

The Outcomes of an Educational Program Involving Men as Motivators to Encourage Women to Be Screened for Cervical Cancer

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Abstract Cervical cancer is a major health problem in South Africa. Despite having a national, population-based screening program, screening coverage is as low as 13%. Based on the role men could play in increasing cervical cancer screening and the low level of knowledge, men living in the study setting had about this health issue, we developed and pilot tested an educational program aimed at empowering men to teach their female partners and family members about cervical cancer and motivate them to be screened. The study setting was Ward 23 in Muldersdrift, a semi-urban, resource poor area situated northeast of Johannesburg. We used an intervention research design to assess the outcomes of our educational program. The primary outcome was screening uptake, with knowledge the secondary outcome. Statistics and face-to-face and telephone interviews, guided by questionnaires, were used to collect the data which were analyzed by means of descriptive statistics and content analysis. A total of 120 men ($n = 120$) participated in the educational program and 100 ($n = 100$) completed the post-test questionnaire. Only 30 women ($n = 30$) reported for screening. The men's knowledge improved after the education program but did not guarantee that they would educate women about cervical cancer as only 55% ($n = 66$) indicated they taught a female family member or their partner. Cultural restrictions were the most common reason presented for not teaching women about this health issue. Ways of supporting men to overcome cultural barriers prohibiting them from

discussing matters related to sexuality should be explored, before refining and replicating the intervention.

Keywords Cervical cancer screening · Education program · Men as motivators · South Africa

Introduction

Cervical cancer is the fourth most common cancer in women worldwide. It is estimated that in 2012, 528,000 women were newly diagnosed with this disease, which was responsible for 266,000 deaths in the same year. Approximately 85% of the global burden of this cancer and 87% of deaths caused by cervical cancer occur in the less-developed regions of the world, where it is responsible for about 12% of all cancers in women. Africa, specifically Eastern, Middle, and Southern Africa, shares the highest incidence with Melanesia, while the incidence in Western Europe, Australia/New Zealand, and Western Asia is the lowest [1].

Similar to the rest of the developing world, cervical cancer, aggravated by the HIV epidemic, is a major health problem in South Africa and effects one in 41 women [2]. Although cervical cancer is the second most common cancer in women after breast cancer, it is the most common cancer in Black women responsible for nearly one third of all cancers in this population group [3]. The causes of cervical cancer are well known; however, persistent infection with one of the oncogenic types of HPV, most common 16 and 18, is the major cause. Cervical cancer develops slowly and usually takes 10 to 20 years for mild dysplasia to develop into cancer which makes this a relatively easy disease to prevent [4]. Cervical cancer occurs up to 10 years earlier in women living with HIV and AIDS. In addition, the disease outcomes are less favorable

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for these women as the disease is more likely to cause death compared to women who are free from HIV and AIDS [2].

In 2001, South Africa implemented a population-based cervical cancer screening program. This program intended to screen at least 70% of the target population within 10 years after its implementation and aimed to reduce the incidence, morbidity, and mortality associated with this disease and to decrease the extreme expenditure of scarce health funds used for its treatment. The program affords women of 30 years and older, three Pap smears in their lifetime with a 10-year interval and women screened for the first time at the age of 55 in one screening opportunity. The Pap smears are conducted at primary health clinics, which are nurse lead and free of cost [5]. The program has not reached its target as the screening coverage is as low as 13%, and most women still present with advanced disease [2, 6].

A few studies have been conducted in South Africa in an attempt to increase screening uptake. These studies tested a photo-comic versus a radio drama [7] combining breast and cervical screening [8], using a community health worker [9], and investigated the feasibility of linking cervical cancer screening in adult women with HPV vaccination in school-girls [10]. The studies yielded mixed results, and all four were part of projects and therefore not able to influence screening uptake in an ongoing manner. In addition, in a scoping review focusing on educational programs to improve cervical cancer screening uptake between 2008 and 2012, we found four of the six studies included in the review were conducted in the developed world with only two conducted in the developing world. All the studies focused on women and it seems as if only one study increased screening uptake.

