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IMPACT OF A SOCIAL MARKETING CAMPAIGN ON CONDOM USE IN URBAN PAKISTAN

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ABSTRACT

Objectives:

To assess the impact of an intensive condom advertising campaign, conducted as part of a social marketing program, on condom use in urban Pakistan.

Methods:

Between April and June 2009, a social marketing advertising campaign for Touch condoms was implemented through private television and radio channels in Pakistan. A nationally representative panel survey of men married to women aged 15-49 was designed to assess the impact of the campaign. In addition to social and demographic characteristics of respondents, the survey instrument collected information on behaviors related to condom use and recall of contraceptive advertisements. Conditional change regression analysis was conducted to determine whether awareness of the Touch ad at follow-up was associated with improved attitudes towards condoms and condom use.

Results:

Respondents with confirmed awareness of the Touch campaign experienced significant improvements in indicators related to condom use, even after controlling for region, socioeconomic and demographic characteristics, the values of the indicators at baseline, and exposure to the first phase of the campaign. Those exposed to the Touch campaign experienced increases in the following: perceived availability of condoms, discussion of family planning, approval of family planning, procurement of condoms, frequency of condom procurement, ever use of condoms with wife, current use of condoms with wife, use of condoms in last sex with wife, consistent use of condoms with wife, and intentions to use condoms in the next 12 months with wife.

Conclusions:

An extrapolation of the pertinent data suggests that the Touch campaign generated 179,328 consistent condom users at a cost of \$2.80 per user. The study indicates that social marketing is effective in increasing condom use in urban Pakistan. Similar assessments are needed to determine whether social marketing advertising campaigns are also effective in changing behaviors related to condom use in rural Pakistan.

INTRODUCTION

In many developing countries, contraceptive Social Marketing (CSM) programs have become a central part of efforts to reduce unwanted pregnancies. In 2005, social marketing programs were active in 73 countries, serving an estimated 37 million couples (Harvey, 2008). CSM programs started in the late 1960s, most notably with the Nirodh condom social marketing program in India. These early CSM efforts were prompted by the need to provide an alternative to the clinic-based family planning model whose reach was limited by the number of family planning clinics and medically trained personnel available (Black and Harvey, 1976). Rather than treating a family planning client as a patient, social marketing saw the potential user as a consumer. CSM programs recognized that it was essential to understand the needs of these consumers and aimed to meet those needs through the application of time-tested commercial marketing principles. The central idea of marketing as an exchange process where goods or services could be exchanged for other goods or services through communication and distribution was applied to changing contraceptive use behaviors (Kotler and Zaltman, 1971). CSM programs showed that contraceptive marketing efforts could be launched quickly, without needing to invest in infrastructure, and demonstrated that they could result in substantial increases in contraceptive sales within months. Indeed CSM programs typically used sales data as their primary measure of program output. Because sales are a sensitive marketing metric, it was easy for CMS programs to demonstrate results.

Nevertheless, many people remained skeptical about the effectiveness of these early social marketing efforts and questioned the use of mass media as a tool for behavior change (Udry, 1972). As CSM programs matured, people wanted to know whether social marketing programs raised contraceptive prevalence or simply resulted in substitution of commercial sector supplied brands by social marketing supplied brands (Janowitz et al., 1992). Such questions could not be answered by means of social marketing sales data. Moreover, sales data alone did not indicate whether the primary beneficiaries of social marketing programs were low income couples (Stover, 2001). Despite these drawbacks, sales data – which are easy to collect – continue to be used as the primary indicator of success in social marketing family planning programs. Although a few rigorous studies of the impact of social marketing programs do exist, they were the exception rather than the norm. E.g. a notable study on the impact of a condom social marketing test-pilot in Kenya used a quasi-experimental design (Black and Harvey, 1976). The results showed that condom use and contraceptive prevalence increased in the intervention district but not in the comparison district.

With the advent of the AIDS epidemic in Africa in the 1990s, this started to change. CSM programs became integral to efforts to increase the practice of safer sex through the use of condoms (AIDSMark, 2007). Because this implied that CSM programs needed to focus on behavior change, social marketers adopted behavior change theories both to design interventions and to evaluate them (Neukom and Ashford, 2003). Preventing adolescents from being infected by STDs or HIV/AIDS was a particular focus of AIDS prevention social marketing efforts and a number of evaluations were conducted which showed the impact of social marketing interventions in increasing condom use and reducing unprotected sex acts at the population level (Meekers, 2001; Agha et al., 2001; Van Rossem and Meekers, 2000; Plautz and Meekers, 2007).

Some of the largest and oldest social marketing family planning programs continue to provide family planning services in India, Bangladesh and Pakistan. These programs continue to rely on contraceptive sales and couple years of protection (CYPs) as primary measures of success. In 2005, the Bangladesh social marketing program provided 4.2 million CYPs. Six independent social marketing programs provided nearly 10 million CYPs in India during the same year (Harvey, 2008). In Pakistan, Greenstar Social Marketing provides about 2 million CYPs annually or one-third of the total CYPs provided in the country. As these programs have become an integral part of the national family planning efforts, it is important to ascertain the health of these programs and to assess the impact of specific interventions launched within these programs. Do these large, national, social marketing programs contribute to changing behavior? What are the target audiences reached by these interventions? How can these interventions be made more effective? This study evaluates the impact of a condom advertising campaign implemented in Pakistan by Greenstar social marketing and is one of the first evaluations of the performance of a social marketing intervention using national level data in South Asia.

MARKETING STRATEGY

Social marketing of contraceptives began in Pakistan in 1986; the first social marketing condom brand Sathi was introduced in January 1987. Because the Sathi condom has been on the market for 22 years it is important to review the history of its marketing strategy.

Product/Behavior

In 1987, Sathi condoms were introduced as a birth spacing method with the theme “ Until you want another baby, rely on Sathi” . Pretesting led to the brand name Sathi, which means “ companion” or “ friend” in Urdu, and a bright orange packet which showed two birds flying together into the sunset.

While the “ actual product” marketed was the use of condoms, the “ core product” or the benefit that was sold to the customer was birth spacing. This was a radical departure from the approach used by the national family planning program which promoted family planning as a means of limiting childbearing under the slogan “ Two children are best” .

To provide more choices to consumers, a second social marketing condom brand, Touch, was introduced in 1996. This was marketed as a more upscale condom brand for those users who were able to pay more for a premium condom brand. Touch condoms were sold in 3-packs. Two line extensions, Touch Ribbed and Touch Dotted were introduced in 2003. Later Touch began to be considered as a product with a potential for cross-subsidizing the more heavily subsidized Sathi. Both Sathi and Touch condoms are high quality imported condoms which are electronically tested based on international specifications. At present they are being obtained through UNFPA and through a manufacturer based in Malaysia.

Price

Prior to the start of the Sathi program, private entrepreneurs had been importing and selling commercial brands for many years. These brands sold for about 9 US cents per condom (Domestic Research Bureau, 1986).

During the early years of social marketing, there were no commonly accepted guidelines for setting prices for social marketed condoms. However, Harvey (1994) found that condom sales per capita were optimized if the price of a year’ s supply of condoms was not more than 1% of per capita GNP. This has become the benchmark for pricing condoms for low income couples in developing countries.

At the time of their launch in 1987, a 4-pack of Sathi condoms was sold for 1 Rupee or 1.5 US cents per condom (Davies and Agha, 1997). While the packaging for Sathi condoms remained the same in the coming years, Sathi was later sold in 3-packs. In 2009, Sathi 3-packs were being sold for 6 Rupees, or 2.5 US cents per condom. Thus a one-year supply of Sathi condoms costs about 1% of per capita GDP based on purchasing power parity.

