

Does Mass-Media Public Communication Campaign Normalize Discussion, Attitude and Behavior about Condom Use among Married Men in India?

Dipak Suryawanshi¹, Sangram Kishor Patel^{2*}, Rajatashuvra Adhikary² and Shalini Bharat¹

¹School of Health Systems Studies, Tata Institute of Social Sciences, Mumbai, India

²HIV and AIDS Program, Population Council, New Delhi, India

Abstract

Background: 'Condom' is a stigmatized topic in India. Open discussion about its use and promotion are considered inappropriate. This study examines the association between exposure to public service announcements (PSA) around condoms and discussion, attitude and behavioral intentions about condom use among married men by their age and socio-economic status.

Methods: A sub-sample of monogamous married men (N=2502) was obtained from 2009 BBC World Service Trust's condom normalization survey among men in four high HIV prevalence states in India. The multiple logistic regression models were used to analyze the association of exposure to PSA around condoms with discussion, attitudes and behavioral intentions about condom and its usage.

Result: More than half married men (55%) were younger (≤ 35 years), having better socio-economic status (educated above secondary levels and employed) (55%) and exposed to condom PSA (64%). Exposure to PSA was associated with greater likelihood to seek condom information (AOR: 1.33; $p=0.010$), positive attitude (AOR: 1.24; $p=0.008$), higher self-efficacy (AOR: 1.53; $p=0.006$) in using and, last time condom use (AOR: 2.15; $p=0.023$) among better SES group; with positive caring attitude (AOR: 1.27; $p=0.010$), ease in purchasing condom (AOR: 2.04, $p=0.009$) among older (35+ years) men, and with last time condom use among younger men (AOR: 1.85; $p=0.037$).

Conclusion: The findings of the study highlight an important contention that linkage between mass-media campaigns and promotion of condom normalization through discussion, seeking information and intention to use and its usage goes beyond as a behavior change strategy to include dimensions of age, educational attainment and economic status. The effectiveness of mass media campaigns for normalizing condom discussion is largely mediated by demographic and socio-economic variables. Future campaigns need to address these variables to be more effective.

Keywords: Condom; Communication campaign; India; Married men; Normalization

Introduction

The evidences from ethnographic and anthropological studies show that impact of men, as individuals, as social gatekeepers and as powerful family members who enforce cultural practices, often to the detriment of women's reproductive health [1]. In this context, men's participation is crucial for better outcomes in reproductive health such as contraceptive acceptance and continuation, safer sexual behaviors and women's empowerment. Participation of men in such decisions is a promising strategy for addressing sexual and reproductive health problems like sexually transmitted infections and HIV infections [2-4]. In addition, the 1994 United Nations' International Conference on Population and Development (ICPD) stressed "male responsibilities and participation" in sexual and reproductive health. The conference's Program of Action advocate that effort should be made to emphasize men's shared responsibility and promote their active involvement in responsible parenthood, sexual and reproductive behavior, including family planning; prenatal, maternal and child health; prevention of sexually transmitted diseases, including HIV; and prevention of unwanted and high-risk pregnancies. The Program of Action further advocate programs to improve sexual and reproductive health with efforts to address the gender values and norms that harm both men's and women's health and impede development [5]. Studies across world, including India of male involvement in health education [6], family planning (FP) services [7] showed positive impact on reproductive health outcomes and suggests that it is not only limited to, use of FP methods by itself rather to its supportive attitudes towards their spouses and motivations in sharing responsibility in reproductive

health matters [8]. This, in turn, indicates that men's involvement has become a prominent part of the shift from family planning to the broader reproductive health agenda. With this rationale, condom plays an effective and dual role (as a family planning method and prevention tool) in preventing unwanted pregnancy and STI infections [4] and its use acts as vital element and effective mechanism of any comprehensive HIV prevention efforts in the dynamics of the HIV epidemic among the general population [9].

Worldwide, evidence of condom use is identified and is associated with reduction in sexually transmitted infections (STIs) such as HIV infection [10-13]. Nevertheless, condom is still considered as an embarrassment entity from 'purchasing' to 'using' it; which accentuate the risk of inconsistent condom use since condom use includes stages to reach at the decision of using it during any sexual act (purchasing, carrying, storing, using and disposing of condoms) [14]. The barriers for non-use of condoms and negative attitude towards condom include

***Corresponding author:** Sangram Kishor Patel, Senior Program Officer, Population Council, 142, Golf Links, New Delhi 110003, India, Tel: +91-11-41743410; Fax: +91-11- 24645060; E-mail: skpatel@popcouncil.org; sangramkishor@gmail.com

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morality, religion, social (stigma attached to condoms) and personal factors (reluctance and aversion to condoms, substance use) and use of other contraceptive methods [15]. In a study among university students in Texas communicated the regrets about their decision to engage in sexual activity and use condoms on the grounds of moral values [16]. Similarly, the denial of moral values while promoting condom use led to ignorance of use during the sexual intercourse in a study among the drug users in Texas [17]. This implicates that normative beliefs and subjective norms affects adversely the lifetime condom use and self-efficacy in condom use. In addition, 'religiosity' is also accentuated the negative attitude towards the condom and its use since religious behavior is a strong predictor of sexual behavior and its attitude [18] and is interwoven with many of the barriers to condom use and negotiation [19]. According to *Paul VI Humane Vitae* in catholic religion (1968), birth control was rejected and only natural methods (e.g. rhythm method, billings method) were allowed to prevent the pregnancy. This was also applicable to condoms even if one wants to protect against infection from sexually transmitted disease. The use of condom was considered as sinful within the marital relationship even if the spouse is infected with HIV/AIDS [20,21]. Additionally, Muslim laws also opposed the condom use and prohibited even if one wants to protect against the unintended pregnancy and HIV/AIDS [20].

