

The use of health promotion to increase the uptake of cervical cancer screening in a primary health setting in Tshwane, Gauteng Province, South Africa

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Abstract

The re-launched 2004 South African National Cervical Screening Programme offers non-symptomatic women who are 30 years and older three pap smears in their lifetime, taken at ten years' interval at no cost to the patient. Despite this new policy, both the morbidity and mortality from cervical cancer remains high in South Africa. The aim of this study was to improve the uptake of cervical cancer screening by integrating a health promotion component into the standard program. Baseline data consisted of four months' pre-intervention numbers for cervical cancer screening at a primary health facility in Pretoria. The health promotion intervention consisted of health education talks to encourage clinic attendees to avail themselves for cervical cancer screening, pamphlets to share the information with others in their communities, and posters which were put up in all the entrances to the clinic. A cross-sectional survey, using a self-administered questionnaire, was conducted among a sample of 239 participants who availed themselves for cervical cancer screening for four months' post-intervention. The screening rate increased by 56% (n=86), from 153 to 239, in the post-intervention period. The majority of the respondents in the post-intervention period (71%) were in their reproductive stage (18 - 49 years), with women aged 60 and above being the least responsive. In both the pre and post-intervention stages, the highest number of screenings performed was amongst women in the age range of 30 - 39 years. The health education talk component was identified as the effective component of the health promotion intervention. The results supported active health promotion in health facilities as effective in increasing the uptake of cervical cancer screening.

Keywords: screening, cervical cancer, health promotion intervention, health Belief Model, South Africa

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Introduction

Globally, cervical cancer is the second most common cancer amongst women, and an estimated 510 000 women are newly diagnosed, and 288 000 die from cervical cancer annually (WHO, 2010). Most of the new cases and deaths occur in developing countries, which host more than 80% of cervical cancer patients. An estimated 78 879 women living in Africa will be diagnosed with cervical cancer annually, while 61 671 will die annually from this disease (Denny, 2010). Despite it being preventable, cervical cancer remains the most common type of cancer amongst women in Sub-Saharan Africa (SSA), including South Africa. Screening can detect the abnormalities preceding invasive cancer, thus enabling timeous and effective treatment and preventing mortality. Although in developed countries death rates from cervical cancer have been dropping because of regular cervical screening and treatment, Sub-Saharan African countries have not benefited from these interventions because disease screening is not routinely done (Dailard, 2003; Chokunonga et al, 2003).

Cervical cancer is one of the most preventable of all cancers through primary and secondary prevention, most notably HPV vaccination and cervical screening (Kerr and Fiander, 2009). A successful screening program prevents thousands of deaths every year, as it is estimated that approximately 50,000 deaths per year may be prevented in SSA if effective vaccination and screening programs are implemented across the continent (Denny, 2010). In the United Kingdom, an estimated 4,500 deaths are prevented annually through successful screening programs. However, in many poorer countries, screening is less consistent and most developing countries have been unable to implement comprehensive and decentralized Pap smear programs (Kerr and Fiander, 2009; Abotchie and Shokar, 2009).

About 21.0% of women in the general South African population are estimated to harbor a cervical HPV infection, which accounts for 62.8% of invasive cervical cancers (Allan et al, 2008). It was in this context that the South African National Department of Health (NDOH) developed the Cervical Cancer Screening Programme, which encourages women who are 30 years and older, to have three Pap smears per lifetime, at ten-year intervals. The target for the policy was the coverage of at least 70% of women nationally (Hoque et al, 2008).

The HIV epidemic in South Africa has had a devastating effect on the prevalence of cervical cancer, and HIV-infected women have been seriously disadvantaged by the lack of a formally implemented screening strategy. Cervical cancer usually affects women in the fifth and sixth decades of life, but has been found to be more prevalent in the fourth decade of life in the case of HIV-infected women (Denny, 2008). HIV-positive patients have an increased risk of persistent HPV infection (Hessol et al, 2009) and thus an increased risk for cervical cancer. Local data further suggest that cervical cancer occurs up to 10 years earlier in HIV-infected women (Moodley 2011; Snyman, 2013). With the new challenges being posed by cervical cancer due to

the HIV epidemic in South Africa, the Department of Health launched the HIV Counselling and Testing Programme in 2011, which requires that all females diagnosed with HIV should have a Pap smear done annually. This policy has been implemented in some areas but not throughout the country. The result is that currently there is no population-wide cervical cancer screening program in South Africa.

Despite the availability of the South African NDOH cervical cancer screening policy, it has not been formally implemented countrywide, and it is estimated that screening coverage, which is mainly done on an opportunistic basis, is as low as 13% (Snyman, 2013). In South Africa, the cervical cancer screening coverage (of women over the age of 30 years) is low, i.e., 20% nationally (Hoque et al, 2014). A population-based study conducted among rural South African women reported that only 18% of the women had ever had a Pap smear test (Hoque et al, 2008). Another study which was conducted among female university students, found that 42.9% of the participants had heard of cervical cancer and only 9.8% of the participants had ever had a Pap smear test (Hoque and Hoque, 2009).

