visit without FP talk	χ^2
Age				
15-19	76.5	7.4	16.1	20.88**
20-29	70.4	13.8	15.9	
30-39	71.0	15.0	13.9	
40-49	72.8	12.6	14.5	
Education				49.6***
No education	71.9	12.3	15.8	
Primary	67.1	18.2	14.7	
Secondary	70.3	17.3	12.4	
Higher secondary & above	81.8	10.9	7.3	
Place of residence				185.98***
Rural	70.2	12.4	17.4	
Urban	82.2	13.1	4.7	
Major urban	60.8	20.7	18.5	
Number of children				26.44***
0-2	74.8	11.3	13.8	
3-4	70.8	15.3	13.9	
5+	69.0	14.5	16.5	
Discussion with husband				84.32***
Never	74.3	10.7	14.9	
Once or twice	66.2	17.4	16.4	
More often	68.4	20.0	11.5	
Husband's views				147.13***
Disapprove	73.1	9.1	17.8	
Approve	67.1	17.6	15.3	
Don't know	81.6	8.5	9.9	
Visit to health/FP facility				175.99***
No visit	76.4	10.9	12.7	
Accompany while going to health/FP facility	60.9	19.2	20.0	
Alone	58.0	22.7	19.3	

* Significant at p = 0.05, ** p = 0.01, *** p = 0.001

4.3.1 Multivariate analyses

Multilevel logistic regression model was applied to assess the net effect of exposure to mass media and family planning workers on use of modern contraceptives and future intentions. Two models were fitted separately for each outcome variable. Model I considers only socio-demographic factors as explanatory variables and Model II includes mass media exposure and visits by family planning workers while taking into account socio-demographic and cultural factors as control variables.

Looking first at model I (Table 4.6), the results indicate that almost all socio-demographic and cultural factors were significantly associated with modern contraceptive use by women. Women with increase in age demonstrated elevated odds (3.3-5.8) of modern contraceptive use. Women with primary and secondary education were (1.3-1.4) more likely to use contraceptives than their counterparts with no education. Unexpectedly, higher education of women was not related with contraceptive use. Those who lived in urban areas showed increased odds (1.5-2.2) to use contraceptives than rural women do so. The odds significantly increased with number of children (2.6-3.7). Women with 5 and above children were reported 3.2 higher odds of using modern methods than women having less than 2 children.

Inter-spousal communication was associated with contraceptive use and the odds increased as intensity of discussion increased from once or twice to more often discussing family planning issues (1.5-2.4). Husband's approval for contraception was found to have strong effects with modern contraceptive use, six times higher than the odds of women without husband's approval. Expectedly, women who reported that they can visit any health or family planning facility alone exhibited higher odds of contraceptive use than their counterparts who were not permitted to go outside alone.

In model II, family planning exposure in mass media and visits by family planning workers were included. The results revealed that only visits by family planning workers and their discussion with clients were significantly associated with modern contraceptive use. Women who had been visited by family planning workers had 1.24 higher odds of being current users of any modern methods than their counterparts who had not been visited. Surprisingly, none of mass media components was associated with modern contraceptive use, after taking into consideration social and demographic factors. On the other hand, socio-demographic factors remained independently associated with the odds of current use.

Table 4.6: Odds ratios of using modern contraceptives & intention by mass media exposure & visits by family planning workers, after controlling for socio-demographic factors

Characteristics	Currently using modern contraceptives Odds Ratios		Intend to use modern contraceptives Odds Ratios	
	Model I	Model II	Model I	Model II
Age				
15-19 (r)	1.00	1.00	1.00	1.00
20-29	3.31***	3.24***	.92	.93
30-39	5.08***	4.90***	.53**	.53***
40-49	5.81***	5.61***	.16***	.16***
Education				
No education	1.00	1.00	1.00	1.00
Primary	1.27*	1.21	.99	1.01
Secondary	1.44***	1.37***	1.00	1.03
Higher Secondary & above	1.28	1.21	1.07	1.10
Residential area				
Rural (r)	1.00	1.00	1.00	1.00
Urban	1.49***	1.43***	1.13	1.09
Major urban	2.15***	2.04***	1.23	1.24
No of living children				
0-2 (r)	1.00	1.00	1.00	1.00
3-4	2.36***	2.38***	.91	.92
5+	3.19***	3.23***	1.43***	1.42**
Discussion with husband				
Never	1.00	1.00	1.00	1.00
Once or twice	1.53***	1.50***	2.55***	2.62***
More often	2.38***	2.31***	2.95***	2.99***
Husband's views				
Disapprove	1.00	1.00	1.00	1.00
Approve	6.01***	5.84***	2.72***	2.75***
Don't know	.54***	.53***	1.07	1.06
Desire for more children				
No desire (r)	-	-	1.00	1.00
Want a child	-	-	9.63***	9.62***
Up to God	-	-	26.73***	26.71***
Undecided	-	-	7.71**	7.45*
Mobility				
Not visited any health/FP	1.00	1.00	1.00	1.00
Accompany while going to health/FP facility	1.12	1.11	1.24*	1.27
Alone	1.54***	1.54**	.91	.94
Mass media				
None		1.00		1.00
Radio only		1.01		.72 †
TV only		1.15		.95
Print Media		1.44		.69
Radio & TV		1.17		.97
Radio & Print media		2.11		2.50
TV & Print media		1.27		.79
All media		1.14		.94
Visits by FP workers				
None		1.00		1.00
Visit with FP Discussion		1.24*		.87
Visit without FP Discussion		.82		.80*
Wald χ^2	**797.22**	**834.48**	**650.33**	**733.69**
Pseudo R^2	**0.24**	**0.24**	**0.17**	**0.20**

