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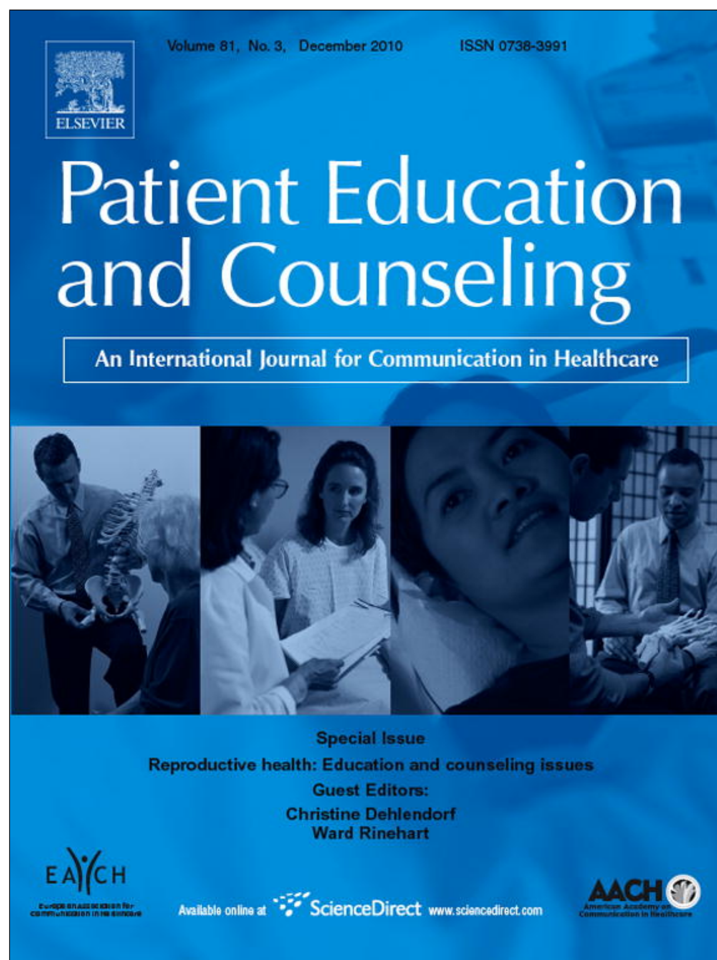

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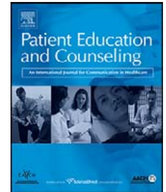

The Ghana vasectomy initiative: Facilitating client–provider communication on no-scalpel vasectomy☆

Laura Subramanian [a,*], Cindi Cisek [b], Nicholas Kanlisi [c], John M. Pile [a]

[a] EngenderHealth, New York, NY 10001, USA
[b] Meridian Group International, Inc., Washington, DC, USA
[c] Ghana R3M Project, EngenderHealth, Accra, Ghana

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ABSTRACT

Objective: In 2003–2004 and 2007–2008, an initiative was implemented to improve client and provider knowledge and acceptance of no-scalpel vasectomy (NSV) in Ghana.
Methods: At eight facilities, physicians were trained in NSV and staff received training in the provision of "male-friendly" services. Health promotion activities provided NSV information to prospective clients. Client–provider communication was assessed via a mystery client study ($n = 6$). Knowledge and acceptance of NSV among potential clients were assessed with baseline and follow-up surveys (each $n = 200$) in 2003–2004 and three follow-up panel surveys in 2008 (each $n = 240$).
Results: Trained health staff exhibited improved attitudes and knowledge regarding NSV. Mystery clients reported receiving accurate, nonjudgmental NSV counseling. Awareness of NSV among panel respondents doubled from 31% to 59% in 2003–2004 and remained high (44%) in 2008. The proportion of men who would consider NSV increased from 10% to 19% in 2007–2008. NSV procedures increased three-fold from 2003 ($n = 26$) to 2004 ($n = 83$) and 2007 ($n = 18$) to 2008 ($n = 53$).
Conclusion: Provider training in client-centered services, coupled with targeted health promotion, improved client and provider knowledge and acceptance of NSV in an African context.
Practice implications: Complementary, sustained provider training and health promotion are needed to maintain NSV service quality and acceptance.