Further, among the social factors, high power-relation of men in steady relationship (i.e., less condom negotiation power among women due to fear of being suspected of infidelity) [22], social dimension of pleasure [23], eroticism [24], masculine sexuality, and emotional aspect of men's lives [25] abstains the youth from using the condoms during sexual intercourse. In India, socio-cultural concepts and beliefs in marital relationships [26], lack of privacy in stores and the stigma attached to the condom [27] are the barriers to non-use of condom among youths. Due to barriers of non-use of condoms, it's necessary to promote the acceptance and consistent use of condom in the course of the HIV epidemic since condom promotion and its use are a primary and effective mechanism of any global HIV prevention efforts. In addition, in marital relationship the consistent condom use is very low and the condom is considered as a contraceptive tool to prevent unwanted pregnancy and not to avoid STI infection or STDs. However, in India, the condom is a socially stigmatized topic and open discussion about its use is considered inappropriate especially in marital relationships. Thus, the role of condom promotion and awareness through mass media campaigns plays a central role in such situations. Since mass-media campaigns are widely used in public health because of its wider reach and its three dimensional effect as a helping mechanism to learn about correct health information and knowledge, changing of healthy attitudes and values and the establishment of new health behavior [28]. Several studies have shown that mass-media campaigns are effective HIV prevention strategy for condom promotion among the adult youths [29-31]. But, very few studies have focused on attitudes and discussion about condoms and tried to alter the influence of social and cultural factors about condom. This study makes an attempt to fill this gap and explore to assess the attitude, behavior and discussion about condom and its use among monogamous married men (hereafter referred as married men), as a part of 'Advocacy and Media' component under the 'Avahan' intervention using the British Broadcasting Corporation (BBC) condom normalization survey data. With this background, the objective of the study is to explore the association between exposure to public service announcements (PSA) around condoms and discussion, attitude and behavioral intentions about condom use among married men by their age and socio-economic status.

Methods

Study settings

The data used to assess the mass media, public communication campaign intervened by the BBC World Service Trust (BBC WST) among married men were obtained from the end-line, behavioral and cross-sectional survey of 'Condom Normalization Campaign' (CNC) among men launched by the BBC WST in 2009 in four high HIV prevalence states (e.g. Andhra Pradesh, Karnataka, Maharashtra and Tamil Nadu) in India.

Avahan intervention-advocacy and media: Among the main six program areas of Avahan Intervention (its' India AIDS Initiative, an HIV prevention program), *Advocacy for an enabling environment* and *Communication for behavior change (CBC)* were part of the Avahan - Media and Advocacy efforts. The targeted population and area of intervention for this effort was high-risk groups such as female sex workers (FSWs), men having sex with men (MSM), injecting drug users (IDUs), clients of FSWs (clients) and general population of reproductive age in six high HIV prevalence states in southern (Andhra Pradesh, Karnataka, Tamil Nadu), north-east (Manipur, Nagaland) and western (Maharashtra) regions of India. The objective of this effort was a) to create an enabling environment that supports communities' actions to trim down risk, increases access to services and sustain safer sexual practices and b) to communicate about behavior change through interpersonal communication, mass-media and mid-media campaigns focusing on populations of reproductive age and high-risk groups. The latter program area of CBC was aimed to make condoms more socially acceptable among the general population and make 'condom use' more feasible among the high-risk groups. The communication process for the high-risk group was done through multiple channels such as peer outreach, interactive discussion groups and other participatory approaches via community mobilization activities; whereas in the general population, it was done through mass and mid media campaigns using researched and 'pre-tested' television and radio advertisements and outdoor media. The communication campaign of the general population had two main goals - a) to get men to talk about condoms and b) to enhance the image of condom user. The details of the program and program areas are discussed elsewhere [32].

BBC WST communication campaign: With the support of Avahan program funded by BMGF, BBC WST developed a communication tool called public service announcements [PSA] on condoms and launched through mass media campaigns on the eve of *World AIDS Day* in 2007 with a competition designed to make condoms normal and to get men to talk about condoms. The objective of the campaign was to change the perceptions about condoms and promote condom use among the men. The campaign targeted two different types of audiences; a) general population in reproductive age group (15-49 years) and b) high-risk men having multiple sex partners.