* Significant at p = 0.05, ** p = 0.01, *** p = 0.001, (r) = reference category, † = Significant at p ≤ 0.1

Similarly, Table 4.6 also presents the independent effects of socio-demographic factors and exposure to mass media and family planning workers on the second outcome variable of this study, future intention to use any modern contraceptive method among non-user women. For this outcome variable a new variable, namely desire for more children, was introduced into model I, however, both models were identical in all other aspects. In the case of intention to use, the results were different from modern contraceptive use. Among respondents' background characteristics, age, number of living children, discussion with husband, husband's approval, and desire for more children emerged as significant predictors of future intention to use contraceptives. Women in higher age groups were less likely to use any modern method in future as compared to younger age group.

The effect of education and residence demonstrated no association with intention to use. Women with 5 or more children intended to use contraceptive more than women having less than four children. The odds were much higher in all responses of desire for more children (8-27). However, desire for additional child was reported at elevated odds (10) among women.

Likewise, exposure to mass media and family planning workers were included into model II to determine the net effect on intention to use, while other things being equal. The results were not much different from the first outcome variable. Unexpectedly, all parameters of exposure to mass media and family planning workers were in the opposite direction to use, indicating a negative association. On the other hand, socio-demographic factors remained almost the same in their magnitude and direction and depicted independent effects on the odds of future intention of contraceptive use.

4.3.2 Simulation results

As binary logistic regression was used in this study which provides the non-linear effects, the magnitude of the effect cannot be ascertained. Therefore, simulation was run on exposure to family planning workers, which was able to show significant association with modern contraceptive use (see Table 4.6). In the simulation, the predicted proportions of women were compared under alternative situations regarding exposure to family planning workers' visits when other factors were considered

constant at their observed levels. For simulation purpose, three situations were defined as actual situation of exposure to family planning workers at observed level, hypothetical minimum level, and hypothetical optimum level (Magnani *et al*, 1999).

Figure 1 displays the net effects of family planning workers' visits on modern contraception. When exposure to these visits was set at their observed level in each sample cluster, 20.6 percent of women were predicted using modern contraceptives, which is equal to the proportion (20.2%) who reported contraceptive practicing in this study. In the hypothetical situation of no visit by family planning workers, the predicted proportion of women using modern contraceptives would be 20 percent. On the other hand, in the scenario of all women were visited by family planning workers who discussed family planning with the clients, the predicted proportion of women practicing contraception slightly rises to 23 percent. Though the increase in magnitude is only slight, however, the results suggest family planning workers' visits effect on contraceptive use.

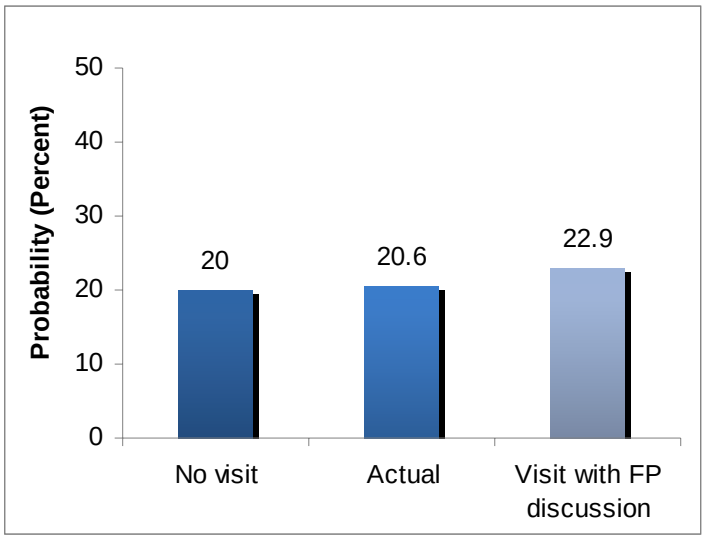

Figure 3: Simulated effects of family planning worker's visits on contraceptive use