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1. Introduction

Worldwide, millions of couples use contraception to plan their family size [1]. Multiple factors influence the decision to use a contraceptive method, including the dynamics between health providers and clients in service delivery settings. Contraceptive counseling is most effective when it involves client-centered communication; that is, when the provider responds to the client's needs/concerns, respects the client's decision-making autonomy, and offers accurate information to facilitate the discussion [2,3]. This is particularly true for vasectomy, a male sterilization method that remains one of the least known and used contraceptive methods, especially in Africa. Approximately 232 million couples around the world use female sterilization, but only 32 million couples use vasectomy [1], despite its being safer, simpler, and less expensive than and equally as effective as female sterilization [4–6].

Many factors discourage men from having a vasectomy: Myths and misperceptions and a lack of knowledge about the method; health provider biases; organization of family planning services around maternal and child health needs; and cultural taboos regarding reproductive health services for men [6–8]. In Ghana, all of these factors contribute to a low vasectomy prevalence of <0.1%. Knowledge of at least one modern contraceptive method is nearly universal, but fewer than half of married Ghanaian men and women know of vasectomy [9]. Even when men and women are aware of vasectomy, the information they have is frequently incomplete or incorrect. Qualitative research in Ghana indicates that while current vasectomy users are very satisfied with the method, nonusers have negative attitudes and misconceptions about it. The primary misconception is that vasectomy is castration; in fact, the term for vasectomy translates as "removal of testicles" in some Ghanaian dialects [10]. Other misconceptions include that vasectomy causes decreased libido, poor sexual performance, decreased strength, or loss of manliness [11]. Many men fear the vasectomy procedure despite the advent of the no-scalpel technique of isolating the vas, which leads to less pain,

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* Corresponding author at: RESPOND Project, EngenderHealth, 440 Ninth Avenue, NY, NY 10001, USA. Tel.: +1 212 561 8095; fax: +1 212 561 8067.
E-mail address: laura.sita@post.harvard.edu (L. Subramanian).

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shorter operating time, and fewer complications than conventional vasectomy [12].

Health providers often have similar misconceptions and attitudes about vasectomy. Provider biases and misunderstandings regarding medical eligibility for vasectomy and about the actual procedure often contribute to the failure to offer vasectomy services [13,14] and may actually exacerbate false rumors about the method [15]. Inaccurate or incomplete knowledge not only impacts health providers' ability to counsel clients about vasectomy, but also affects clients' willingness to consider vasectomy. Consequently, knowledge and attitudes among both clients and providers are key determinants of effective client–provider communication about vasectomy and, ultimately, the decision to have the procedure [6].

Prior evidence indicates that quality improvement for client-centered vasectomy services can improve acceptance of vasectomy among providers and clients in African settings [16,17], and coupling quality services with targeted health promotion may enhance vasectomy acceptance and uptake [18]. To address the multiple factors that influence client–provider communication about vasectomy in Ghana, the Ghana Health Service collaborated with EngenderHealth, Meridian Group International, and the U.S. Agency for International Development (USAID) on an initiative to improve knowledge, acceptance, and use of no-scalpel vasectomy (NSV). The initiative aimed to assess the effect of an integrated supply-demand approach on client–provider communication about vasectomy, client knowledge and awareness of vasectomy, and uptake of NSV services.

2. Methods

In 2003–2004, interventions were conducted at seven urban facilities in the Accra and Kumasi regions of Ghana. The initiative utilized an integrated supply–demand approach of training health staff in client-centered services and training physicians in NSV, complemented by health promotion in facility catchment areas to provide accurate information on NSV and encourage interested clients to seek services. Based on initial project successes and the Adstock theory of repeated media exposure for consumer behavior change [19], additional funding was secured in 2007–2008 to revitalize the NSV initiative in Accra and Kumasi and expand to Takoradi region. The 2007–2008 revitalization focused on repeated bursts of health promotion activities and refresher trainings for health staff. A pre/post intervention study design was utilized in 2004 and again in 2008 to assess the effects of the NSV initiative on client and provider knowledge and acceptance of NSV.