At the time the first burst of Touch advertising began in 2009, a 3-pack of Touch was sold for Rupees 15 or 6.2 US cents per condom. In June 2009, the price of Touch was raised to Rupees 20 for a 3-pack or 8.3 US cents per condom. Thus the cost of a one-year supply of Touch increased from 2.5% of per capita GDP based on purchasing power parity to 3.3%.

Social marketers also consider non-financial costs associated with adopting the product or behavior they market. For example, the cost of adopting condom use may include embarrassment in purchasing condoms, a reduction in sexual pleasure and embarrassment in negotiating condom use with a partner (Helweg-Larsen and Collins, 1994). Greenstar aimed to lower such costs by means of an extensive condom promotion campaign which is described below.

Place

To inform Sathi marketing, a survey of the trade was conducted in 1986. The survey showed that condoms were available in 7,000 retail outlets, mostly pharmacies and a few general stores. However, these commercial brands were not displayed or advertised (Domestic Research Bureau, 1986). The launch of Sathi substantially expanded condom distribution in Pakistan. Sathi was distributed through regional distributors in 110 cities across the country. These distributors, in turn, sold Sathi to wholesalers and retailers. Condom retail shops now included smaller general stores or Kiryana stores, paan shops, medical stores in smaller cities as well as the larger stores and pharmacies. Between 1986 and 1996, the number of retail outlets that stocked condoms in urban Pakistan increased from 7,000 to 31,000 (Davies and Agha, 1997).

Sathi continued to rely on national and regional distributors until 2005. In the 2005-2008 period, the program explored different ways to increase the efficiency of condom sales. In three of the four sales regions that Greenstar had divided Pakistan into, a group of 80 sales agents were attached to regional distributors. In the fourth sales region, Greenstar used 31 sales officers to directly sell condoms to retail outlets. Attaching the sales force to distributors did not prove to be a cost-efficient strategy, and self-distribution in the fourth sales region was found to be cumbersome. In 2009, the program returned to its former model by contracting a national distributor that was already supplying pharmaceutical products to 28,000 pharmacies and 60,000 retail shops. In addition, 30 regional distributors were contracted to supply products in small towns where the national distributor did not have a presence. By 2009, distribution through the national or regional distributors reached retail outlets in more than 400 out of 480 cities in Pakistan.

In urban areas, Sathi condoms are widely available in “ non-traditional” outlets such as grocery stores and kiosks as well as “ traditional” outlets such as medical stores/pharmacies. Based on data from a 2009 ACNielsen audit of condom availability in 235,000 potential condom outlets in urban Pakistan, an estimated 41% carry Sathi condoms. In other words, Sathi was being distributed to nearly 100,000 outlets in urban Pakistan. The availability of Touch condoms in urban areas is more limited, with 14% of potential condom outlets in urban Pakistan carrying Touch. Although Touch condoms were, in principle, supposed to be available at outlets serving middle income neighborhoods, data from the national distributor showed that there was considerable overlap between outlets selling Touch and Sathi condoms. For example, the vast majority of the 28,000 pharmacies/medical stores (most of whom are located in urban areas) stocked both Sathi and Touch condoms.

Promotion

At the time of Sathi’ s launch in 1987, mass media advertising of condoms was not permitted. Therefore, early promotional efforts were focused at the retail level. These retail promotions treated Sathi just like any other consumer product, not as a product that was unusual or sensitive (Davies and Agha, 1997). During the 1990s, the name Sathi could be used in television advertising, but use of the word condom was not permitted. Moreover, a condom packet could not be shown on Pakistan Television. Because of these restrictions, advertisements tended to refer to condoms only indirectly, by using word plays on Sathi/companion. For example, a 2005 Sathi advertisement showed a couple drinking tea talking about how “ some things increase the pleasure of the moment, like hot tea with samosas, like stars twinkling in the night, like a partner for life.” A voice-over at the end of an advertisement would say “ Every partnership needs a Sathi. Sathi is with everyone” and the Sathi logo would be shown on an orange background with two birds flying towards the sun. Because Touch was launched later, there was slightly greater freedom in advertising Touch. In 2003 and 2004, advertisements showing the Touch condom packet were aired (although the word condom could still not be used).

When new private television channels emerged around 2006 – some of which were telecast from Bangkok – the media environment became more open. By 2007, the word condom could be used in Touch advertising on private channels. On Pakistan Television the word condom can now be shown in writing but it cannot be spoken. Major newspapers now allow condom ads to be placed in the inside pages but not on the front or back pages.

In 2009, a very aggressive Touch condom advertising campaign was conducted. This campaign was implemented in two phases. The first phase was for 24 days, from February 21 to March 16, 2009, and comprised of a high-intensity advertising campaign implemented using private television and radio stations in urban Pakistan. The campaign's intended target audience consisted of a young middle or upper-middle-class couple with two children; a monthly household income between 20,000 to 35,000 Rupees (US\$250 to US\$375); owners of a motorcycle or a car; owners of an apartment or a small house in an urban area. The Touch television ad is described in detail in Box 1.

Box 1: The 2009 Touch Television Advertisement

The television advertisement was about three-and-a-half minutes long, with a catchy theme song playing through it. It showed a young, upper socio-economic status (SES), couple who meet at college, fall in love and get married. The song which starts “listen to the sound of happiness, when everything in the universe looks fresh and new, when love calls out to you” plays through the advertisement. In the first scene, a handsome male college student who sits with his group of friends, playing a guitar is stunned by the sight of a pretty female student who walks past the group. The advertisement shows the couple getting to know each other during class, at the library, and through telephone conversations. Their love, affection, and caring for each other is an important theme of the advertisement.

The couple gets married with their supportive parents' consent and enjoys a honeymoon at a beautiful snow-covered holiday resort in Northern Pakistan. In the next scene, the husband waits anxiously at a hospital while his wife gives birth, then later holds the baby with fondness. Towards the end of the hospital stay, a female doctor is shown advising the couple and handing them a brochure on which the Touch condom caption can be seen. The husband is then shown entering an upscale general store with a very visible Touch signboard outside and pointing to the Touch condoms that are visibly displayed in a glass sales counter. In the final scene, the couple is with the husbands' parents and the husband plays with the healthy young child as the grandparents look on. At the end of the advertisement, a voice-over states “This song was brought to you by Touch condoms, a product of Greenstar” and Touch condom packets are shown.

Although condoms were mentioned in the ad, its primary theme was spacing children to protect the health of the mother and the child. This theme was consistent with findings from a study showing that the concept of child spacing was an important determinant of contraceptive use in Pakistan (Agha, 2009).

An evaluation of the first phase of the Touch campaign showed that confirmed awareness of the Touch advertisement was positively associated with increased discussion of family planning, higher perceived effectiveness of condoms, lower embarrassment in negotiating condom use, lower embarrassment in purchasing condoms, higher condom use and higher family planning use. One third of respondents who were aware of the campaign reported taking some sort of action as a result of being exposed to it. Specifically, they reported higher condom use, higher use of other contraceptive methods, taking advice from a doctor about family planning, going to family planning clinic and discussing family planning with their wife or friend (Agha and Beaudoin, 2009).