Various factors add to the cervical cancer burden in South Africa and include barriers to screening, the role of men and culture. Barriers to screening include the absence of an effective cervical cancer screening program, lack of knowledge of cervical cancer, its screening and the screening program, low literacy, and fear of the screening procedure [2, 11]. The knowledge men have about cervical cancer, its prevention, and their sexual behavior is also not conducive to cervical cancer prevention [12]. Certain cultural rules influence women's health care and also serve as barriers to cervical screening. For instance, women's health is not highly valued; their health needs are of less importance than the health needs of their partners and children, and not all women have control over decisions to access healthcare [7]. Some women still need to ask permission from their parents or husbands to seek healthcare, while the person giving permission chooses the healthcare provider [13].

The research problem for this study related to cervical cancer screening and the role men could play in increasing this important healthcare activity. Based on the low level of knowledge men had on cervical cancer, its screening, the screening program, and their preferred method of being informed of this health issue [14], we developed and pilot tested an educational program with the purpose of promoting

cervical cancer screening by involving men as motivators. We aimed at empowering men with knowledge to allow them to teach their female family members and partners about cervical cancer and motivate them to be screened. Our study consisted of two phases: phase 1 was a survey illustrating the low level of knowledge of men living in the study setting (reported previously), while phase 2 focused on the development and pilot testing of the educational program. The study obtained ethical clearance from the university's review board (#M140314).

Methods

We used an intervention research design [15] to assess the outcomes of our educational program. The primary outcome was screening uptake, with knowledge the secondary outcome; the educational program was also evaluated.

The study setting was Ward 23 in Muldersdrift, a semi-urban, resource poor area situated northeast of Johannesburg. This ward consists of an established informal settlement with approximately 980 informal dwellings and 214 newly erected brick houses built as part of the National Government's Reconstruction and Development Program. New informal dwellings are constantly being erected, and it is possible that more than one family occupy a home complicating accurate information about the population; however, it is believed approximately 19,959 people were living in this ward at the time of the study. The majority of the community was between 20 and 34 years of age, and isiZulu and Setswana were the indigenous languages most commonly spoken [16]. People living in the informal dwellings do not have access to electricity, but running water, fit for drinking, is provided by means of communal taps and pit latrines, in some cases shared, provide sanitation. Primary healthcare services are available at the nurse-led Muldersdrift Primary Health Clinic, which is within walking distance from the homes. This clinic renders a wide range of services, which includes Pap smears, and serves approximately 4000 people per month.

Developing and Implementing the Educational Program

Based on the survey phase of the greater study, the first author developed a PowerPoint presentation highlighting the major results and the proposed content of the educational program (available on request). This was presented to a group of experts, which included faculty, Master's students, and males from the study setting, in order to evaluate the face and content validity of the educational program and practicality of the mode of delivery. After the presentation, the first author wrote field notes and discussed them with the second author to ensure all the expert panel's comments were captured. When analyzing the field notes, it was found the main concerns

revolved around the terminology used. The expert panel advised the terminology be changed to lay language or to include simple explanations, the educational material to be developed in English only as some of the terminology could not be translated into the local languages and that the community did not have a suitable venue with electricity which could be used to present the educational program. It was agreed, for practical purposes, a poster and pamphlets would be developed as educational material.

Once the poster and pamphlet, which contained the same information, were designed (available on request), the first author held a meeting with the management and staff of the Muldersdrift Primary Health Clinic and community representatives. The implementation of the educational program was discussed, and the learning material and the ethical approval were presented to them. The meeting decided that referral notes would be given to the men attending the educational program to give to the women they educated to bring to the clinic. Not to inconvenience the staff and clients of the clinic and because of the availability of a consultation room, it was agreed the first author would conduct the Pap smears of women presenting such referral notes on Wednesdays and Thursdays for the next three months, while the registered nurses practicing at the clinic would continue conducting Pap smears as usual. It was also agreed that the information regarding the times the study's Pap smears would be available would be reflected on the educational pamphlets.

Three fieldworkers, who did not reside in the study setting, were recruited with the assistance of a community representative. The fieldworkers, who were trained about the study and the educational program, were tasked to assist the researcher with the language issues and explanations when presenting the educational program and to mobilize all men 18 years and older to take part. Once this was done, the community representative and fieldworkers advised the first author to meet the ward counselor and discuss the educational program with him. The ward counselor supported the endeavor and suggested the educational program should be offered during the general community meetings, and he provided the researcher with the dates and venue of the meetings.