2.1. Intervention

2.1.1. Whole-site training for client-centered services

The key intervention for improving provider–client communication was a whole-site training approach for client-centered "male-friendly" services. This approach was designed to give health providers the skills and confidence to counsel men on NSV and sensitize staff at multiple levels to create a welcoming environment for men. The whole-site trainings included sessions on the NSV procedure, counseling and referral skills, client satisfaction and informed choice, fostering and maintaining high-quality care, and increasing engagement of all staff in meeting men's reproductive health needs. Four trainings of four days each were conducted in Accra and Kumasi (25 participants) in 2003 and in Takoradi (30 participants) in 2007. Participants represented all levels of facility staff, including physicians, nurses, midwives, community health workers, health educators, receptionists, cleaning staff, and guards.

The objectives of the whole-site trainings were to improve staff's knowledge of men's reproductive health issues (and of NSV, specifically), improve communication with clients regarding vasectomy, and raise awareness of how staff attitudes affect clients' access to services. Participants discussed barriers to client–provider communication and strategies for responding to common issues in counseling male clients. Through role-play techniques, participants practiced communication skills and adapted counseling strategies [20] to their own style and context. Each facility developed an action plan for providing vasectomy services. In 2004, participants received refresher orientations in male-friendly services to coincide with the communication campaign launch. In 2008, one-day orientations were conducted at one facility in Accra (38 participants) and at two facilities in Kumasi (34 and 38 participants, respectively) to coincide with the relaunch of health promotion activities.

2.1.2. Clinical training in NSV

In 2003, seven physicians from Accra and Kumasi received training in NSV at Maulana Azad Medical College, an international NSV training center in New Delhi. In 2007, seven additional physicians from facilities in Accra, Kumasi, and Takoradi received NSV training at the same facility. India was selected as a training site so that trainees would have a sufficient caseload to ensure they could develop competency in the procedure.

2.1.3. Follow-up and monitoring

Following the whole-site trainings and NSV clinical trainings, EngenderHealth conducted periodic monitoring visits in Accra, Kumasi, and Takoradi to assess the quality of service provision and provide supervision as needed. Trainee performances in counseling and recordkeeping were assessed on a quarterly basis, with semi-annual medical monitoring visits to assess surgical skills, infection prevention practices, etc. Findings were addressed with facilities as well as with district or regional health administrations.

2.1.4. Health promotion activities for NSV

The health promotion component was designed to provide clients with accurate information on NSV, address misinformation and concerns, encourage interested clients to seek more information, and advertise the availability of NSV services. The health promotion campaign aimed to facilitate client–provider communication by improving potential clients' knowledge of NSV and by positioning vasectomy as an effective, culturally acceptable family planning option for men. The campaign was targeted to married men ages 35 or older who had at least three children and who did not want more.

Campaign messages (Table 1) were developed based on prior qualitative research identifying myths and negative attitudes about vasectomy in Ghana [10]. This research also found that talking with current vasectomy users was a key element in men's decision-making process, a finding supported by prior research [21,22]. Consequently, a testimonial approach was chosen to convey accurate, positive messages about vasectomy via a satisfied NSV acceptor. Pre-testing of campaign materials indicated that the messages and approach resonated with the target audience. The campaign, entitled "Get a Permanent Smile," featured a satisfied Ghanaian vasectomy acceptor conveying key messages (Table 1) in two 45-s television commercials and two 60-s radio spots. In these media spots, the NSV acceptor expressed his satisfaction with the method, including its ease and convenience and his continued ability to enjoy his relationship with his wife. The campaign encouraged clients to seek more information from the project's telephone hotline (which offered convenient, anonymous information about NSV) or from a facility offering NSV services.

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Table 1
Key message for health promotion activities, 2004 and 2008.