For the second phase of the campaign, a 15 second ad was used that summarized the main elements of the earlier (longer) ad. It showed shots of the young couple meeting, getting married, celebrating their honeymoon, having a baby and a final shot of the husband buying condoms from a shop. At the end of the ad, a voice-over states “ Touch condoms, a product of Greenstar” and Touch condom packets are shown.

The second phase of the campaign was implemented for nearly twice as long a period as the first phase (46 days vs. 24 days). Between April 9 and May 9, 2009 the advertisement was aired on 21 private television channels in Pakistan: 2,311 advertisements were aired in 30 days. A quarter of all advertisements were placed on the sports channel Ten Sports. In June, Touch condoms were an associate sponsor of the most watched sports event of the year, the ICC Twenty-Twenty Cricket World Cup tournament. The tournament was held June 5-21 in the United Kingdom: cricketing teams from 12 countries around the world participated in the tournament. In Pakistan, the tournament was telecast on the private channel GEO Sports between June 5 and June 21. Viewership of the tournament was high in Pakistan as the national team won the tournament with a convincing victory over Sri Lanka. The level of awareness of the Touch ad, which was at 15% after the first phase of the campaign, rose to 20% after the second phase of the campaign.

However, due to viewer complaints about use of the word “ condom” , GEO threatened to pull the ad of the air unless the word condom was removed from the ad. This change was made and the 15 second ad continued to air with “ Touch, a product of Greenstar” being stated at the end of the ad.

Exchange Theory

Exchange Theory is the underlying framework for marketing (Lamprey and Price, 1998; Kotler and Lee, 2009). The theory posits that people or groups will exchange resources if they perceive it will benefit them. However, purchasing social marketing goods (including products or behaviors) may only have long-term benefits. For example, adopting condoms may delay childbearing, and having fewer children may benefit one’s social status in the long run. Social marketers need to persuade consumers that such long term benefits outweigh any immediate and more tangible costs of adopting the behavior (e.g. reduced sexual pleasure due to condom use).

While Exchange Theory is the underlying framework, social marketers recognize the contribution of other theories in understanding and, hence, promoting behavior change. These theories are used both in planning and evaluating social marketing interventions. Diffusion of innovations is particularly important because it suggests that there are processes available to manage wide-spread behavior change even though the behavior change itself occurs on an individual-by-individual basis (Kotler and Roberto, 1989; Lefebvre, 2000). The revised Health Belief Model, which incorporates the construct of self-efficacy from the Social Cognitive Theory has been used widely in the evaluation of social marketing AIDS prevention programs (e.g. Meekers, 2000; Van Rossem and Meekers, 2000).

The Integrative Model of Behavior, which integrates the perspectives of multiple earlier theories is now being used extensively to plan and evaluate social marketing interventions (Fishbein and Cappella, 2006). This evaluation takes into account cognitive factors that are barriers to or motivators of behavior change and communication processes that are central to it.

DATA AND METHODS

Survey Sample

Our analysis is based on two waves of the Advertising Impact Survey (AIS). The AIS is a household panel survey of married men in Pakistan. The survey is restricted to men whose wives are of reproductive age (15-49). Our study is limited to respondents living in urban areas. A sample size of 800 respondents was planned, to give a margin of error of plus or minus 3.5 percentage points.

Urban areas were divided into three strata: cities with populations of 1 million or higher, cities with populations between 0.1 million and 1 million, and cities with populations of less than 0.1 million. A total of 17 cities were randomly selected: four in the first stratum, six in the second and seven in the third. One hundred clusters were randomly selected in these 17 cities, and 8 married men were interviewed per cluster.

The baseline survey data was conducted March 15 - April 7, 2009. A total of 806 respondents were interviewed in urban areas. The follow-up survey was conducted between August 10 and August 24, 2009. Of the 806 respondents in the baseline, 617 were successfully re-interviewed.

Survey Instrument

Data collectors used a seven-part structured survey instrument to gather data on socio-demographic characteristics; recall of the advertisement; wife's pregnancy status and the husband's desire for an additional child; knowledge and use of contraceptive methods; attitudes towards condoms; use of family planning services, and media viewing habits. Most sections of the questionnaire were based on the questionnaire used for an earlier survey (Agha et al., 2007). The instrument was translated into Urdu, Pashtu, and Sindhhi and checked for face validity by experienced researchers. The full questionnaire was pre-tested among 50 respondents.

Variables

Measurement of Advertisement Recall

Our main predictor variable measures recall of the Touch ad. Previous surveys have used several different approaches to gather information on recall of advertising. Some surveys have asked only about the level of recall of family planning ads from specific media (e.g. whether respondents remembered family planning messages from radio, television, billboards, etc.) but have not asked about the recall of specific ads. Other surveys have measured "unaided recall" by asking respondents to state the main message(s) of the family planning ads they have seen. Surveys representing a third approach, using "aided recall," have asked respondents whether they have seen specific advertisements. Recall periods used in these surveys have varied from six months to ever having seen an advertisement.

We used a hybrid approach, incorporating both unaided and aided recall to determine confirmed awareness (CA) of a specific advertisement, similar to the approach used in the measurement of recall of the Truth anti-tobacco marketing campaign (Sly et al., 2001). There were two ways in which respondents to our survey could be identified as having confirmed awareness (CA) of the Touch television advertisement. Respondents were initially asked, "During the last 3 months, have you seen any advertisements on television about contraceptive methods or reproductive health services?" Those who saw such ads were asked to recall (unaided) what they saw: "What did you see in the advertisements?" Respondents who could describe any one of the 12 main elements of the Touch ad were identified as having CA of the Touch ad.

Respondents who reported not seeing any ads about contraceptives or reproductive health on television or were unsure about having seen such ads were asked the following aided recall question: “ Did you see an advertisement in the last three months in which a young couple meet, get married and have a happy married life?” Those who said they had seen the ad were then asked to complete one of six jingles that were part of the advertisement. Those who could complete any of the six jingles were considered to have CA of the television ad.

To measure awareness of the Touch radio ad, respondents were asked whether they had heard an advertisement about contraceptive methods or reproductive health during the last three months. Respondents who reported that they had were asked to complete one of six jingles that were part of the advertisement. Respondents who were able to complete any one of the six jingles were considered as having CA of the radio ad.

In sum, respondents who were either able to confirm having seen the Touch television ad through unaided recall (by describing one of the main elements of the ad) or through aided recall (by completing the jingle for the ad) were designated as having CA through television. Respondents who reported having heard the radio ad and were able to confirm their exposure (by completing the jingle for the ad) were considered as having CA of the Touch ad through radio. For simplicity, we define confirmed awareness of the Touch ad as having confirmed awareness of the ad through either radio or TV. Respondents who reported seeing/hearing ads about contraceptive methods or reproductive health services, but who did not have Touch CA, were coded as having unconfirmed awareness of family planning ads.

Control Variables

Our analysis includes independent variables that previous studies have identified as important determinants of contraceptive use. These include region of residence, age, education and wealth (Sirageldin et al., 1976; Mahmood and Ringheim, 1996; Agha, 2000; Agha, 2009).

Condom Attitudes Scale

We adapted the UCLA Multidimensional Condom Attitudes Scale for use in Pakistan. This scale measures five distinct dimensions of condom attitudes: reliability and effectiveness of condom use; embarrassment about the purchase of condoms; embarrassment about the negotiation and use of condoms; sexual pleasure associated with condom use; and stigma attached to persons who use condoms (Helweg-Larsen and Collins, 1994). Multiple statements are provided for each dimension, and respondents are asked to indicate their level of agreement or disagreement with each statement on a 5-point Likert scale. For example, two of the five statements used to capture the dimension of condom effectiveness are “ condoms are an effective method of birth control” and “ condoms are reliable” .