The media campaign was consisted of a series of PSAs named as 1) Riddle, 2) Kabaddi, 3) Ringtone and 4) Dog. The first two PSAs were designed to promote to talk about condoms. In first PSA - Riddle, the audience has to answer a riddle, whose answer was condom and in second PSA - Kabaddi (*Kabaddi* is a contact sport that originated in *ancient* India; in which the player chants a word 'Kabaddi'); the audience has to chant a word 'condom' instead of 'Kabaddi'. However, these PSAs contained the starting elements like '*Jo bola wahi Sikander*' (The one who spoke is a winner), '*Hum mard nahi bolenge to aur kon bolega*' (We masculine men will not speak, then who will) and '*Mard bano khul ke baat karo*' (Be a masculine man and speak up openly) to

promote to talk about the condoms. The remaining two PSAs; 'Ringtone' and 'Dog' were designed to change the social norms around condoms by adding the starting elements as '*Jo samja wohi sikandar*' (The one who understood is a winner), '*Condom matlab samajdhari*' (Condom means responsibility) and '*Samajhdaar log condom se nahin sharmate*' (Responsible men do not shy from Condom). The third PSA – Ringtone was consisted of a unique cell phone ringtone – condom and last PSA – Dog was featured of a woman who called a dog by his name 'condom'. The media campaign was broadcasted in four phases in 2007 and 2008.

Sampling design and eligibility

A multi-stage systematic random sampling approach was adopted and an eligible sample of 7,334 respondents was selected for the face to face interview across the study states; which had covered TV non-viewer, TV viewer – non-cable and satellite TV (non c and s) and TV viewer – cable and satellite TV (c and s). The eligibility criteria for inclusion were men aged between 15-49 years, and who had heard of condoms. Personal interviews were conducted by trained, multilingual investigators in private locations or at workplaces. Verbal consent was obtained from all respondents.

Study sample

Due to varying levels of the risk among the men (i.e., unmarried and reported never had sex, monogamous married men and high-risk men – married, but having multiple partner and unmarried but reported having sex), the sub-sample of monogamous married men was analyzed. The monogamy among married men was defined as those married men who had only one sexual partner (i.e., wife). The rationale of analyzing this sub-sample was whether the perceptions about condoms and condom use in a marital relationship enhanced or not after the campaign exposure and to study the role of demographics among these low-risk individuals.

Campaign exposure

The campaign exposure was defined as those who had heard or seen the advertisement about these four PSAs in last 12 months. For each PSA, the story board of PSA was shown and asked the questions about the exposure of PSA to respondent. The questions were about the PSAs' main slogan and messages. The rationale behind showing the story board was to ensure the correct exposure of the campaign, to avoid the overlap with another campaign running in the field or advertised in the media and to measure the true effect of the BBC WST condom normalization campaign.

Measures

Socio-demographic measures

Socio-demographic measures included in this study are age (age-bands: 15–24 years, 25–35 years and 36–49 years); educational attainment (illiterate, primary school, secondary school, higher secondary school, above the higher secondary school); current marital status (unmarried, married and other); occupational status (student/unemployed, unskilled labor, skilled labor, petty/businessman, employed, agricultural owner and others). To stratify the analysis by age and socio-economic status (SES), the age-bands were re-classified into two categories – age less than or equal to 35 years (≤ 35 years) and age greater than 35 years (> 35 years), and educational attainment and occupation was combined to create a composite variable of SES with two categories: unemployed and less educated (poor SES) and employed and better educated (better SES).

Condom attitudinal characteristics

Discussion about condom: The discussion about condom in life was assessed using the item "Have you ever discussed condoms with anyone?" The respondents were further asked about with whom they discussed condoms positively or negatively on a four point scale: 1 – very negatively, 2 – somewhat negatively, 3 – somewhat positively, 4 – very positively. Ten different types of persons with whom they discussed condoms included were female friend/girlfriends, wife, fiancée, relative, neighbor, working colleague, someone you met casually, commercial sex worker, male friend and shopkeeper/pharmacist/chemist. The ratings were then summed across the persons to yield a final score ranging from 10 (negative discussion about condom) to 40 (positive discussion about condom) for each respondent. The low score indicates negative discussion and high score indicates the positive discussion. The median was used to create the cut-off to define negative and positive discussion about the condoms for each respondent.

Discussion with others about condom and its use: The discussion with other persons (ten different type of persons as mentioned above) about condom was assessed using a 4-point scale: 1 – totally wrong to talk about condoms, 2 – somewhat wrong to talk about condoms, 3 – somewhat okay to talk about condoms, 4 – totally okay to talk about condoms. Similarly, the discussion with other persons about condom use was assessed using a four point scale: 1 – feels very strongly that I should not use condoms, 2 – feels somewhat strongly that I should not use condoms, 3 – feels somewhat strongly that I should use condoms, 4 – feels very strongly that I should use condoms. The ratings were then summed across the persons to yield a final score ranging from 10 – 40 for each respondent for both the attitudinal characteristics. The median was used to create the cut-off to define discussion with others about condoms and its use for each respondent.

Caring attitude of others about condom use: The caring attitude of other persons (ten different type of persons as mentioned above) towards condom use was assessed using a 4-point scale: 1 – I do not care at all, 2 – I do not care to some extent, 3 – I care to some extent, 4 – I care very much. The ratings were added for all persons to create a final score ranging from 10 (not caring) to 40 (caring). To devise a cut-off, the median was used to define caring attitude towards condom use.