Once the community meeting commenced, the ward counselor introduced the first author to the attendees who consisted of both men and women and encouraged the men to stay behind after the meeting and attend the educational program. The general meeting was held first, where after the researcher was given time to introduce the educational program to the men. Before starting the educational program, the men who did not wish to participate were able to leave, and those participating were requested to write their names, address, and contact details in a register. The researcher explained to them that two months after attending the educational program, they would be invited to take part in a telephone interview. Informed consent to participate in the educational program

and telephonic interview was obtained. Thereafter, the poster was posted on the wall to assist the researcher with the teaching. Once all the topics were addressed, information leaflets and referral notes were handed to the participants.

Participants were requested to use the information leaflets to teach their female sex partners and female family members about cervical cancer and encourage them to be screened. Participants were also encouraged to give the women they were educating referral notes to present at the Muldersdrift Primary Health Clinic to enable the first author to identify women referred by the men who had participated in the educational program. The educational program was presented on four occasions between July to and September 2014, and 120 ($n = 120$) men took part.

Ten days after presenting the first educational program, the first author commenced with the Pap smears at the primary health clinic. Women who presented with referral notes were taken to the examination room where the researcher introduced herself, explained the Pap smear procedure, how long it would take, and the benefits of the screening. Thereafter, the researcher explained the study and obtained informed consent to participate. Women who were diagnosed with pelvic inflammatory diseases, warts, and sexual transmitted infections received the standard treatment. The names, address, and contact details of all women screened were recorded in the clinic's Pap smear statistics book.

Assessing the Primary Outcome: Screening Uptake

Statistics were used to determine the number of women with referral notes presenting for screening. In addition, a survey [15], using structured face-to-face interviews, guided by a self-developed questionnaire, was used to collect demographic data, data pertaining to cervical cancer screening practices and what motivated the total sample ($n = 30$) to come for screening. The questionnaires were numbered sequentially, and the data were entered onto an Excel spreadsheet and analyzed using the SPSS version 22 computer program. Content analysis was used to analyze the open-ended questions [17]. Data collection took place from July to September 2014.

Assessing the Secondary Outcomes: Men's Knowledge of Cervical Cancer, Knowledge of the Cervical Screening Program, and Knowledge of the Pap Smear, as well as the Educational Program

A one-group post-test only approach [15] was used to assess the knowledge outcomes and evaluate the educational program. The population consisted of all men, 18 years and older, who took part in the educational program ($n = 120$). Telephone interviews were used to collect the data, and after various attempts to contact all the men who attended the educational program, 100 men were reached while 20 were lost to

follow up. Structured interviews conducted by the first author, with the assistance of two fieldworkers, collected the data. The interviews were guided by a pre-tested, self-developed questionnaire, which was also used for the survey informing the educational program. However, additional questions were added to evaluate the educational program and investigate the factors preventing the participants from educating and motivating their partners and female family members to be screened. The completed questionnaires were numbered sequentially and entered onto an Excel spreadsheet and analyzed using the SPSS 22 computer program. The open-ended questions were analyzed by means of content analysis. Data were collected from October 2014 to December 2014.

Results

Primary Outcome: Screening Uptake

Only 30 women with referral notes reported for screening. Most were between 30 and 39 years of age (56.7%; $n = 17$), single (60%; $n = 18$), and full-time employed (53.5%; $n = 16$). The highest percentage completed 11 or 12 years schooling (43.3%; $n = 13$), and five (16.7%) had no personal income. The majority of the respondents (56.7%; $n = 17$) reported never having been screened. When asked to explain the reasons for not being screened previously, the majority (52.9%; $n = 9$) indicated they had never heard of a Pap smear, while 23.5% ($n = 4$) reported they were too scared. Other answers included fear of pain, does not qualify for screening, and not being interested. When asked what motivated them to come for cervical cancer screening, the majority of the respondents (60%; $n = 18$) reported they were “sent” by their husbands; 13.3% ($n = 4$) were sent by their sons, 10% ($n = 3$) by their grandsons, and 13.3% ($n = 4$) by their boyfriends; only one respondent (3.3%; $n = 1$) was referred by her brother.

Secondary Outcomes: Knowledge and the Educational Program

The respondents were primarily younger than 40 (48.3%; $n = 58$), from the Zulu cultural group (27.5%; $n = 33$), unmarried (36.7%; $n = 44$), and literate (75.8%; $n = 91$). The general information of the sample is presented in Table 1.