The lack of regular screening for cervical cancer results in many women still presenting in advanced stages of the disease. Disease prevention and control are the most important public health strategies, and the empowerment of women to take control over their health is an acknowledged health promotion strategy with potential to be effective (Ntekim, 2012). Women who have access to screening programs have much lower rates of cervical cancer than women who do not have such access (Denny and Wright, 2009). In the context of cervical cancer, health promotion can be a strategy to reduce the risk of cervical cancer in the population by communicating to them that cervical cancer prevention and early detection can prevent premature death (Tonani and Carvalho, 2008). The purpose of this study was to improve the uptake of cervical cancer screening by integrating a health promotion component into the standard program offered to females at a primary health facility.

Methodology

Study design

This was an interventional descriptive study, conducted among women attending a primary health facility in Tshwane District, Gauteng Province, South Africa. A cross-sectional descriptive survey was used to collect data from women aged 18 years and above who availed themselves for cervical cancer screening during the health promotion intervention phase. The selected health facility serves an estimated population of 18,359 people who reside in both the township and semi-rural areas around the clinic. The clinic offers all basic primary health care services to an estimated 4000 patients per month (Clinic monthly statistics, 2014).

Data collection

The data collection tools

Pre-intervention statistics from the clinic's attendance registers were collected for the four months (April 2014 to July 2014) before the health promotion intervention. Tools for the intervention phase consisted of health promotion intervention instruments, which consisted of health education talks, pamphlets, posters and a questionnaire for those who availed themselves for cervical cancer screening.

Pre-intervention period

The researcher collected data related to the trend in cervical cancer screening for four months before the intervention (April 2014-July 2014). The data was collected from the clinic's records for all the women who performed cervical cancer screening during that period. The purpose was to accumulate baseline data and to measure the normal trend in cervical cancer screening in the clinic before the intervention. The variable of interest was the number of Pap smear tests done.

Data collection for the pre-intervention phase

The pre-intervention phase, in which statistics of women who presented at the clinic for cervical cancer screening in the four months before the intervention were recorded. Because these statistics were collected retrospectively from the clinic attendance registers, only the monthly numbers of the attendees were recorded, and none of the demographic data were obtained.

Data collection for the intervention phase

The health promotion intervention phase was developed using the Health Belief Model (HBM). The health promotion program consisted of three components, i.e. live health education talks at the clinic, pamphlets which were given to attendees to share with others in their communities, and posters which were posted at the entrance of the clinic. Statistics of women who presented at the clinic for cervical cancer screening during the four months of the health promotion intervention were recorded. During this phase, data were collected from women who availed themselves for cervical cancer screening.

The health promotion intervention

The health promotion intervention was developed using a program developed from the HBM (Burak and Meyer, 1997; Johnson et al, 2008). This model explains why individual patients may accept or reject preventative health services or adopt healthy behaviors. The four constructs of the HBM were reflected in all the components of the intervention, i.e. the health education talks, the pamphlets which were given to patients to share with women in their communities and the posters which were displayed at the clinic.

The HBM constructs were applied to cervical cancer screening as follows:

Perceived susceptibility to cervical cancer: highlighted that cervical cancer is common in South Africa and that all are at risk. *Perceived severity of cervical cancer:* highlighted that cervical cancer is severe and is a cause of death for many women in South Africa. *Perceived benefits of cervical*

cancer screening: highlighted the benefits of cervical cancer screening, i.e. pre-cancerous cells can be identified and be treated, which improves clinical outcomes. *Perceived barriers to cervical cancer screening*: the potential barriers to cervical cancer screening were addressed by highlighting that screening was at no cost to the patient and that the procedure was easy, quick, and painless.

The health education talks occurred at the clinic waiting area, where patients get their files and are registered before going to their respective consulting areas. The talks were conducted by the researcher twice a week, throughout the four-week intervention phase. Each session lasted for 30 – 45 minutes. The attendees were also given time to ask questions and seek clarifications and then encouraged to avail themselves for screening, either on that or at a later date. The pamphlets were given to the attendees at the conclusion of the talks.

Posters were put up in various areas of the clinic, which included the entrance, the door of the family planning room, the door of the maternal health clinic, the ART and TB rooms. This was to expose the users of the clinic to the need to screen for cervical cancer. During the four-week period, when women availed themselves for cervical cancer screening, the attending nurses asked them to participate in the study and to provide informed consent. The research questionnaire was then administered to all who agreed to participate.