Behavioral intention towards condoms: A behavioral intention of other persons (ten different type of persons as mentioned above) towards condom was assessed using a 4-point scale ranging from 1 (very unlikely) to 4 (very likely) for each person. The ratings for all persons summed up to yield the final score with a range of 10 to 40. A higher score indicates the positive behavioral intention; whereas a low score indicates the negative behavioral intention about condoms. In order to devise cut-off, the median was used to create, define positive and negative behavioral intention.

Likelihood to discuss and seek information about condom: The likelihood to discuss and seek information about condom was assessed using a 4-point scale ranging from 1 (very unlikely) to 4 (very likely) assessed using the item "How likely are you to discuss condoms with your friends and to seek information on condoms from someone or somewhere in the near future?"

Last time purchase of condom and extent of difficulty in purchasing condoms: The questions on purchase of condom and extent of difficulty of purchasing condom were also asked the respondents. The extent of difficulty of purchasing condom was measured using the item "How difficult or easy, according to you, is asking for a condom from a shopkeeper?" (Very difficult, somewhat difficult, somewhat

easy, very easy). The categories of this item were re-categorized as '0 – difficult' and '1 – easy'.

Attitude about condoms: The attitude about condoms was assessed using the nine items on a 4-point scale with 1 – strongly disagree, 2 – somewhat disagree, 3 – somewhat agree, 4 – strongly agree. The 9-items covered the items like “It is a healthy habit to use condoms”, “When a man is with a commercial sex worker, he should use condoms” and “Condom allows you to enjoy sex without any worry”. The Cronbach’s alpha for this scale was 0.49. The 9-items were added to yield a final score ranging from 4 (strongly disagree) to 36 (strongly agree). To devise the cut-off, the median was used to define positive and negative attitude about condoms.

Self-efficacy about condoms: The self-efficacy about condoms was assessed using the 4-point scale: 1 – strongly disagree, 2 – somewhat disagree, 3 – somewhat agree, 4 – strongly agree. The 5-item self-efficacy covered the items like “I feel confident in my ability to discuss condoms with my friends without feeling embarrassed” and “I feel confident that I could purchase condoms without feeling embarrassed”. The Cronbach’s alpha for self-efficacy scale was 0.65. The 5-items were summed and a cut-off was devised using median to define low and high self-efficacy about condoms.

Condom use behaviors: The questions on consistent condom use in past 12 months and last time condom use were asked to the respondent. The consistent condom use was defined as the use of a condom every time that the respondent had sex with any partner, though we are analyzing the sample of married men to estimate the proportion of consistent condom users.

Statistical Analysis

Calculation of proportions and chi-square tests were carried out to detect differences in condom attitudes, behavioral intention characteristics and condom use behavior by campaign exposure among sub-sampled married men. The adjusted odds ratios (AORs) were used

to measure the strength of association between campaign exposure and condom attitudinal and behavior intentional characteristics and condom use behavior using logistic regression models and adjusting for confounding variables. The analysis was stratified by age and socio-economic status. All statistical analyses were conducted using STATA 11.2.

Results

Sample characteristics

Of the sub-sampled population of married men, more than half (55%) were younger (≤ 35 years), attained up to secondary school (53%), were employed and earning (75%) with a higher proportion in Karnataka (89%) (Table 1). More than three-fifths of married men (64%) were exposed to the communication campaign about condom. Despite of having better exposure to the campaign, less than half had positive attitude (46%) and high self-efficacy (45%) of condom use (Table 2). More than two-thirds (67%) of the married men had ever discussed about condom in their life and less than half (43%) had positively discussed about condoms. Both were reported with lower percentages in Karnataka (39% and 25%, respectively) despite of having better employed and skilled individuals, and better exposure to the communication campaign (57%) compared to other states. When married men discussed about condom and condom use with their male/female peers, kin, working colleagues and commercial sex worker, more than half (56%) and almost half of them (49%) felt positive about condom and its use respectively. More than three-fifths (61%) of married men showed caring attitude towards condom use with highest in Andhra Pradesh (83%) and lowest in Maharashtra (28%). Moreover, the likelihood of discussing and seeking information about condom were 62% and 56% respectively. Nevertheless, more than three-fifths of married men were likely to discuss about condoms (62%). Less than one-third (32%) of married men had high behavioural intention to use condoms in the next sexual act with a higher proportion reported in Maharashtra (46%). However, less than