The majority of the respondents reported they had heard of cervical cancer (81.7%; $n = 98$). When asked to explain what cervical cancer was, 15.8% ($n = 19$) explained it as “abnormal cells which grow without control” and the same percentage as “cancer for only women.” Most of the respondents (82.5%; $n = 99$) agreed that cervical cancer can be prevented, by motivating your sex partner to be screened at the clinic (80.0%; $n = 96$), using condoms when having sex (70%; $n = 84$), not having many sexual partners (76.7%; $n = 92$) and not smoking

Table 1 The general information of the sample ($n = 120$)

	<i>n</i>	%
Age groups		
18–29	27	22.5
30–39	31	25.8
40–49	18	15.0
50–59	14	11.7
60+	10	8.3
Lost to follow-up	20	16.7
Socio-cultural group		
Setswana	20	16.7
Southern/Northern Sotho	13	10.8
Tsonga/Shangani	9	7.5
Zulu	33	27.5
Venda	16	13.3
Ndebele	2	1.7
Xhosa	4	3.3
Sepedi	2	1.7
Swati/Swazi	1	0.8
Lost to follow-up	20	16.7
Level of education		
Never went to school	2	1.7
Up to grade 7	7	5.8
Grade 8 to 10	39	32.5
Grade 11 to 12	38	31.7
University or college	14	11.7
Lost to follow-up	20	16.7
Marital status		
Single	44	36.7
Married traditionally	36	30.0
Married customary	8	6.7
Widow	4	3.3
Divorced	3	2.5
Separated	5	4.2
Lost to follow-up	20	16.7
Employment status		
Unemployed	25	20.8
Full-time employment	52	43.3
Part-time employment	20	16.7
Temporary jobs	3	2.5
Lost to follow-up	20	16.7
Source of income		
Employment	77	64.2
Social grant	9	7.5
Family support	11	9.2
Other	3	2.5
Lost to follow-up	20	16.7
Monthly personal income		
No personal income	13	10.8
Less than R1000 (± 67 USD)	11	9.2
R 1000 to R 2000 (> 67 USD–87 USD)	58	48.3

Table 1 (continued)

	<i>n</i>	%
R 2000 to R 3000 (> 87 USD–107 USD)	12	10.0
R 3000 to R 5000 (> 107 USD–200 USD)	3	2.5
R 5000 to R 8000 (> 200 USD)	3	2.5
Lost to follow-up	20	16.7
Number of people supported with personal income		
1 to 5	78	65.0
6 to 9	14	11.7
No answer	8	6.7
Lost to follow-up	20	16.7
Number of women 30 years and older living in the same house as the respondent		
1 to 2	80	66.7
3 to 4	3	2.5
No answer	17	14.2
Lost to follow-up	20	16.7
Have a female companion		
Yes	78	65.0
No	22	18.3
Lost to follow-up	20	16.7

(71.7%; *n* = 86). Knowledge of the causes of cervical cancer varied; the most well-known cause was the HPV identified by 81.7% (*n* = 98) and the least known having more than five children (22.5%; *n* = 27). More than 65% of the respondents identified all the symptoms of cervical cancer correctly; bleeding after having sex and irregular bleeding from the vagina were the most identified by 80% (*n* = 96), respectively (Table 2).

The respondents were asked whether they had heard of the Pap smear, and 80.8% (*n* = 97) reacted positively. When those who had heard of the Pap smear (*n* = 97) were asked to explain what they understood about it, various answers were given, the most common being “to screen for cervical cancer” (44.3%; *n* = 43), “screening to take cells from the uterus” (23.7%; *n* = 23), and a “test done in the uterus to see cancer in the stomach” (16.5%; *n* = 16). On being asked about the screening program, the majority of the respondents (82.5%; *n* = 99) indicated they had heard of it. When asked what they knew about the screening program, more than 70% identified the correct answers. The fact that only women can be screened and screening should start at the age of 30 years were the most known and identified by 81.7% (*n* = 98), respectively (Table 2).