All statements within each attitudinal dimension were summed, and scores were standardized so that each dimension had a minimum score of 5 and a maximum score of 25. For our study the dimension about stigma was dropped since it was not relevant for family planning use within marriage in Pakistan. The remaining statements were translated into Urdu and pre-tested with male respondents. The pre-test showed a high level of scale reliability. In the final urban sample, the alpha for reliability and effectiveness of condoms was 0.88; the alpha for embarrassment about the purchase of condoms was 0.93; the alpha for negotiation of condom use was 0.91; and the alpha for sexual pleasure associated with condom use was 0.84.

Discussion and Approval of Family Planning

Discussion of family planning and spousal approval are variables that are important in the process of adoption of contraceptive use. Spousal communication about contraception is rare in developing countries. Hence, many husbands or wives may not know of their spouses views on family planning. However, the perception that one's spouse disapproves of family planning use is an important determinant of non-use of family planning (Sharan and Valente, 2002). A previous study in Pakistan found that a husband's inability to discuss family planning with his wife was associated with lower use of condoms and higher use of withdrawal (Agha, 2009). Mass media campaigns aim to increase the concordance of views regarding family planning among couples by encouraging them to talk about family planning.

Condom Procurement, Condom Use and Intentions to Use Condoms

The availability of condoms at the time of use is necessary for consistent use of condoms. An important objective of contraceptive social marketing programs is to increase access to condoms (Agha and Kusanthan, 2002). However, little attention has been paid to how mass media campaigns influence the procurement of condoms. Respondents in the survey were asked when they last procured condoms and how many times they procured condoms during the last month. Multiple measures of condom use with wife were used. If respondents were aware of condoms (spontaneous or probed awareness), they were asked if they had ever used this method (ever use). To measure current use, respondents were asked if they or their spouse were currently using any family planning method. Those who replied in the affirmative were asked which method they were currently using. To measure condom use in last sex, respondents were asked if a condom had been used the last time they had sex with their wives. To measure consistent use of condoms respondents were asked whether they used condoms every time, most of the time, some of the time or infrequently with their wives.

The intention to perform a behavior is considered to be a very important predictor of future behavior (Fishbein and Cappella, 2006). Relatively little research has been done on the importance of this variable for family planning. A rare, panel, study found a powerful relationship between the intention to practice family planning and contraceptive use in the future (Curtis and Westoff, 1996). Respondents with spontaneous or probed awareness of family planning were asked if they intended to use a condom in the next 12 months.

Statistical Analysis

Statistical tests were conducted to determine whether respondents who remained part of the study were different from those who were lost to follow-up: chi-square tests of independence were used for categorical variables and F-tests were used for continuous variables. To determine whether there were changes in attitudes, beliefs, and behavior, paired-sample T-tests were conducted among respondents who could be followed-up and formed the panel.

Because of the panel design, changes over two points in time (growth rates) among those exposed and those not exposed to the Touch campaign can be measured (Moffit, 1991). The possibilities that prior condom use leads to subsequent condom use are dealt with in the panel design by the use of “conditional change” regression model. The model allows condom use in the follow-up survey to be predicted by condom use in the baseline survey and a set of independent control variables. By including the value of the dependent variable at baseline, independent variables included in the regression model predict change in the dependent variable over time (Kincaid, 2000). The model permits the measurement of change in condom use among those exposed to the Touch campaign.

OLS regression was conducted for continuous variables that reflect five dimensions of condom use. Logistic regression was used for binary outcomes including discussion and approval of family planning, condom use variables and intentions to use condoms.

Statistical tests of endogeneity were used to determine whether the relationship between exposure to advertising and behavioral variables was determined by unobserved factors (Bollen et al., 1995).

Sample Characteristics

Table 1 shows characteristics of 1) the baseline sample, 2) the sample of respondents who were successfully re-interviewed, and 3) the respondents who were lost to follow-up. The results show that the characteristics of the baseline sample and the re-interviewed sample are nearly identical. In the re-interviewed sample, 44% of men are from the Punjab and 34% from Sind. The mean age of the sample is 39 years. Over one-third of respondents (35%) have matriculate-intermediate education, while 18% have graduate or higher education. On average, respondents have just fewer than six assets or amenities. Nearly half of men have ever used a condom with their wife; and almost 13% consistently use condoms with their wife. About 15% of men had confirmed exposure to the Touch ad at baseline; while an additional 15% had unconfirmed awareness of family planning ads. The results for the full baseline sample are similar.

TABLE 1 *(Please see page 30)*

Table 1 also tests if there are significant differences in the characteristics of respondents who were successfully re-interviewed (n=617) and those lost to follow-up (n=189). The results show that the samples are not significantly different with respect to region of residence, age, or level of education. Likewise, the samples did not differ significantly in terms of behavioral variables such as discussion of family planning, ever use of condoms, current use of condoms, use of condoms in last sex, consistent use of condoms, or intentions to use condoms. There were, however, two important differences between those who were re-interviewed and those lost to follow-up. Respondents who remained in the panel were not as wealthy as those who were lost to follow-up (5.72 assets vs. 6.26 assets, $p=0.004$). They were also less likely to have been exposed to the Touch ad than those lost to follow-up. Because of sample attrition being relatively low, however, respondents who were successfully re-interviewed had the same characteristics as the full baseline sample.

RESULTS

TABLE 2 (Please see page 31)

Trends in Beliefs, Attitudes and Behaviors Related to Condom Use

Table 2 examines whether there were significant changes in various indicators related to condom use between the baseline survey and the follow-up surveys. To ensure comparability, the analyses are restricted to respondents who were successfully re-interviewed (n=617). The first panel in Table 2 shows trends in indicators of beliefs about condom use. The results show that there were significant, albeit small, improvements in the perceived availability of condoms and their perceived effectiveness for family planning. As anticipated, there were no changes in the perception that condoms reduce sexual pleasure. Although there was a small but significant reduction in embarrassment to purchase condoms, embarrassment to negotiate condom use did not change. Knowledge of condom sources also increased slightly between the two surveys. Specifically, the mean number of condom sources known increased from 1.7 to 2.0.

The second panel in Table 2 shows that the percentage who discussed family planning the three months before the survey increased (from 14% to 19%). Approval of family planning also increased (from 71% to 75%). Table 2 further shows that there was no change in the percentage of respondents who reported procuring condoms in the last month: about 19% of men reported having procured condoms at least once in the last month. The mean number of times condoms were procured in the last month also did not change.

Ever use of condoms increased (from 49% to 55%). Despite this increase in the percentage of married men who tried condoms at least once, there was no significant change in current condom use. However, increases occurred both in the use of a condom in last sex with one's wife (from 19% to 22%) and in consistent condom use (from 13% to 16%). Contrary to our expectations, intentions to use condoms declined (from 34% to 29%).

TABLE 3 (Please see page 32)

Is Confirmed Awareness of the Touch Ad Associated with Changes in Beliefs about Condom Use?

The results of conditional change regression models testing whether confirmed awareness (CA) of the Touch ad affects changes in beliefs about condoms use are shown in Table 3. Model 1 shows the net effect of exposure to the second phase of the Touch campaign on the perceived availability of condoms at **follow-up**, after controlling for exposure to the first phase of the campaign, the respondent's perception about condom availability at baseline, and for region, socioeconomic and demographic variables. All other models shown follow a similar approach.