4.4 Discussion

The results indicate that substantial variations exist in the current and future intentions to use modern contraceptives according to respondents' socio-demographic and cultural characteristics. Only one-fifth of women were practicing modern contraception and almost the same proportion said that they tended to do so in future. The possible explanation for such a lower contraceptive use might be due to the traditional and religious values in which the use of contraceptives is not socially acceptable or aspiration to have a large family. Secondly, two-thirds of the total population of Pakistan resides in rural areas, and rural women are less exposed to mass media, family planning workers, along with low literacy level, and low socio-economic conditions. Moreover, the access and availability of modern methods in rural areas is scares coupled with low demand for contraception (Ministry of Population Welfare, 1999). Importantly, social and cultural acceptability and husbands' views play vital role in the adoption of contraception (Casterline *et al*, 2001).

The coverage of mass media regarding dissemination of family planning messages was quite low and this exposure was lower among rural, illiterate, and women having large number of children. Moreover, three out of four women were not being visited by family planning workers at their homes for family planning counseling. Even the Ministry of Population Welfare heavily relies on mass media for its IEC/BCC activities, both factors are vital components of BCC program, but the findings are indicative that these strategies were unable to cover the majority of population for encouraging modern contraceptive use and promoting small family norms.

The analyses considered whether mass media exposure and family planning workers' visits had independent effects on modern contraceptive use. The study produced some unanticipated findings, as mass media could not show significant effect on modern contraceptive use when socio-demographic factors were controlled through appropriate multivariate modeling. These findings were in the opposite direction which I hypothesized and inconsistent with various previous studies. For instance, Gupta and others (2003) in an evaluative study of family planning performance in Uganda reported that family planning messages in mass media were

strongly associated with modern contraceptive use among women. The same was argued by Islam and Hassan (2002) that mass media exposure for family planning campaign revealed significant influence on Bangladeshi women's modern contraception and their likelihood of contraception in future.

An association, however, between exposure to mass media and contraceptive use could be the result of a strong correlation between both variables. The existence of such an association remained unable to prove that media campaigns have had expected effects on contraceptive use behavior (Westoff and Rodriguez, 1995). It is quite difficult to explain the absence of any association between mass media and contraceptive use among women. Evidence suggests that the contribution of mass media towards increase of the contraceptive prevalence in Pakistan is undeniable. But the family planning campaign has also suffered from many restrictions over the past years. During the decade 1990-2000 family planning messages were banned several times to display in any media, though for limited time periods. Further, when the ban was lifted upon these messages were not allowed to go on air during prime time especially on TV (Kingfield *et al*, 2000). Perhaps, this could be a possible explanation of having no effect by media on contraceptive use. In this context, inclusion of some important variables such as timings of radio listening or television viewing in future research can provide a better opportunity to understand the influential effects of mass media campaign (Gupta *et al*, 2003).

On the other side of coin, the results indicate that only family planning workers' visits and their discussion with clients regarding family planning was observed to exert significant effect on using a modern contraceptive method. This finding reconfirms previous empirical evidence. Douthwaite & Ward (2005) evaluated that family planning workers' exposure to women increased the likelihood of using modern contraceptives by 50 percent in Pakistan. Similarly, Agha and Rossem (2002) noted that interpersonal interventions to enhance the use of contraceptives, among women and men, were successful in Tanzania.

For future intentions to use any modern method, the empirical results were not encouraging. As the exposure to mass media and family planning workers' visits revealed no difference in terms of likelihood of using contraception. Again there was a little evidence to support the hypothesis set for this study. These findings are

inconsistent with previous studies that have argued that combination of mass media exposure and interaction between providers and the clients had produced positive effect on reproductive behavior (Chen & Guilky, 2003; Agha and Rossem, 2002; Agha, 2000).