The educational program was also evaluated. Most of the respondents (82.5%; *n* = 99) were of the opinion that the language used to educate them was easy to understand; 81.7% (*n* = 98) indicated the educational program assisted them to understand cervical cancer and to understand how cervical cancer can be prevented. Slightly less (66.7%; *n* = 80) were of the opinion that the pamphlet assisted them to teach their sex partner and other women about the disease. The

Table 2 Knowledge of cervical cancer and the screening program (*n* = 120)

	Agree		Disagree		Not sure	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Causes of cervical cancer						
A virus known as HPV or the human papillomavirus	98	81.7	1	0.8	1	0.8
Having sex before the age of 15 years	54	45.0	33	27.5	13	10.8
Having more than 5 children	27	22.5	43	35.8	30	25.0
Having many sexual partners	92	76.7	8	6.7	0	0.0
Sleeping with somebody who has multiple sexual partners	89	74.2	9	7.5	2	1.7
Smoking	86	71.7	12	10.0	2	1.7
Having sex without a condom	84	70.0	14	11.7	2	1.7
Having HIV/AIDS	88	73.3	7	5.8	5	4.2
Symptoms of cervical cancer						
Irregular bleeding from the vagina	96	80.0	2	1.7	2	1.7
Back pain	95	79.2	4	3.3	1	0.8
Bleeding after having sex	96	80.0	4	3.3	0	0.0
Bleeding after menstruation has stopped	94	78.3	3	2.5	3	2.5
Bad smelling vaginal discharge	91	75.8	7	5.8	2	1.7
Lower abdominal pain	84	70.0	12	10.0	4	3.3
Frequent urination	81	67.5	13	10.8	6	5.0
Weight loss	86	71.7	10	8.3	4	3.3
Swollen feet	85	70.8	8	6.7	7	5.8
Breathing problems	85	70.8	10	8.3	5	4.2
There won't be any changes unless the cancer is advanced	86	71.7	10	8.3	4	3.3
Cervical cancer screening program						
Only women can be checked for cervical cancer	98	81.7	2	1.7	0	0
Women aged 30 years and above must be checked	98	81.7	2	1.7	0	0
Screening must be done every 10 years until the age of 55 years	95	79.2	5	4.2	0	0
Checking can be done at the local clinic	91	75.8	9	7.5	0	0
Checking is free of charge	92	76.7	7	5.8	1	0.8
Pap smear is used for checking and testing	93	77.5	7	5.8	0	0
Women must go to the clinic to get their results	96	80.0	4	3.3	0	0
Women with an abnormal test results will be referred to the hospital to enable their cervixes to be checked and tested	95	79.2	3	2.5	2	1.7

respondents were also asked whether they informed anybody about cervical cancer and 55% (*n* = 66) answered positively. Those who reacted negatively provided various answers as to what hindered them from educating their sex partner or female family members, but cultural barriers was the most common, as posed by 50% (*n* = 17) (Table 3). Lastly, we asked those who indicated they had taught a woman about cervical cancer

Table 3 Practices resulting from the educational program ($n = 120$)

Practices ($n = 120$)	<i>n</i>	%
Educated a sexual partner or another female		
Yes	66	55.0
No	34	28.3
Lost to follow-up	20	16.7
Person educated ($n = 66$)		
Sex partner	51	77.3
Mother	5	7.6
Sister	5	7.6
Grandmother	1	1.5
Cousin	1	1.5
Friends	3	4.5
Reasons for not educating women about cervical cancer ($n = 34$) ^a		
Culturally not acceptable	17	50
Embarrassing	3	8.8
Too busy	13	38.3
Well-known topic, nobody interested	3	8.8
Girlfriend not interested	1	2.9
Cancer is for White people, not Black people	3	8.8

^a More than one reason could have been given; therefore, the total percentage exceeds 100

whether they knew where the women went for screening; only 57.6% ($n = 38$) said they knew. The Muldersdrift Primary Health Clinic was mentioned by 73.6% ($n = 28$); the rest (26.4%; $n = 10$) mentioned clinics in other areas, not within walking distance from Ward 23, and even in another province.

Discussion

Our study provided mixed results. Knowledge about cervical cancer, its screening, and the screening program improved after the educational program compared to the results of the survey conducted in the same setting which informed the current study [14]. Unfortunately, the relatively small number of women ($n = 66$) who were taught about cervical cancer by the 120 men attending the educational program and the small number of women who presented for screening ($n = 30$), questions the success of the intervention. However, it might have been possible that more women could have been educated as we were unable to contact all the men who had attended the educational program. In contrast, it could also be possible that these men were lost to follow up because they did not educate a female family member or their sex partner and did not want to admit to it. In addition, we can also only confirm screening 30 women although it was reported 38 went for screening. Considering some of the clinics mentioned where these eight women were screened, it seems unlikely that it was indeed the case due to the distance between the clinics and the study setting.