Socio-Demographic Characteristics	Total (N=2502)	Andhra Pradesh (N=520)	Karnataka (N=722)	Maharashtra (N=494)	Tamil Nadu (N=766)
	% (n)	% (n)	% (n)	% (n)	% (n)
Age					
15–24	3.8 (93)	4.7 (25)	3.7 (28)	4.6 (25)	2.1 (15)
25–35	51.4 (1270)	52.0 (268)	48.0 (342)	58.3 (287)	48.2 (373)
36–49	44.8 (1139)	43.3 (227)	48.3 (352)	37.1 (182)	49.8 (378)
Education					
Illiterate	10.5 (238)	14.3 (72)	12.8 (80)	7.6 (38)	6.3 (48)
Primary school	9.4 (227)	8.7 (42)	12.2 (80)	10.5 (51)	6.9 (54)
Secondary school	32.6 (815)	28.5 (143)	28.7 (202)	36.8 (181)	37.7 (289)
Higher secondary	33.4 (886)	25.5 (132)	35.8 (273)	34.5 (173)	40.0 (308)
Above higher secondary	14.1 (336)	23 (131)	10.5 (87)	10.6 (51)	9.2 (67)
Occupation					
Student / unemployed	0.7 (16)	0.5 (3)	1.0 (7)	1.1 (5)	0.2 (1)
Unskilled labour	24.1 (629)	15.6 (82)	10.5 (72)	28.5 (149)	42.3 (326)
Skilled labour	27.2 (659)	29.4 (153)	23.0 (164)	26.3 (116)	29.0 (226)
Petty / business trade	13.1 (346)	10.8 (64)	14.7 (116)	18.9 (92)	9.8 (74)
Employed	10.6 (274)	13.2 (80)	12.7 (106)	9.9 (42)	6.2 (46)
Agricultural worker/owner	21.0 (491)	27.4 (122)	35.5 (237)	14.2 (85)	6.2 (47)
Others	3.4 (87)	3.1 (16)	2.6 (20)	1.1 (5)	6.4 (46)

Note: The numbers in parenthesis are un-weighted count, whereas percentages are weighted

Table 1: Percentage distribution of socio-demographic characteristics of married men by state, India, 2009.

Condom Attitudinal characteristics	Total (N=2502)	Andhra Pradesh (N=520)	Karnataka (N=722)	Maharashtra (N=494)	Tamil Nadu (N=766)
	% (n)	% (n)	% (n)	% (n)	% (n)
Ever discussed about condoms	66.7 (1639)	74.1 (375)	39.1 (291)	57.5 (285)	89.3 (688)
Positive/Negative discussion about condom (N=1639): Positive	42.5 (679)	46.3 (168)	24.9 (68)	30.7 (89)	51.5 (354)
Feelings of others when respondent discussed about condom: Positive	56.3 (1340)	71.5 (359)	52.8 (377)	39.0 (184)	54.8 (420)
Feelings of others when respondent used condom: Positive	49.0 (1229)	42.7 (207)	54.3 (389)	42.7 (199)	56.8 (434)
Caring attitude towards others about condom usage	61.1 (1455)	83.4 (428)	61.1 (435)	27.5 (128)	61.0 (464)
Behavioral intention towards condom use during next sexual act: High	31.8 (813)	23 (121)	28.1 (203)	46.3 (228)	34.1 (261)
Likelihood to discuss about condom (N=2,467)					
Unlikely to discuss	38.0 (850)	63.6 (332)	39.9 (274)	20.8 (99)	19.4 (145)
Likely to discuss	62.0 (1617)	36.4 (184)	60.1 (429)	79.2 (386)	80.6 (618)
Likelihood to seek information about condom (N=2,445)					
Unlikely to seek information	44.0 (989)	70.9 (372)	42.5 (292)	22.0 (103)	29.9 (222)
Likely to seek information	56.0 (1456)	29.1 (144)	57.5 (402)	78.0 (376)	70.2 (534)
Last time purchase by self (Base: Those had sex last time; N=305)	74.2 (220)	89.0 (44)	52.5 (36)	74.3 (82)	74.0 (58)
Extent of difficulty /ease in purchasing condom (N=2,451): Difficult	54.0 (1392)	52.0 (273)	67.4 (479)	14.5 (73)	74.7 (567)
Attitude towards condom: Positive	45.8 (1134)	68.1 (347)	40.5 (280)	68.5 (331)	23.5 (176)
Self-efficacy: High	45.1 (1087)	44.0 (222)	33.0 (227)	61.0 (300)	44.1 (338)
Exposure to campaign	63.8 (1584)	73.5 (378)	57.3 (439)	60.9 (298)	60.1 (469)

Note: The numbers in parenthesis are un-weighted count, whereas percentages are weighted

Table 2: Percent distribution of condom attitudinal characteristics of married men by state, India, 2009.