	Knowledge	Attitude	Behavior/Call to action
Key messages	• Vasectomy is for men who are satisfied with the number of children they have • Vasectomy is a minor procedure • Vasectomy is one of the safest ways to prevent pregnancy • Vasectomy does not protect against HIV/AIDS and STDs • Vasectomy will not affect your manhood • Vasectomy is safe • Vasectomy is permanent	• Vasectomy allows you to enjoy sexual intercourse without worry of pregnancy • Vasectomy allows men to express their commitment, love, and respect for their partner	• Encourages men to do a vasectomy "self-assessment." • Talk to a doctor, nurse, or counselor • Vasectomy is offered in the following centers in Accra, Kumasi and Takoradi • For more information, call the vasectomy hotline, 774–854

The "Permanent Smile" television and radio spots aired in intervention areas for several months in 2004 and were repeated in 2008. In 2004, a total of 213 television spots and 322 radio spots were aired in Accra and Kumasi (March–June and September–October). In 2008, 156 TV spots and 124 radio spots were aired in Accra, Kumasi and Takoradi in targeted bursts, e.g., in two intervals (early January–mid February; mid March–late April) separated by an advertising hiatus of six weeks. Information on vasectomy was also disseminated through newspapers and live spots on popular radio stations, and all intervention facilities were provided with NSV posters and brochures.

In 2004, a variety of community outreach activities were also conducted to educate men about vasectomy and to distribute campaign materials. Each facility conducted a "mini-launch" to advertise the availability of vasectomy services and to engage health personnel in increasing the visibility of vasectomy. The community outreach activities were not repeated in 2008, as the second tranche of funding focused on revitalizing the health promotion campaign.

2.2. Assessment methodology and variables of interest

2.2.1. Quality of client–provider communication on NSV

Health staff's knowledge and attitudes toward men's reproductive services, including NSV, were assessed via pre- and post-test questionnaires for the whole-site trainings in 2003. To assess the quality of vasectomy counseling services from the client's perspective, a mystery client study was implemented at six purposively sampled facilities in August 2004. The sample included five intervention facilities and one nonintervention facility with a physician trained in NSV. Each of the facilities was visited by one of the two trained mystery clients, who inquired about vasectomy services. An open-ended guide was used to interview mystery clients immediately after they exited the facilities. Mystery clients were asked about the service providers' receptivity to potential vasectomy clients, about the availability and use of information, education, and communication materials, and about the overall quality of services.

2.2.2. Awareness of, knowledge about, attitudes toward and intention to use vasectomy among potential clients

To assess changes in awareness of, knowledge about, attitudes toward, and intention to use vasectomy among potential clients, a randomized consumer panel survey (pooled cross-sectional methodology) was fielded periodically throughout the 2008 communication campaign. Three waves of research were conducted in Accra, Kumasi, and Takoradi before and after each mass media burst (October 2007, February 2008 and May 2008, respectively). The panel study identified a stratified random sample of households and interviewed 240 respondents (160 men and 80 women, respondent characteristics described in Table 2) for each of the three surveys. The sample size was calculated to detect pre/post intervention differences of 20% in knowledge of NSV and 5% in intention to use NSV at 95% confidence level and 80% power. An earlier panel study was conducted in 2004 among 200 men in Accra only. While these two surveys are not directly comparable due to methodological differences, results of the 2004 survey are also described for discussion purposes.

Table 2
Respondent characteristics for Wave 1,2, and 3 panel surveys (each $n = 240$, 160 men and 80 women), 2007-2008.

	Men ($n = 480$)	Women ($n = 240$)
Age-group		
25–29	24%	25%
30–34	19%	20%
35–39	16%	16%
40–44	15%	14%
45–49	11%	11%
50+	15%	13%
Education[a]		
No education	0%	15%
Primary education	38%	54%
Secondary education	38%	24%
Higher education	21%	7%
Employed full-time outside the home	50%	59%
Region		
Accra	30%	30%
Kumasi	25%	25%
Takoradi	45%	45%

[a] Percentages may not add up to 100% due to missing values.

2.2.3. Uptake of NSV services

To assess changes in the request for and of uptake of NSV services, service statistics from the intervention facilities were compiled from January 2003 to June 2009. The analysis also tracked correlations between increases in NSV uptake compared with the timing of the project interventions.

2.2.4. Data analysis

Data analyses were conducted using SPSS 16.0 for Windows. Frequency tables were used to quantify changes in knowledge, attitudes and intention of health facility staff and panel survey respondents. Pre/post intervention measures for 25 matched pairs of health facility staff were assessed via Wilcoxon signed-rank test. Data from panel survey waves were compared using independent samples t-tests. A p level of 0.05 (95% confidence interval) was considered statistically significant.