The results shown in Model 1 indicate that men who had CA of the Touch ad at **follow-up** (i.e. those men who were exposed to the second phase of the Touch campaign) were significantly more likely than men who did not have CA of the Touch ad to believe that condoms are available. However, unconfirmed awareness of family planning ads had no effect on the perceived availability of condoms. Model 2 shows that CA of the Touch ad at **follow-up** had no effect on the perceived effectiveness of condoms. Unconfirmed awareness of family planning advertisements also had no effect on perceived effectiveness of condoms. Hence, the minor improvement in perceived effectiveness that was observed earlier cannot be attributed to the Touch campaign. Model 3 further shows that CA of the Touch campaign had no effect on the perception that condoms reduce sexual pleasure. The results presented in Models 4 and 5 shows that CA of the Touch ad had no significant effect on men's embarrassment to purchase condoms, nor on their embarrassment to negotiate condom use. Interestingly, unconfirmed awareness of family planning advertisements was associated with lower embarrassment in both purchase and negotiation of condom use.

These findings suggest that family planning ads other than the Touch ad may have had some success in reducing embarrassment associated with purchasing and negotiating condom use.

TABLE 4 (Please see page 33)

Is Confirmed Awareness of the Touch Ad Associated with Changes in Discussion and Approval of Family Planning?

The first Model in Table 4 shows that men with CA of the Touch ad at **follow-up** were more likely (OR=2.75) than men who did not have CA of the ad to have discussed family planning in the last three months. However, unconfirmed awareness of family planning had no effect on discussion of family planning. Similarly, Model 2 shows that men with CA of the Touch ad at follow-up were more likely (OR=1.83) than men without CA of the ad to approve of family planning. Once again, unconfirmed awareness of family planning advertisements did not have a significant effect on men's approval of family planning. Model 3 shows that CA of the Touch ad increased the likelihood of condom procurement (OR=2.54), while unconfirmed awareness of family planning ads did not affect the likelihood of men procuring condoms. Model 4 shows that CA of the Touch ad increased the mean number of times condoms were procured in the last month (coefficient=0.40). Unconfirmed awareness of family planning ads was not associated with the frequency of condom procurement.

TABLE 5 (Please see page 34)

Is Awareness of the Touch Ad Associated with Changes in Condom Use and Intentions to Use Condoms?

Table 5 shows the effect of CA of the Touch ad at **follow-up** on indicators of condom use and intentions to use condoms. The results presented in Model 1 show that men with CA of the Touch campaign were more likely (OR=2.70) to ever use condoms with their wife than men without CA of the Touch ad. At the same time, men who had unconfirmed awareness of family planning ads were also more likely (OR=2.57) than unexposed men to have ever used condoms. Model 2 further shows that men with CA of the Touch ad were more likely (OR=2.06) than men without CA of the Touch ad to be current condom users. Unconfirmed awareness of family planning ads was not associated with current use of condoms. CA of the Touch ad also increased the odds of using a condom in last sex with one's wife (OR=2.19), whereas unconfirmed awareness of family planning ads did not (Model 3). The odds of consistent use of condoms was higher among those who had CA of the Touch ad (OR=2.38). Unconfirmed awareness of family planning ads was not associated with consistent condom use (Model 4). Finally, Model 5 shows that CA of the Touch ad increased the odds of a man having the intention to use condoms (OR=1.78). Unconfirmed awareness of family planning ads was not associated with the intention to use condoms.

TABLE 6 (Please see page 35)

What is the Magnitude of the Impact of the Campaign on Changes in Behavior?

Table 6 shows levels of discussion of family planning, procurement of condoms and various measures of condom use at baseline and at follow-up by exposure to the second phase of the Touch campaign. Discussion of family planning among those with CA of the Touch ad at **follow-up** was 26.2% at baseline and 34.1% at follow-up, an increase of 7.9 percentage points. Discussion of family planning among those not exposed to any family planning advertising was 9.2% at baseline and 13.9% at follow-up, an increase of 4.7 percentage points. Discussion of family planning among those with unconfirmed awareness of family planning ads was 22.4% at baseline and

20.9% at follow-up, a decline of 1.5 percentage points. In the case of condom procurement, there was a slight decline in procurement of condoms among those not exposed to any family planning ad (0.9 percentage points) as well as among those with unconfirmed awareness of family planning ads (1.5 percentage points), and an increase of 4 percentage points among those exposed to the Touch ad. The increase in condom ever use among those with CA of the Touch ad was 13.4 percentage points, compared to an increase of 2.7 percentage points among those not exposed to any family planning ad and an increase of 11.9 percentage points among those exposed to other family planning ads. Condom use in last sex increased by 7.1 percentage points among those with CA of the Touch ad, by 2.9 percentage points among those not exposed to any family planning ad, and by 1.5 percentage points among those with unconfirmed awareness of family planning ads. Consistent condom use increased by 8 percentage points among men with CA of the Touch ad, by 2.4 percentage points among those not exposed to any family planning ad, and by 1.5 percentage points among those with unconfirmed awareness of family planning ads. However, behavioral changes shown in Table 6 are unadjusted for differences in sample characteristics. The magnitude of the true impact of the second phase of the Touch campaign on these behaviors can be obtained in multivariate analysis.

FIGURE 1 *(Please see page 36)*

Figure 1 shows estimated marginal effects from a logistic regression analyses that controlled for differences in the characteristics of respondents who were exposed to the ads and respondents who were not exposed to the ad. Before obtaining the marginal effects, we tested for endogeneity of the measure of exposure. In each case, athrho was not significantly different from zero, suggesting that exposure to advertising was not endogenous. The estimate of the marginal effect of awareness of the Touch ad on discussion of family planning was 17%. This means that once we controlled for exposure to the first phase of the Touch campaign, discussion of family planning at baseline, region, age, education and household wealth, there was a 17 percentage point difference in discussion of family planning for those who were aware of the Touch ad relative to those who were not exposed to it. The difference in procurement of condoms between those exposed to the Touch ad and those not exposed to it was 13 percentage points. The greatest impact of the campaign among measures of condom use was on ever use: the difference in condom ever use between those exposed to the Touch campaign and those not exposed was 18 percentage points. The impact of the campaign on current use, use in last sex and consistent use hovered between 10% and 11%. In other words, the campaign was associated with a 10 or 11 percentage point difference in these measures of condom

What did these changes in behavior cost?

These findings can be used to translate the impact of the campaign into a rough estimate of the number of consistent condom users produced. The number of married men living in urban Pakistan is estimated to be around 9 million. About 20.4% of these or 1,836,000 men were exposed to the Touch ad after the second phase of the campaign. Of those exposed, 9.8% or 179,928 became consistent condom users. The cost of the second phase of the Touch campaign was 42 million rupees or US\$ 503,597. Hence, the cost of obtaining a consistent condom user was US\$ 2.80.

TABLE 7 *(Please see page 36)*

Continuation of contraceptive use

The turnover in modern contraceptive use by type of exposure is shown in Table 7. Differences in turnover rates were substantial between those exposed to the Touch ad at **follow-up** and those who were not. The greatest contribution of the second phase of the Touch campaign was the reduction in the level of consistent non-use: continued non-use of family planning was 42% among those not exposed to any family planning advertising and 29% among those with CA of the Touch campaign. The condom continuation rate was higher among those exposed to the Touch ad (23%) compared to those not exposed to any family planning ad (12%).