It was disappointing to find less than 50% of the women who had been informed came for the screening. The reason for this is unclear, and some of the well-known barriers, such as

lack of knowledge, language, healthcare provider gender, accessibility, and costs [18], could not serve as valid reasons for not using the screening opportunities. However, it might be possible that other factors such as stigmatization about cervical cancer, barriers towards open communication with the healthcare provider, fear of bad results, and being diagnosed with cervical cancer [19] could serve as barriers. In addition, it could also have been possible that the women were screened within the past 10 years, disqualifying them for an additional Pap smear. Those who came for screening and reported they had never had a Pap done previously, gave well-known reasons for this situation, such as lack of knowledge and fear.

The study provided evidence that the most common barrier to educating women about cervical cancer was culturally determined. Despite culturally defined gender roles advocating that communication should take place from a man to a woman [20], it was interesting to find that sexual taboos could be so embedded that men were unable to talk about sexual issues, even if it could prevent a life-threatening illness, great suffering, and a premature death. Lebesse and colleagues [21] and Tjale and de Villiers [22] explain that cultural barriers are common problems when sexual and reproductive health issues are discussed. This is related to the fact that the health belief system of many non-specialized people recognizes a relationship between violating a cultural rule and misfortune. Misfortune includes punishment in the form of sickness, either as a result of mysticism or punishment by the ancestors. Whether fear of punishment influenced the decision of men not to educate females about cervical cancer would be interesting to know, but whether such beliefs could be changed is debatable. Not changing your beliefs even after being taught the contrary is also supported by the small number of men in our study, who still believed cancer is a disease of the White population and does not affect Black people.

It was positive to find that men who attended the educational program were more knowledgeable about cervical cancer and its screening compared to those who responded to the survey questionnaire. For instance, after the educational program, 81.7% of the men were aware that the HPV is a cause of cervical cancer compared to 60.4% in the survey. In addition, 67.5% could identify all symptoms of cervical cancer posed to them, and 75.8% answered the questions on the cervical cancer screening program correctly, compared to the 45.5 and 53% in the survey group, respectively [14]. The knowledge men had after the education program compares positively with other studies conducted in Africa by Rosser and colleagues [23] and Williams and Amoateng [24]. It was also positive to find that knowledge pertaining to their own role in cervical cancer, such as having sex with a person with multiple sex partners and having sex without a condom, were well known. However, whether men would change their behavior based on this knowledge is unknown. Maree [25], in a study exploring whether South African women can protect themselves against cervical cancer

by insisting on a condom, found women were not inclined to have concurrent sexual partners and that condom use was a sensitive issue as not all men were prepared to use them. It appears women have no influence on this risky lifestyle, and it would be valuable to investigate whether the men participating in the educational program changed their conduct. This would assist in the decision of the value of the educational program and whether it would be worthwhile replicating.

Limitations

We pilot tested our educational program in one semi-rural area only. Although awarding us the opportunity to determine whether our intervention would work before refining it, the survey informing our educational program was also conducted in the same setting. Therefore, it is highly likely that men in who participated in the survey also participated in the educational program, which could have led to recall bias when completing the post-intervention questionnaire. In addition, using a one-group post-test only approach did not allow us a direct way to measure change. Our questionnaire tested relatively superficial knowledge and not a deep understanding of the phenomenon under study. Lastly, the fact that 16.7% of the men attending the educational program was lost to follow up influenced our results. However, we believe the study provided sufficient evidence to draw conclusions about the outcomes of this pilot test.

Conclusion

The number of men who educated their female sex partners and family members and the number of women reporting for cervical cancer screening were disappointing. However, it can be reasonable to conclude that the educational program met its aim to empower men with knowledge, to allow them to teach their sex partners and female family members about cervical cancer and motivate them to be screened. The men's knowledge improved after the education program but did not guarantee that they would educate women about cervical cancer. Cultural restrictions were the most common reason presented for not teaching women about this health issue. Ways of supporting men to overcome cultural barriers prohibiting them from discussing matters related to sexuality, should be explored and incorporated when refining and replicating the intervention.

Compliance with Ethical Standards The study obtained ethical clearance from the university's review board (#M140314).

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