3. Results

3.1. Quality of client–provider communication on NSV

3.1.1. Health provider knowledge and attitudes

Following the whole-site training for male-friendly services, facility staff were more receptive to offering men's reproductive

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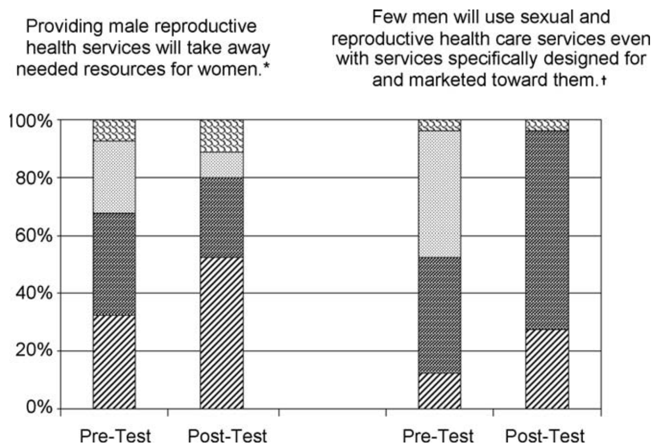

Fig. 1. Changes in health staff attitudes toward men's reproductive health services at intervention facilities, Accra and Kumasi regions, 2003 ($n = 25$). (▨) Strongly disagree; (▩) disagree; (▒) agree; (▧) strongly agree. *p = 0.278; †p = 0.001.

health services, demonstrated improved understanding of male anatomy and fewer misconceptions about vasectomy, expressed greater comfort in talking with men about family planning, and expressed more positive attitudes toward providing reproductive health services for men. Prior to the intervention, nearly one in three staff agreed or strongly agreed that "providing male reproductive health services will take away needed resources for women." After the training, over half strongly disagreed with this statement (Fig. 1). Attitudes toward men's use of sexual and reproductive health services also changed significantly: Nearly half of staff initially agreed or strongly agreed that "Few men will use sexual and reproductive health care services even with services specifically designed for and marketed to them," but nearly all disagreed or strongly disagreed with this statement following training (Fig. 1).

Health providers' understanding of male anatomy and vasectomy improved as a result of the trainings. At baseline, only physicians could correctly identify various male reproductive structures. Following the training, 90% of providers could do so, and the percentage who reported feeling "very capable of answering any questions a male client may have about his anatomy and physiology" rose from 72% to 92%. Facility staff also exhibited a more positive attitude toward vasectomy and a clearer understanding of the procedure. After the training, a significantly higher percentage of staff strongly disagreed with statements equating vasectomy with castration or implying that it caused diminished sexual performance or weight gain (Fig. 2).

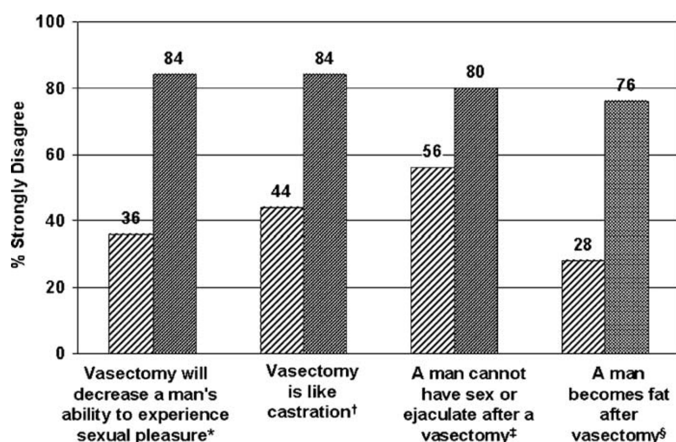

Fig. 2. Changes from pre-test to post-test in the percentage of health staff at intervention facilities strongly disagreeing with statements about vasectomy, Accra and Kumasi regions, 2003 ($n = 25$). (▨) Pre-test; (▩) post-test. *p = 0.092; †p = 0.005; ‡p = 0.046; §p = 0.023.