DISCUSSION

The very first contraceptive social marketing projects were initiated in South Asia. In spite of their long history in India, Bangladesh, Sri Lanka, Nepal, or Pakistan it is difficult to identify any recent studies in the published literature which have examined the impact of these interventions on changes in behavior. Earlier assessments of social marketing interventions in Bangladesh (Schellstede and Ciszewski, 1984; Davies et al., 1987), Sri Lanka (Davies and Louis, 1977) and Nepal (Shrestha et al., 1990) have relied on sales of contraceptives, even though condom sales data are a very poor proxy for condom use (Meekers and Rahaim, 2005). Pakistan has one of the oldest, continuously running, condom social marketing programs in the world. This study evaluated the impact of a social marketing advertising campaign that aimed to increase the use of condoms in urban Pakistan.

Taking advantage of the removal of restrictions on condom advertising that occurred as private television channels gained in number and popularity in Pakistan, Greenstar Social Marketing implemented a very aggressive television and radio condom advertising campaign in 2009. This study used data from two waves of a panel survey of urban Pakistani men to assess the impact of the second phase of this campaign on changes in behavior that occurred as a result of the advertising campaign.

The results of conditional change regression models show that exposure to the second phase of the Touch campaign had a significant effect on a wide range of indicators related to condom use, even after controlling for region, socioeconomic and demographic characteristics, the values of the indicators at baseline, and exposure to the first phase of the campaign. Exposure to the second phase of the Touch campaign was associated with improvements in the perceived availability of condoms, increased discussion of family planning, increased approval of family planning, the percentage of respondents who procured condoms, and the mean number of times condoms were procured. CA of the Touch ad at follow-up was also associated with ever use of condoms with wife, current use of condoms with wife, use of condoms in last sex with wife, consistent use of condoms with wife, and intentions to use condoms in the next 12 months with wife. Regression analysis enabled us to estimate the contribution of the campaign to behavior change. Exposure to the campaign was associated with a 9.8 percentage point difference in consistent condom use between those exposed to the campaign and those not exposed. The Touch campaign generated an estimated 179,928 consistent condom users at a cost of \$2.80 per user.

While these improvements in behavior between the baseline and follow-up surveys were associated with CA of the Touch ad, improvements in other determinants of condom use were not: exposure to the second phase of the campaign was not associated with an increase in perceived effectiveness of condoms, a decline in perceived reduction in sexual pleasure resulting from condom use, or a decline in perceived embarrassment in negotiating condom use. This is not surprising given that the thematic focus of the ad was on birth spacing: the ad focused on a young couple finding and marrying each other and using contraception for spacing after their first child. Although condoms were mentioned in the ad and condom packets were shown towards the end of the advertisement, the ad did not address the issue of condom effectiveness, the reduction in pleasure due to condom use, or the embarrassment in negotiating condom use. Future social marketing campaigns may be able to further increase condom use by addressing these barriers. The use of panel data enabled us to understand findings that would have been puzzling had this evaluation been based on cross-sectional survey data. The results of the conditional change regression showed a positive correlation between CA of the Touch ad and an increase in current condom use. However, the overall level of current condom use did not show an increase between baseline and follow-up. However, the overall level of current condom use did not show an increase between baseline and follow-up. How could the Touch ad campaign have contributed to an increase in current condom use when current condom use across two points in time (between baseline and follow-up) did not increase? The panel data helped us determine that there was substantial movement of men between current condom use and condom non-use (not shown). Indeed, as many men stopped being current users of condoms between baseline and follow-up surveys as those who started current use of condoms.

A majority of these men stopped use of family planning while a minority started using other family planning methods. Exposure to the Touch ad increased the likelihood of current condom use between baseline and follow-up panel surveys. At the same time, those who stopped current use of condoms during this period did so for reasons unrelated to the campaign (not shown). Thus, the apparently paradoxical finding that the Touch campaign contributed to an increase in condom use while the overall level of condom use remained unchanged could be understood. A similar, seemingly paradoxical, finding was observed for intentions to use condoms: the Touch campaign contributed to increasing intentions to use condoms even though the overall level of intentions to use condoms declined between baseline and follow-up surveys. In this instance, exposure to the second phase of the campaign increased intentions to use condoms among those who did not previously have such intentions. At the same time, intentions to use condoms declined among those who had been intenders at baseline but were not exposed to the second phase of the campaign (not shown). Thus, the intention to use condoms appears to be particularly responsive to condom advertising.

It is important to note some limitations of the exposure variable, and particularly of the “ unconfirmed awareness of family planning ads” category. This category was a residual category – respondents who did not have confirmed awareness of the Touch ad but recalled having seen a family planning or reproductive health advertisement during the last 3 months fell in this category. The residual category may be contaminated by the inclusion of respondents who were exposed to the Touch advertisement but the impact of the ad was not sufficient to enable them to remember specific elements of the ad or to be able to complete the Touch jingle. Although this type of contamination is certainly possible, it is unlikely that it is a major factor: CA of the Touch advertisements was strongly associated with viewership of private television channels where Touch was advertised; and recall of other family planning ads was strongly associated with viewership of the government television channel, PTV, where government PSAs are normally placed (not shown).

This study provides some insight regarding how long the impact of condom advertising campaign may last. Although an earlier study found that exposure to the first phase of the Touch campaign (implemented in February and March 2009) was associated with higher condom use in the period immediately following the campaign (Agha and Beaudoin, 2009), this study shows that exposure to the first phase of the Touch campaign was not associated with improvements in behavior observed five months later (i.e. in the follow-up survey). The (lack of) effect of exposure to the first phase of the Touch campaign on behavior observed five months later was tested without including the variable measuring exposure to the second phase of the campaign in the equation (not shown). These findings imply the need to have a sustained level of mass media advertising throughout the year since the impact of individual phases of a campaign may be only be for a few months.

Research Department Working Papers

WP-1. Agha, Sohail. 2009. Intentions to Use Contraceptives in Pakistan: Implications for Behavior Change Campaigns.

WP-2. Agha, Sohail and Christopher E. Beaudoin. 2009. Impact of a Thematic Condom Advertising Campaign on Condom Use in Urban Pakistan.

WP-3. Carton, Thomas W. and Sohail Agha. 2009. Changes in Contraceptive Use and the the Method Mix in Pakistan. 1990-91 TO 2006-07.

WP-4. Agha, Sohail and Dominique Meekers 2010. Impact of a Social Marketing Campaign on Condom use In urban Pakistan.