Surprising results are indicative in the case of intention to use as moderately significant association of family planning workers' visits when they were talking about family planning to their clients could not retain power with multivariate control. Contrary to this, family planning programs are known to encourage interpersonal communication of the providers to the clients. Two possible explanations are offered in this regard. First, women might have some fears of side effects of modern contraception; therefore, they were not intending to adopt contraception. Second, family planning workers may not have enough skills and confidence about measures in the management of side effects (Kamal and Sloggett, 1996). Importantly communication between the provider and the client can increase the likelihood of adopting modern methods by removing the associated fears (Blanc *et al,* 2002).

On the other hand, a number of social and demographic factors were introduced in the models to control for differences among respondents who had been exposed to mass media, which may explain their contraceptive use behavior (Ketende *et al*, 2003). Socio-demographic and cultural factors play a key role in the decision of fertility desires and contraceptive use. These variables indicated significant effects on contraceptive use and intention to use and remained consistent in having their effects after controlling for the program variables. Unexpectedly, education and residence of the respondents remained indifferent to future intention of contraception. The possible explanation could be that illiterate women are not fully aware of using modern contraceptive methods, while educated women might not intend to use due to fears of the side effects of modern methods. Equally plausible is that rural women are ignorant to using techniques of modern methods; additionally they are not intended to reduce their family size due to societal norms. Overall, however, these findings were consistent with other empirical findings. Given this scenario, the results imply that socio-demographic factors are the most dominant factors that are driving fertility behavior of women in Pakistan and family planning program factors have little impact.

CHAPTER 5
CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

This study was designed to determine the net effect of exposure to mass media and family planning workers on modern contraceptive use and future intentions to do so. It was observed that mass media covered only half of the population and three in four women had not been exposed to family planning workers' visits. Current prevalence of modern contraceptives and future intentions were remarkably low. The results for this study were unanticipated and suggest that exposure to mass media and family planning workers seemed to be working in isolation for contraceptive use and future intention to use when socio-demographic factors were taken into account.

The association of family planning workers' visits with modern contraception confirms the previous studies. On the part of media exposure, the lack of a difference in respect to contraceptive use contradicts many studies not only conducted in Pakistan but anywhere else. The results implied that an increase in number of family planning workers would serve to increase contraceptive prevalence. Evidence from Bangladesh also suggests that raising family planning workers' force and their quality of services would add to increase contraceptive use (Kamal and Sloggett, 1996).

For future intention to use contraceptives among non-users, none of family planning program factors i.e. exposure to mass media and family planning workers appeared having significant effect. Such empirical evidence do not support the set hypothesis for this study and previous studies as well.

In conclusion, findings of this study provide some indication that family planning program factors (exposure to mass media and family planning workers) were suppressed in the presence of socio-demographic factors and could not established fully their independent net effect on fertility behavior of the respondents. Equally important, these socio-demographic factors which operate at individual, household, and community level, work as the determinants of contraceptive use and intention to use along with family planning program factors (Magnani *et al*, 1999). In the light of

the observations it is derived that IEC/BCC strategies should be devised according to socio-cultural context of the country.

5.2 Policy recommendations

IEC programs should be developed in the way that enhances family planning exposure within the current media system. In order to maximize family planning exposure the frequency of access especially on TV and radio should be increased, thereby expanding the coverage and improving the media that would work up to the mark for designed IEC programs.

As study findings show that family planning workers have significant effects to motivate the potential users to adopt modern contraception the family planning workers' services should be expanded by recruiting new workers and their follow up to the clients should be ensured through regular supervision.

The population with lower exposure to mass media and family planning workers' visits, such as those living in rural areas, with no formal education, and with a large number of children need particular attention for the designing of future IEC strategies. As 67 percent of total population of Pakistan lives in rural areas and literacy rate is quite low, these efforts would help to raise contraceptive level in the country.

A multi media campaign should be devised to sensitize the husbands/men who opposed the adoption of contraceptives. As men are actual decision makers regarding fertility preferences and contraceptive choice, they need to be persuaded about the benefits of small families. Changes in their perception about fertility regulation may increase contraceptive prevalence.

5.3 Recommendations for future research

There is a scarcity of timely monitoring, formative and impact evaluation research regarding family planning program in Pakistan which inhibits the achievement of the program's objectives. So there is a need to conduct evaluative research to assess the impact of family planning program's communication and interpersonal interventions implemented by the government. Future research should consider the quality of family planning messages and their effectiveness along with a developed mechanism of feedback about the communication strategies.

Moreover, to get a clear picture about the family planning program's impact, additional information such as timing and duration of exposure to radio, TV and other media should be collected in future research. Further, research is needed to identify the factors under which the program factors tend to influence fertility behavior of women. Qualitative research should also be conducted to provide supplemental information on women's fertility intentions and normative behavior.

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