3.1.2. Quality of counseling on vasectomy

The mystery client study elicited information on the quality of staff's communication with potential NSV clients. Overall, the mystery clients were well received at intervention facilities (the majority of which were tertiary care urban hospitals). Most facilities had clearly visible signs directing potential vasectomy clients where to go for services. When mystery clients approached the main facility entrance, facility personnel (including a janitorial staff person at one facility) were able to provide directions to the family planning clinic in the facility. At three facilities, the mystery clients were received immediately by a provider; at the other facilities, they had to wait an average of 34 min (range 12–55 min) to speak to someone knowledgeable about vasectomy. At the five intervention facilities, the mystery clients reported receiving counseling in a space ensuring auditory and visual privacy; at the nonintervention facility, there was visual but not auditory privacy. Counseling sessions ranged from 10 to 60 min, with the longer sessions involving more thorough discussions.

Overall, health staff provided accurate information and quality counseling about vasectomy, although at two facilities the mystery clients observed that the counseling could have been more comprehensive. All health providers utilized client education materials (flipcharts, wall charts, client brochures) during counseling sessions and discussed the permanence of the NSV procedure. At half of the facilities, providers asked the mystery clients about their age and their number of children, reassured clients that the vasectomy procedure was not castration and would not be very painful, and advised clients to discuss their decision with their partner. At two facilities, providers discussed other family planning options with the mystery clients. Information about post-vasectomy follow-up was correct at the majority of facilities, although at two facilities the mystery clients were instructed to use a back-up contraceptive method for a time frame other than the recommended three months.

The study also provided insight into providers' attitudes about NSV. The mystery clients did not observe judgmental attitudes or opposition regarding vasectomy from the majority of providers. However, the mystery clients noted that some providers appeared uncomfortable or unprepared to counsel them about NSV. At two facilities, the mystery clients were initially informed that they would have to come back to speak to someone about vasectomy or were referred to another clinic for information.

3.2. Awareness of, knowledge about, attitudes toward, and intention to use vasectomy among potential clients

Awareness of vasectomy among men increased substantially after the health promotion campaign in 2004. The proportion of panel respondents ($n = 200$) who had heard of vasectomy increased from 31% at baseline in 2003 to 59% following the campaign in 2004. After a three-year hiatus, the 2007 panel survey indicated that awareness of vasectomy had dropped to 28% among male respondents ($n = 160$). Immediately following targeted media bursts of radio and television spots in February and May 2008, awareness among the male respondents ($n = 160$) increased first to 41% and then to 44%, respectively. Accurate knowledge on vasectomy increased in several aspects. A significantly higher proportion of respondents affirmed that vasectomy is a permanent method (from 68% to 75%) and a larger proportion agreed that vasectomy is simple and fast (from 28% to 37%) (Fig. 3).

Attitudes toward vasectomy also improved: while not statistically significant, the percentage of men viewing vasectomy as "a trusted method of family planning" increased from 39% to 50%, and fewer men responded that a man would lose his sex drive after a vasectomy (from 28% to 21%) or lose his strength (from 20% to 12%). Intention to use vasectomy also increased among panel

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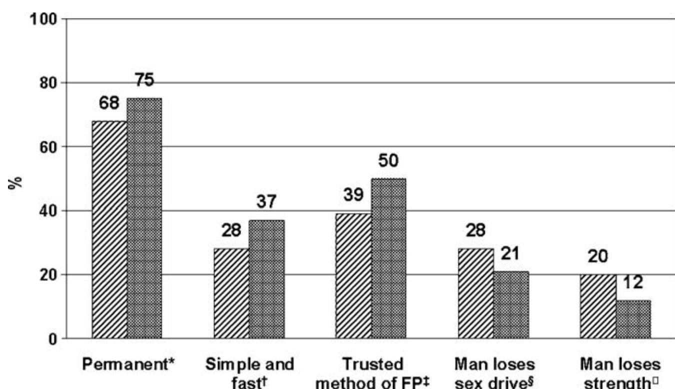

Fig. 3. Vasectomy knowledge and awareness among male panel survey respondents in Accra, Kumasi, and Takoradi regions, 2007–2008 (n = 160). (▨) Wave 2; (▩) wave 3. *p = 0.010; †p = 0.125; ‡p = 0.179; §p = 0.225; ‖p = 0.482.