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TABLE 1

Table 1. Characteristics of men in the sample and men lost to follow-up

	(1) Full Baseline Sample (n=806)	(2) Re- interviewed Sample (n=617)	(3) Lost from panel (n=189)	Chi square/Ftest (2) vs. (3)
Province				
Punjab	43.4%	44.2%	40.7%	$\chi^2(3) = 6.937, p = 0.074$
North West Frontier Province	12.9%	13.9%	9.5%	
Baluchistan	7.7%	8.1%	6.3%	
Sind	36.0%	33.7%	43.4%	
Age of respondents				
20 or younger	15.1%	15.2%	14.8%	$\chi^2(5) = 7.399, p = 0.193$
30-34	18.5%	17.2%	22.8%	
35-39	19.2%	19.8%	17.5%	
40-44	17.9%	19.3%	13.2%	
45-49	12.5%	11.7%	15.3%	
50 and above	16.7%	16.9%	16.4%	
Mean age	39.1	39.2	38.9	F-test(1)=0.127, p=0.722
Education				
None	16.6%	15.6%	20.1%	$\chi^2(4) = 8.866, p = 0.065$
Any primary	12.5%	14.1%	7.4%	
Middle	17.4%	16.9%	19.0%	
Matriculate-Intermediate	34.5%	35.3%	31.7%	
Graduate or higher	19.0%	18.2%	21.7%	
Mean number of assets/amenities	5.85	5.72	6.26	F-test(1)= 8.44, p = 0.004
Discussion				
Discussed FP in last 3 months	14.3%	14.1%	14.8%	$\chi^2(1) = 0.060, p = 0.806$
Condom Use				
Ever use with wife	48.9%	48.8%	49.2%	$\chi^2(1) = 0.010, p = 0.919$
Current use with wife	23.6%	24.1%	21.7%	$\chi^2(1) = 0.484, p = 0.486$
Use in last sex with wife	17.7%	18.5%	15.3%	$\chi^2(1) = 0.973, p = 0.324$
Consistent use with wife	12.5%	12.5%	12.7%	$\chi^2(1) = 0.006, p = 0.937$
Intentions				
Intentions to use condoms	34.5%	34.2%	35.4%	$\chi^2(1) = 0.100, p = 0.751$
Confirmed Awareness (CA) of Touch ad at Baseline				
Confirmed awareness of Touch ad	17.2%	15.2%	23.8%	$\chi^2(2) = 10.920, p = 0.004$
Unconfirmed FP ad awareness	13.5%	15.1%	8.5%	
No exposure	69.2%	69.7%	67.7%	

TABLE 2

Table 2 Changes in beliefs, discussion and behavior between baseline and follow-up (intact panel)

	Baseline (n=617)	Follow-up (n=617)	Paired-Sample T-Test
BELIEFS ABOUT CONDOM USE			
Mean score, perceived availability of condoms scale ¹	21.39	22.62	<i>p</i> = 0.000
Mean score, condom effectiveness for family planning scale ¹	18.82	19.43	<i>p</i> = 0.008
Mean score, condoms reduces sexual pleasure scale ¹	15.94	16.00	<i>p</i> = 0.770
Mean score, embarrassment in purchasing condoms scale ¹	15.24	14.51	<i>p</i> = 0.015
Mean score, embarrassment in negotiating condom use scale ¹	13.21	13.18	<i>p</i> = 0.955
Mean number of condom sources known ²	1.71	1.98	<i>p</i> = 0.000
DISCUSSION AND APPROVAL OF FAMILY PLANNING			
Discussed family planning in last 3 months	14.1%	18.8%	<i>p</i> = 0.014
Approve of family planning	70.5%	75.2%	<i>p</i> = 0.025
BEHAVIOR			
Condom procurement			
Procured condoms at least once in the last month	19.1%	19.1%	<i>p</i> = 1.000
Mean number of times condoms procured in last month	0.33	0.34	<i>p</i> = 0.937
Condom Use			
Ever use	48.8%	54.8%	<i>p</i> = 0.005
Current use	24.1%	23.8%	<i>p</i> = 0.852
Use in last sex with wife	18.5%	22.0%	<i>p</i> = 0.034
Consistent use	12.5%	15.9%	<i>p</i> = 0.029
INTENTIONS			
Intentions to use condoms	34.2%	29.2%	<i>p</i> = 0.010

¹Condom belief scales range from 5 to 25²The scale ranges from 0 to 3 sources

TABLE 3

Table 3 Conditional change regression models for beliefs about condom use

Coefficients from OLS Regression

	(1) Perceived availability of condoms, Follow-up (n=617)	(2) Perceived effective- ness of condoms, Follow-up (n=617)	(3) Perceived reduction of sexual pleasure by condoms, Follow-up (n=617)	(4) Perceived embarrass- ment in purchasing condoms, Follow-up (n=617)	(5) Perceived embarrassment in negotiating condoms, Follow-up (n=617)
Confirmed Awareness of Touch ad at Follow-up					
Confirmed awareness of Touch ad	0.67*	0.22	-0.69	-0.52	-1.22
Unconfirmed FP ad awareness	0.65	0.12	-0.11	-2.36**	-3.39***
No exposure	(Ref.)	(Ref.)	(Ref.)	(Ref.)	(Ref.)
Confirmed Awareness of Touch ad at Baseline					
Confirmed awareness of Touch ad	-0.47	0.08	0.59	0.18	0.01
Unconfirmed FP ad awareness	0.12	-0.33	0.23	-0.57	0.39
No exposure	(Ref.)	(Ref.)	(Ref.)	(Ref.)	(Ref.)
Variables at Baseline					
Perceived availability of condoms, Baseline	0.22***				
Perceived effectiveness of condoms, Baseline		0.30***			
Perceived reduction of sexual pleasure by condoms, Baseline			0.26***		
Perceived embarrassment in purchasing condoms, Baseline				0.32***	
Perceived embarrassment in negotiating condoms, Baseline					0.22***
Province					
Punjab	-0.13	-1.53***	-2.21***	0.54	-2.18***
North West Frontier Province	-2.93***	-2.24***	-2.07***	1.74*	0.81
Baluchistan	-2.05***	-2.11**	-0.99	2.67**	1.89
Sind	(Ref.)	(Ref.)	(Ref.)	(Ref.)	(Ref.)
Age of respondents	-0.02	-0.03	-0.00	0.00	-0.05*
Education		-2.00**			
Graduate or higher	-1.42**	-0.68	-0.22	0.46	-1.41
Matriculate-Intermediate	-0.34	-0.39	-0.64	-0.24	-1.46
Middle	-0.53	0.15	-0.58	-0.47	-2.01*
Any primary	-0.83	(Ref.)	-0.92	0.14	-0.62
None	(Ref.)	0.09	(Ref.)	(Ref.)	(Ref.)
Number of assets/amenities	-0.05		-0.25**	-0.05	0.14
Variance (R-squared)	21.50%	14.17%	11.86%	10.23%	11.18%

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

TABLE 4

Table 4 Conditional change regression models for discussion and approval of FP, procurement of condoms

	Odds Ratios from Logistic Regression			OLS Coefficients
	(1) Discussed FP in last 3 months, Follow-up (n=617)	(2) Approval of family planning, Follow-up (n=617)	(3) Procured condoms in last month, Follow-up (n=617)	(4) Mean number of times condoms procured in last month, Follow-up (n=617)
Confirmed Awareness of Touch ad at Follow-up				
Confirmed awareness of Touch ad	2.75***	1.83*	2.54**	0.40***
Unconfirmed FP ad awareness	1.55	1.09	1.40	0.05
No exposure	1.00	1.00	1.00	(Ref.)
Confirmed Awareness of Touch ad at Baseline				
Confirmed awareness of Touch ad	0.77	0.74	0.37**	-0.25*
Unconfirmed FP ad awareness	0.84	1.09	0.53	-0.09
No exposure	1.00	1.00	1.00	(Ref.)
Variables at Baseline				
Discussed FP in last 3 months, Baseline	2.34**			
Approval of family planning, Baseline		4.36***		
Procured condoms in last month, Baseline			8.39***	
Mean # of times condoms procured, Baseline				0.25***
Province				
Punjab	0.72	2.35***	0.78	-0.07
North West Frontier Province	0.60	1.99*	0.88	0.02
Baluchistan	0.38	0.85	0.31*	-0.14
Sind	1.00	1.00	1.00	(Ref.)
Age of respondents	1.00	1.00	0.98	-0.01
Education	2.32	1.43	1.28	-0.04
Graduate or higher	2.13	1.18	1.32	0.07
Matriculate-Intermediate	1.69	0.86	1.56	0.08
Middle	1.96	1.33	1.10	-0.00
Any primary	1.00	1.00	1.00	(Ref.)
None				
Number of assets/amenities	0.92	0.96	0.97	-0.01
Variance (R-squared)	7.81%	12.21%	17.99%	10.50%