Condom attitudinal characteristics and condom use	Age Band: <=35 years, (N=1363)			Age Band: 35+ years, (N=1139)		
	Weighted %		AOR (95% CI) (p-value)	Weighted %		AOR (95% CI) (p-value)
	Exposed	Unexposed		Exposed	Unexposed	
Condom attitudinal characteristics						
Ever discussed about condoms	78.5	52.5	3.01 (1.00-9.24) (p=0.05)	73.6	47.1	2.86 (0.74-10.98) (p=0.07)
Discussion about condoms: Positive	42.9	39.6	1.06 (0.45-2.53) (p=0.77)	43.3	42.4	0.98 (0.46-2.09) (p=0.92)
Feelings of others when respondent discussed about condom: Positive	61.8	50.6	1.45 (0.58-3.65) (p=0.23)	57.3	48.9	1.32 (0.73-2.38) (p=0.17)
Feelings of others when respondent used condom: Positive	51.7	46.7	1.14 (0.59-2.20) (p=0.86)	49.4	45.0	1.13 (0.69-1.86) (p=0.38)
Caring attitude towards others about condom usage	62.8	56.4	1.27 (0.40-4.11) (p=0.46)	64.1	57.6	1.27 (1.14-1.41) (p=0.010)
Behavioral intention towards condom use during next sexual act : High	40.3	31.7	1.32 (0.59-2.95) (p=0.28)	27.3	21.3	1.29 (0.71-2.35) (p=0.21)
Likelihood to discuss about condom	66.9	63.3	1.09 (0.76-1.58) (p=0.41)	55.8	59.5	0.85 (0.55-1.30) (p=0.24)
Likelihood to seek information about condom	61.4	56.9	1.16 (0.82-1.64) (p=0.21)	50.1	52.6	0.91 (0.71 - 1.18) (p=0.27)
Last time purchase by self	73.6	68.7	1.25 (0.75-2.09) (p=0.19)	76.7	82.1	0.80 (0.27-2.37) (p=0.48)
Extent of difficulty /ease in purchasing condom: Easy	56.3	38.1	1.97 (1.37-2.82) (p=0.015)	48.0	29.8	2.04 (1.53-2.72) (p=0.009)
Attitude towards condom	48.2	44.3	1.16 (0.70-1.92) (p=0.34)	46.6	41.3	1.17 (0.63-2.18) (p=0.38)
Self-efficacy about condom: High	51.3	41.9	1.38 (0.57-3.35) (p=0.25)	43.7	37.5	1.23 (1.05-1.45) (p=0.030)
Condom use behavior						
Consistent condom use	18.6	19.1	0.95 (0.40-2.27) (p=0.85)	16.8	19.1	0.99 (0.67-1.48) (p=0.98)
Last time condom use	83.8	74.3	1.85 (1.09-3.09) (p=0.037)	75.5	72.5	1.02 (0.35-2.92) (p=0.94)

Note: #Reference category; AOR: Adjusted Odds Ratio; 95% CI: 95% Confidence Interval; Adjusted for educational attainment, occupation, state

Table 3: Impact of campaign exposure on condom attitudinal characteristics and condom use behaviors among married men using multivariate logistic regression modelling stratified by age bands, India.

half (46%) of respondents felt easiness in purchasing condoms among the total sample of married men.

Impact of campaign exposure on condom attitudinal characteristics and condom use behavior

Impact of campaign exposure - stratified by age: Among the younger married men (<=35 years), ever discussed about condoms (79% vs. 53%, AOR: 3.0, 95% CI: 1.0-9.2) and easiness in purchasing condom (56% vs. 38%, AOR: 2.0, 95% CI: 1.4-2.8) were associated with the communication campaign exposure. However, among the older

married men (35+ years), campaign exposure was associated with caring attitude towards others about condom use (64% vs. 58%, AOR: 1.3, 95% CI: 1.1-1.4), easiness in purchasing condom (48% vs. 30%, AOR: 2.0, 95% CI: 1.5-2.7) and high self-efficacy about condom (44% vs. 38%, AOR: 1.2, 95% CI: 1.1 - 1.5). However, campaign exposure was not associated with a positive discussion about condoms, behavioral intention towards condom use and attitude towards condom in both the groups of younger as well as older married men. The odds of last time condom use (84% vs. 74%, AOR: 1.8, 95% CI: 1.1-3.1) was higher among exposed men than unexposed men in younger married men. In

Condom attitudinal characteristics and condom use	Poor SES : Up to secondary school & Unskilled/ Unemployed; (N=466)			Better SES : Above secondary school & Skilled/ Employed/Business; (N=1043)		
	Weighted %		AOR (95% CI) (p-value)	Weighted %		AOR (95% CI) (p-value)
	Exposed	Unexposed		Exposed	Unexposed	
Condom attitudinal characteristics						
Ever discussed about condoms	76.9	55.1	2.57 (0.79-8.25) (p=0.07)	81.7	58.4	3.15 (1.67-5.98) (p=0.016)
Discussion about condoms: Positive	43.9	27.1	2.13 (0.40-11.28) (p=0.19)	46.1	46.7	0.99 (0.60-1.64) (p=0.99)
Feelings of others when respondent discussed about condom: Positive	52.5	39.6	1.67 (0.54-5.21) (p=0.19)	64.6	61.6	1.11 (0.68-1.82) (p=0.46)
Feelings of others when respondent used condom: Positive	42.2	37.3	1.26 (0.35-4.48) (p=0.52)	56.1	52.3	1.14 (0.72-1.81) (p=0.34)
Caring attitude towards others about condom usage	56.1	48.2	1.39 (0.47-4.14) (p=0.32)	66.4	62.1	1.22 (0.71-2.13) (p=0.25)
Behavioral intention towards condom use during next sexual act : High	28.8	24.0	1.27 (0.69-2.32) (p=0.23)	38.4	36.4	1.01 (0.57-1.76) (p=0.95)
Likelihood to discuss about condom	62.4	69.9	0.71 (0.46-1.09) (p=0.07)	63.6	61.3	1.05 (0.71-1.55) (p=0.64)
Likelihood to seek information about condom	59.9	65.5	0.77 (0.28-2.15) (p=0.39)	57.3	49.3	1.33 (1.18-1.50) (p=0.010)
Last time purchase by self	77.1	49.3	3.47 (0.66-18.36) (p=0.08)	72.8	80.8	0.70 (0.24-1.98) (p=0.24)
Extent of difficulty /ease in purchasing condom: Easy	45.1	28.6	2.04 (0.64-6.56) (p=0.12)	56.4	43.7	1.63 (1.10-2.41) (p=0.034)
Attitude towards condom: High	42.8	31.1	1.63 (1.14-2.31) (p=0.03)	58.8	49.9	1.24 (1.14-1.33) (p=0.008)
Self-efficacy about condom: High	41.8	42.9	0.96 (0.28-3.31) (p=0.91)	51.0	39.8	1.53 (1.32-1.77) (p=0.006)
Condom use behavior						
Consistent condom use	20.0	29.8	0.56 (0.33-0.96) (p=0.04)	17.8	16.1	1.18 (0.60-2.33) (p=0.40)
Last time condom use	77.2	79.9	0.89 (0.17-4.46) (p=0.78)	83.3	71.3	2.15 (1.29-3.56) (p=0.023)