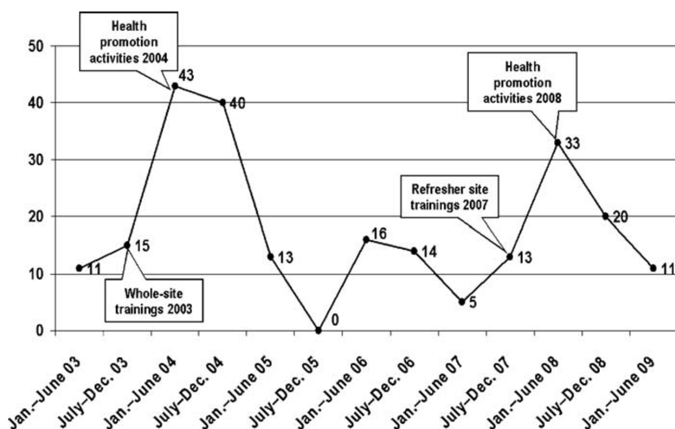

Fig. 4. Number of NSV procedures performed at intervention facilities in Accra, Kumasi, and Takoradi regions, 2003–2009. (●) Number of NSV procedures performed per semi-annual period.

respondents. Among men aware of vasectomy, the proportion who would consider vasectomy in the future increased from 10% to 19%. The volume of calls received by the NSV hotline (429 calls in 2004, 167 in 2008) also indicated increased interest in vasectomy and consideration of adopting NSV.

3.3. Uptake of NSV services

NSV uptake increased three-fold at intervention facilities, from 26 NSV procedures in 2003 to 83 procedures in 2004 (Fig. 4). Once the intervention period ended, the uptake of NSV services decreased during 2005 and 2006. In late 2007, when refresher trainings for existing providers and clinical trainings for new providers were conducted, NSV services increased again slightly. When health promotion activities were repeated in early 2008, the number of NSV procedures increased almost three-fold, from 18 procedures in 2007 to 53 procedures in 2008. After the health promotion activities ended in late 2008, NSV uptake declined again in 2009.

4. Discussion and conclusion

4.1. Discussion

The results of this initiative demonstrate that an integrated supply–demand approach improves client–provider communication about vasectomy and influences uptake of NSV services. Previous vasectomy initiatives have focused on clinical training of health providers, with less attention to addressing providers' comfort in working with men, and clients have experienced inconsistent quality of counseling as a result [23,24]. In this initiative, the focus on whole-site training for male-friendly services not only improved providers' ability to communicate with clients about vasectomy, but also improved the reception of male clients by other facility staff.

The goal of whole-site training is to transfer knowledge and develop skills, strengthen the facility's service delivery system and promote effective teamwork. In the Ghana NSV initiative, the engagement of personnel at all levels of facilities enabled staff to work as a team in welcoming male clients, communicating with men about sensitive issues of sexual and reproductive health, and counseling men on vasectomy. Providers showed substantial improvements in knowledge and attitudes toward sexual and reproductive health services for men. These results confirm prior findings that whole-site training improves staff attitudes toward vasectomy and comfort with male clients, strengthens counseling abilities, and helps staff work effectively as a team [25,26].

The mystery client study indicated that access to and quality of NSV services at the intervention facilities improved considerably from baseline. The study revealed some gaps in service provision, but all men who sought services were ultimately able to get the information they needed. The observation that some health providers appeared uncomfortable or unprepared to counsel men warrants further follow-up with providers to address gaps in competence and confidence. Ongoing support for health providers, including supervision and refresher training, is necessary for providers to maintain their competence and confidence in providing NSV services [6]. Maintaining quality of care through supervision and monitoring systems encourages positive word-of-mouth referrals by satisfied users, which may be the primary way to sustain NSV uptake in the absence of ongoing funding for health promotion [27]. Sustained commitment to quality improvement ensures consistent quality of NSV services, sufficient client volume to maintain provider skills, and ultimately a critical mass of satisfied users to promote acceptance of vasectomy.