Ethical considerations

Ethical approval was obtained from the Medunsa Research Ethics Committee (MCREC/H/184/2012: PG). Permission to conduct the study was obtained from the Tshwane Research Committee. All participants provided written informed consent.

Results

Demographics of the intervention phase sample

Table 1 is a representation of the demographic data of the 239 participants who availed themselves for cancer screening and agreed to participate in the study. The majority (71%, n=168) of the participants were in the reproductive age period of between 18 and 49 years. The screening rate was highest (33%) among the age group 30 – 39 and lowest (8%) among the age group 50 – 59 years.

Table 1: Demographic data of the intervention phase participants

Variable	Frequency	Percentage
Age in years		
18-29	51	21
30-39	78	33
40-49	39	17
50-59	20	8
60-69	26	11

70 and above	25	10
Marital Status		
Single	70	29
Married	42	18
Divorced	68	28
Widowed	45	19
Cohabiting	14	6
Highest level of education		
No formal education	4	2
Primary	75	31
Secondary	82	34
Matric certificate	57	24
Tertiary	21	9
Number of children		
None	6	3
1	16	7
2	42	18
3	57	21
4	61	26
5	33	14
6	11	5
7	9	4
8	4	2
Employment status		
Employed	53	22
Unemployed	127	53
Self-employed	25	10
Pensioners	34	15

The uptake of cervical cancer screening during the study period

Figure 1 depicts the trends in cervical cancer screening during the period April 2014 - July 2014 (the pre-intervention period) and the period of August 2014 - November 2014 (the intervention period).

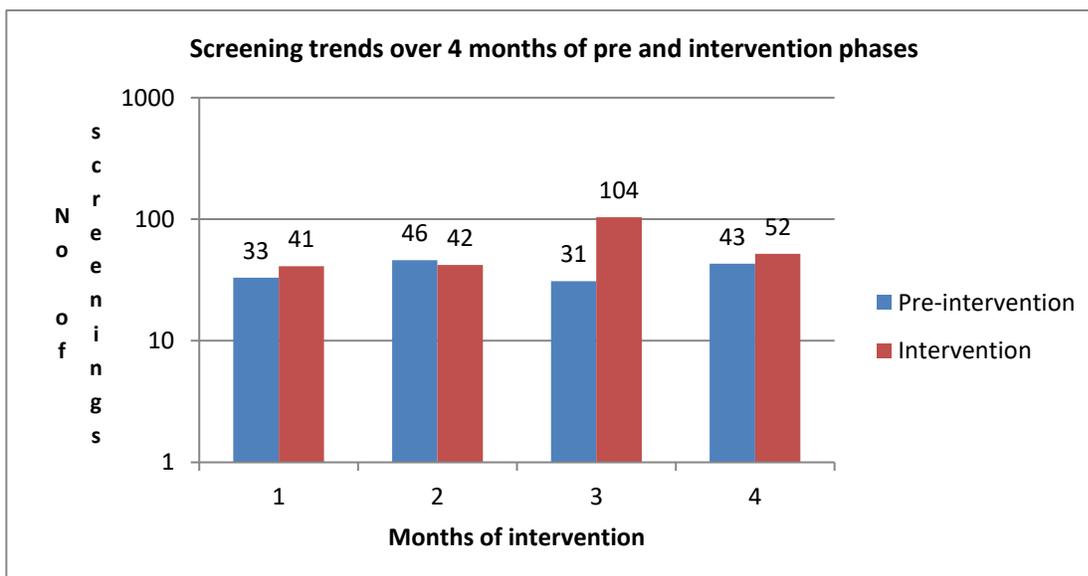


Figure 1: Screening trends over the pre and intervention phases

The uptake of cervical cancer by age: pre-intervention and intervention phases

Figure 2 is a representation of the percentage of females that were screened for cervical cancer during the study period. The majority of the respondents were screened for cervical cancer during the intervention period (August 2014 - November 2014).