Note: #Reference category; AOR: Adjusted Odds Ratio; 95% CI: 95% Confidence Interval; Controlled for educational attainment, occupation, state

Table 4: Impact of campaign exposure on condom attitudinal characteristics and condom use behaviors among married men using multivariate logistic regression modelling stratified by socio-economic status, India.

addition, no association was found between campaign exposure and condom use behaviors in older married men (Table 3).

Impact of campaign exposure - stratified by socio-economic status (SES): Among the poorer socio-economic status married men, odds of positive attitude towards condom (43% vs. 31%, AOR: 1.6, 95% CI: 1.1–2.3) was higher among those exposed to campaign as compared to their counterparts (Table 4). Odds of ever discussing about condoms (82% vs. 58%, AOR: 3.2, 95% CI: 1.7–5.9), likelihood of seeking information about condoms (57% vs. 49%, AOR: 1.3, 95% CI: 1.2–1.5), positive attitude towards condoms (59% vs. 50%, AOR: 1.2, 95% CI: 1.1–1.3), high self-efficacy about condoms (51% vs. 40%, AOR: 1.5, 95% CI: 1.3–1.8) and easiness in purchasing of condoms (56% vs. 44%, AOR: 1.6, 95% CI: 1.1–2.4) were significantly higher among exposed married men compared to their counterparts, i.e. married men having better socio-economic status. However, the consistent condom use (20% vs. 30%, AOR=0.6, 95% CI: 0.3–0.9) was less likely among campaign exposed married men as compared to unexposed married men having poor socio-economic status. In contrast, odds of last time condom use (83% vs. 71%, AOR: 2.2, 95% CI: 1.3–3.6) was significantly higher among campaign exposed married men as compared to unexposed married men having better socio-economic status.

Discussion

Though mass-media campaign is considered as a social marketing mechanism to change the health behavior, values and attitudes and have a substantial proven impact on population level due to its wider reach, very few studies have documented its impact by demographic and socio-economic status. This cross-sectional study provides the critical evidence on the impact of mass-media campaign exposure on condom attitudinal characteristics and condom use behaviors. The findings

are attributed to the effectiveness of proactive mass-media campaigns for normalizing condom discussion and are largely arbitrated by age, education and employment variables. The findings from the study shows that among the different demographic characteristics, age is significantly associated with effectiveness of campaign exposure to promote the condom discussion, attitudes towards condom and condom use behavior. The stratified analysis by age suggests that among younger married men (age≤35 years), those exposed to the campaign, were more likely to ever discuss about condoms, and usage of condom at last sexual act as compared to unexposed married men. However, among the older married men (35+ years), campaign exposure shows the substantial positive impact on caring attitude towards others (possibly for their spouses) and high self-efficacy for condom use among married men. The similar findings are also observed among the Kenyan population in east Africa, advocating that exposure to branded messages are associated with higher personal efficacy and greater belief in condom use efficacy [33]. Moreover, the similar findings of the effect of mass-media campaign on condom usage are also reported in other studies [34–37].

Among the older married men, the caring attitude (towards condoms) among others as an effect of campaign exposure is also observed during this study. The plausible reason could be to prevent the sexually transmitted infections/diseases and to avoid the unintended pregnancy among them. Another reason could be that the attitudinal shift regarding the acceptability of condom use within marriage. Similar findings were observed in a study of married men and women in rural Malawi which suggests that attitudes about and use of condoms are susceptible to change and that both marital status and perceptions of risk are important influences on condom use [38]. A study among high risk populations of mobile female sex workers also shows that the critical evidence of an association between high levels of general media

exposure and low levels of perceived HIV risk, which in turn, can act as a caring attitude towards themselves (as well as clients of sex workers) and personal efficacy towards condom use [39].