Consumer survey data indicate that the health promotion activities were successful in increasing awareness and accurate knowledge of vasectomy and encouraging potential clients to visit health facilities for more information. In 2008, the "Permanent Smile" television spots prompted more than half of the targeted viewers sampled in the panel survey to discuss vasectomy with their partners, friends, or health providers, and men increasingly reported that they would consider vasectomy in the future (a nearly two-fold increase from 10% to 19%). This suggests that the campaign served as a catalyst for critical elements in the behavior change process: intention and action to seek vasectomy services.

The consumer survey results also indicate that while increased awareness of vasectomy can be achieved fairly rapidly, improving knowledge and attitudes toward vasectomy requires more sustained health promotion. In the 2007–2008 panel survey, the largest increase in awareness of vasectomy occurred after the first media burst, with only small increases thereafter. In contrast, knowledge about and attitudes toward vasectomy improved more slowly, with larger changes observed after the second media burst. These data suggest that sustained exposure to positive messages about vasectomy is particularly important for effecting attitudinal and behavior change. Ideally, health promotion activities should be sustained over time and evolve to target clients in different phases of the decision-making process.

A clear association was observed between the Ghana NSV interventions and the use of NSV services, with uptake increasing rapidly during the 2003–2004 and 2007–2008 campaigns. The peaks and valleys in NSV acceptance reflect patterns observed in prior vasectomy initiatives [28], and emphasize the need for ongoing

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health promotion activities and provider support. The post-campaign decline in NSV uptake may indicate that the latent demand for vasectomy had been met (e.g., men who wanted a vasectomy before the intervention acted on that decision when services became available) [28] and further demand generation was needed. Availability of trained NSV physicians may also have impacted post-campaign NSV uptake. In 2005, many potential NSV clients were placed on waiting lists due to temporary shortages of NSV providers. When providers became available in early 2006 to accommodate wait-listed clients, NSV uptake increased accordingly.

The results of the 2007–2008 initiative indicate that programs can achieve improvement in vasectomy knowledge, attitudes and intention by building on gains from previous campaigns. With 25% fewer TV spots and 60% fewer radio spots than in 2003–2004 and limited supply-side interventions, the 2007–2008 initiative still achieved a three-fold increase in NSV uptake (from 18 to 53 procedures). These results suggest that follow-on investments in vasectomy promotion can be achieved with fewer resources when media activities are efficient and well targeted. However, to achieve maximum impact and sustainability, targeted bursts should be coordinated with ongoing quality improvement for NSV services.

4.2. Conclusion

The results of the Ghana NSV initiative show that an integrated supply–demand model has a positive effect on client–provider communication about vasectomy and acceptance of NSV. Although the number of acceptors was small, the Ghana initiative reinforces findings that African men will use vasectomy when quality information and services are made available, even in settings where there are strong cultural biases against the method [16–18,29]. The results demonstrate the need for sustained support of supply and demand interventions to maintain the positive effect on client–provider communication and uptake of NSV. Programs need to address quality and access issues (supply-side interventions) as well as client education and information through health promotion (demand-side interventions)—recognizing that the decision-making process for vasectomy starts well before a client seeks counseling.

4.3. Practice implications

The Ghana NSV initiative indicates the importance of whole-site training in creating a welcoming environment for men accessing vasectomy services, particularly in settings where facilities traditionally provide services for women. Programs that address health providers' clinical and counseling skills as well as organizational barriers to introducing new services are more successful in delivering quality NSV services. When implemented in tandem with service delivery interventions, health promotion activities can contribute to improved client–provider communication by increasing awareness of and knowledge about vasectomy, addressing misperceptions, and encouraging interested clients to seek more information. The testimonial (satisfied user) approach to vasectomy promotion resonates with potential clients and can influence their intention to seek NSV services. Ongoing support for trained facility staff and health promotion activities is important to sustain the quality of NSV services and acceptance of vasectomy. With sustained health promotion and provider follow-up, the network of satisfied users may reach the critical mass required to reposition vasectomy as a socially accepted norm and sustain NSV uptake.

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Conflict of interest

None.

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