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

TABLE 5

Table 5 Conditional change regression models for condom use and intentions to use condoms

	Odds Ratios from Logistic Regression				
	(1) Ever use of condoms with wife, Follow-up (n=617)	(2) Current use of condoms with wife, Follow-up (n=617)	(3) Use of condoms in last sex with wife, Follow-up (n=617)	(4) Consistent use of condoms with wife, Follow-up (n=617)	(5) Intention to use condoms, Follow-up (n=617)
Confirmed Awareness of Touch ad at Follow-up					
Confirmed awareness of Touch ad	2.70***	2.06*	2.19**	2.38**	1.78*
Unconfirmed FP ad awareness	2.57**	1.59	1.42	1.40	1.46
No exposure	1.00	1.00	1.00	1.00	1.00
Confirmed Awareness of Touch ad at Baseline					
Confirmed awareness of Touch ad	1.02	0.82	0.87	1.21	1.27
Unconfirmed FP ad awareness	0.76	0.74	0.94	1.11	0.77
No exposure	1.00	1.00	1.00	1.00	1.00
Condom use at Baseline					
Ever use of condoms with wife, Baseline	4.33***				
Current use of condoms with wife, Baseline		5.40***			
Use of condoms in last sex with wife, Baseline			3.63***		
Consistent use of condoms with wife, Baseline				2.66**	
Intentions to use condoms at Baseline					
Yes	2.30**	2.68**	5.23***	7.62***	8.09***
No	1.00	1.00	1.00	1.00	1.00
Province					
Punjab	1.98**	0.95	1.04	0.93	0.99
North West Frontier Province	1.21	0.70	0.87	1.14	0.68
Baluchistan	0.39*	0.29*	0.29*	0.53	0.27*
Sind	1.00	1.00	1.00	1.00	1.00
Age of respondents	1.02	1.00	1.00	1.00	0.99
Education					
Graduate or higher	1.19	1.06	0.82	0.72	1.33
Matriculate-Intermediate	1.82	1.04	0.80	0.73	1.42
Middle	1.37	1.84	1.53	1.36	1.61
Any primary	1.13	0.75	0.78	0.73	0.83
None	1.00	1.00	1.00	1.00	1.00
Number of assets/amenities	1.03	0.96	0.96	1.05	0.99
Variance (Pseudo R-squared)	21.48%	24.02%	24.61%	24.50%	20.38%

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

TABLE 6

Table 6. Changes in behavior between baseline and follow-up surveys by exposure to the second phase of the Touch campaign

	Baseline survey			Follow-up survey			Change over time		
	Type of exposure to ads at follow-up			Type of exposure to ads at follow-up			Type of exposure to ads at follow-up		
	None	Unconfirmed FP ad awareness	Touch ad	None	Unconfirmed FP ad awareness	Touch ad	None	Unconfirmed FP ad awareness	Touch ad
% Who discussed FP	9.2	22.4	26.2	13.9	20.9	34.1	+4.7	-1.5	+7.9
% Who procured condoms	16.5	20.9	27.0	15.6	19.4	31.0	-0.9	-1.5	+4.0
Condom use									
% Ever use	45.0	59.7	55.6	47.9	71.6	69.0	+2.7	+11.9	+13.4
% Current use	21.0	28.4	32.5	19.8	28.4	34.9	-1.2	0.0	+2.4
% Use in last sex	15.3	25.4	25.4	18.2	26.9	32.5	+2.9	+1.5	+7.1
% Consistent use	9.4	19.4	19.0	11.8	20.9	27.0	+2.4	+1.5	+8.0
Number of cases	424	67	126	424	67	126	424	67	126

Figure 1. Logistic regression estimates of the marginal effect (in %) of exposure to the second phase of the *Touch* campaign on various behaviors

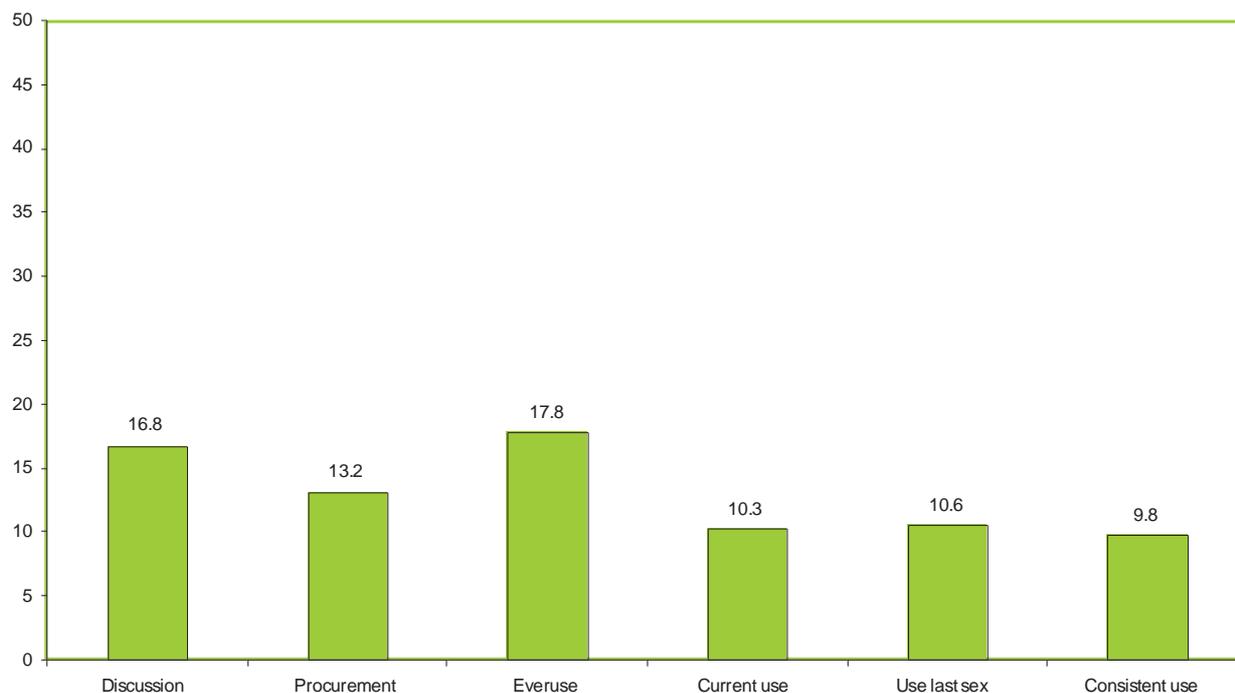


TABLE 7

Table 7. Turnover in contraceptive use between baseline and follow-up surveys by exposure to the second phase of the *Touch* campaign

	Type of exposure to ads at follow-up			Total
	None (%)	Unconfirmed FP ad awareness (%)	Touch ad	
Continued as non-user of family planning	42.2	38.8	29.4	29.4
Continued as condom user	11.6	19.4	23.0	23.0
New family planning user	13.9	19.4	21.4	21.4
Continued as other FP method user	14.4	7.5	7.9	7.9
Family planning discontinuer	11.1	10.4	14.3	14.3
Family planning switcher	6.8	4.5	4.0	4.0
Total	100%	100%	100%	100%
Number of cases	424	67	126	126



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