In addition, another composite variable of education and employment, i.e., socio-economic status is also significantly associated with effectiveness of campaign exposure on condom attitudinal and condom usage variables. The sub-group analysis of socio-economic status suggests that among married men having 'poor' socio-economic status, campaign exposure was significantly associated with high attitude towards condom use, but less consistent with condom use. This finding proved the effectiveness of campaign exposure in terms of disseminating the information about condoms and its usage to the less educated married men and simultaneously also relates the economic condition as a barrier for non-use of condoms consistently due to cost factor. The similar finding was validated by Cohen et al. in his study, attributing cost as a barrier to condom use [40]. In addition, a study among youth in urban Kenya suggests that both household and individual level measures of socioeconomic status are important correlates of condom use and that individual economic resources plays a crucial role in negotiations over the highest level of usage [41]. Similarly, in other studies of female sex workers and truckers, it shows that the poor financial status is inversely associated with consistent condom use [42,43].

On the contrary, among married men having 'better' socio-economic status, campaign exposure is significantly associated with discussion and 'high' likelihood of seeking information about the condoms, 'high' self-efficacy and attitude towards condoms and 'ease' in purchasing condoms. A similar finding has been observed in a study conducted in Tanzania and it illustrates that mass media campaign exposure significantly increases the likelihood of discussing, using and intentions to use condoms among men [29]. The findings from another study among the Kenyan population in East Africa also support the findings that show that mass-media campaign exposure increases the self-efficacy as well as attitude towards condom usage and reduction in difficulty in purchasing the condom [33]. Though campaign exposure changes the attitudinal behavior about condom, the crucial findings of our study are established among the married men having 'better' socio-economic status. This in turn suggests that having 'better' socio-economic status enhances the likelihood of purchasing the condoms (despite of cost factor) and further increases the intention to use the condoms. Since, educational attainment, as a part and measure of socio-economic status, facilitate to seek more accurate information and knowledge through the mass-media campaigns and also provide individuals with greater access to economic resources to purchase the condoms. Further, the last time condom use is also significantly associated with campaign exposure and suggests that those exposed to campaign exposure are more likely to use condoms at last sexual act as compared to their counterparts. These findings are as far with the other meta-analysis of mass-media delivered HIV prevention interventions with further evidence of greater campaign exposure increases transmission of knowledge to a greater extent among the study population [44]. Although, our study has proved the association of exposure of mass-media campaigns and condom usage, it should be noted that the finding is established among the population having 'better' socio-economic status. This critical evidence facilitates the relationship between socio-economic status and condom usage; which is also well supported by other studies, which show that higher level of household wealth and individual level socio-economic status are significantly associated with consistent condom use [45-48]. Though, household wealth may not reflect the level of resources available to

individual, it influences the decisions about sexual behavior, especially, condom negotiation with a partner. Findings from a study by Gillespie et al. show that the measures of individual socio-economic status have been generally restricted to educational attainment and its linkages with consistent condom use [49]. Thus, campaign exposure with 'better' socio-economic status plays prominent role in promoting and normalization of condoms and safer sexual practices.

However, the findings of the study should be read with certain limitations. First, the study design was quasi-experimental rather than completely experimental controlled design, so, it is difficult to make strong casual claims about the campaign effects. For such campaigns where experimental control cannot be maintained, a longitudinal panel design would be preferable to measure the true causal effect. Second, behavior change communication can also be attributed to other micro level strategies such as peer led interventions or there might be other mass-media interventions (through national channels) running simultaneously in the field and it would be difficult to make claims about the true effect of the BBC WST campaign. Third, the study relies on the behavioral intentions rather than actual behavior, as final outcome and this need to be considered while interpreting the results. Lastly, the study collected the information using self-reported responses and which might be unclear about social desirability bias. There may be under-reporting by respondents for the reason who does not wish to acknowledge behavior which could be considered culturally unacceptable and over-reporting of safer sex behaviors due to rigorous effort regarding HIV/AIDS prevention and the existence of multiple campaigns, respondents may also feel pressured to provide responses that campaign staff finds desirable.

Conclusion

As mass-media campaigns play a crucial role in changing the behavior, attitudes, intentions and perceptions along with shaping and infusing cultural values, this study provides critical evidence on the effectiveness of mass media campaigns on attitude and self-efficacy towards condom, reduction in levels of embarrassments of purchasing condoms and its usage among married men. Most importantly, the study supports the effectiveness of campaign exposure on attitude towards condom as a tool to care about others and high self-efficacy about condoms; especially among the older married men. Further, it highlights the importance of socio-economic status in seeking the information, attitude and self-efficacy about condoms and shaping safer sexual practices, particularly among married men having 'better' socio-economic status. This, in turn, makes an important contention that linkage between mass-media campaigns and promotion of condom normalization through discussion, seeking information and intention to use and its usage goes beyond as a behavior change strategy to include dimensions of individual economic status and educational attainment. These results have implication for policies and programs and provide effective strategies of increasing the access to free condoms and providing the educational and work opportunities and further recommends the comprehensive mass-media campaign, which could be targeted married men by focusing on their demographic and employment variables.

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