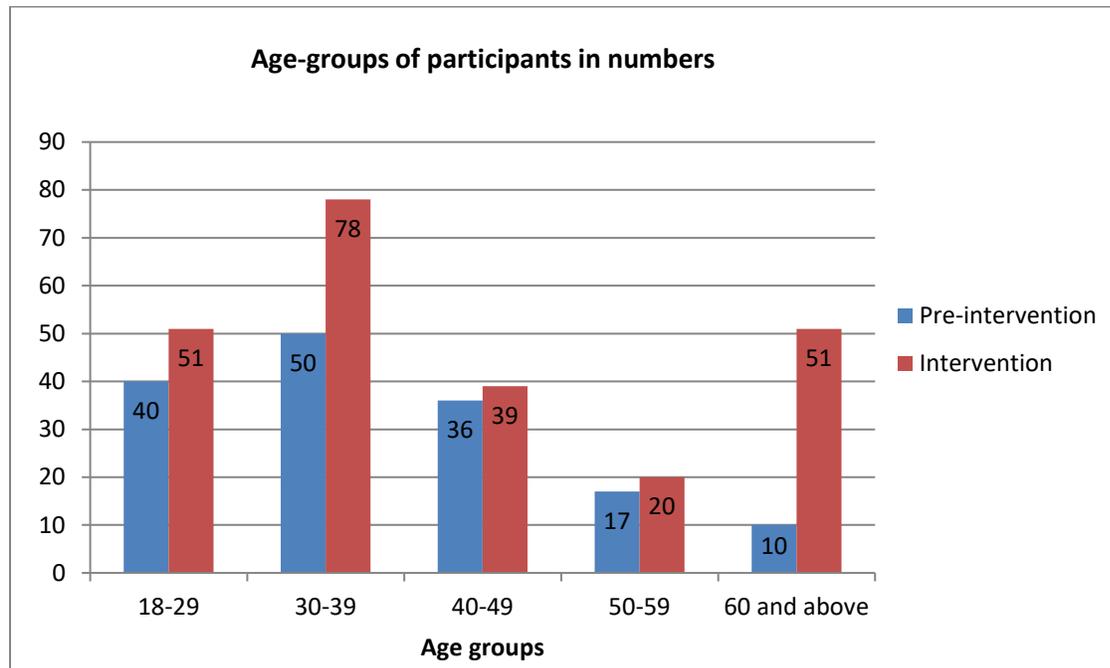


Figure 2: The age groups of participants for both the pre- and intervention phases

What influenced patients to screen for cervical cancer?

Table 2 below shows the reasons that the participants (intervention phase) identified to have influenced them to avail themselves for cervical cancer screening. The results shows that the health education talks at the clinic were the most effective in encouraging women to screen for cervical cancer.

Table 2: Factors that influenced patients to screen for cervical cancer

Reasons for cervical cancer screening	Freq.	Percentage
Attended a health talk at the clinic	147	62
Saw a poster at the clinic	42	17
Was advised by a health professional in the clinic	26	11
Was given a pamphlet by someone who attended a health talk at the clinic	12	5
Was advised by a health professional outside of the clinic	9	4
Was advised by someone who is not a health professional	3	1

Discussion

Although the WHO has set a cervical cancer screening coverage of over 80% to impact on cervical cancer outcomes (WHO, 2006), South Africa has set a lower target of 70%. Despite this, the cervical cancer screening coverage was much lower than the national target. Hoque et al (2014) estimate the national coverage at 20%. Other researchers have reported consistently much lower cervical cancer screening coverage in various areas of South Africa (Jassat, 2011; Mamahlodi et al, 2013). To decrease the incidence of, and the mortality rates arising from cervical cancer, South Africa must improve on the implementation of the National Cervical Screening Programme. The program requires process improvements in several areas, including concerted efforts to increase the screening coverage which can be achieved by active health promotion, such as was done by this study.

The results of the study showed that there was a 56% (from 153 to 239) increase in cervical cancer screening during the four months of the health promotion intervention, compared to the period before the intervention. The strongest element of this intervention was the increase in knowledge about cervical cancer and its prevention among the participants, and increase in knowledge has been associated with an increase in screening in other studies (Audet, 2012; Maree et al, 2012). On the contrary, misinformation and lack of knowledge about cervical cancer were found to hinder prevention (Moodley et al, 2009).

The results also showed that the most effective component of the health promotion intervention was the health education talks, which the researcher did twice a week. Acknowledging that the health talk component may be the most effective means to increase the uptake of cervical cancer screening, creative ways need to be developed to utilize this component maximally. Moreover, Nutbeam (2000) argues that emphasis should be given to more personal forms of communication, as these seem to be more effective as opposed to written forms. This may be achieved through the involvement of health professionals at primary health facilities to conduct the talks on a frequent basis.

The support for the pamphlets that clinic attendees were requested to share with others in their communities did not emerge from this study because only 5% of the participants credited this method with influencing them to avail themselves for screening. However, the extent to which the pamphlets were shared with others could not be determined. The relationship between poor literacy skills and health status has been acknowledged (Nutbeam, 2008), thus the literacy skills of the women in the communities served by the clinic could have played a role in their ability to read and understand the pamphlets and to respond to the messages. The status of female literacy in SSA was also found to be low and negatively impacting on health seeking behavior of women in this region (McTavish et al, 2010), and this study could not determine to what extent the poor literacy skills frustrated this health promotion initiative.

The finding that only 4% of the participants were advised by a health professional to avail themselves for cervical cancer screening suggests that health professionals need to increase their impact and influence in promoting health seeking behaviors in the communities. Smith et al (2003) identified weaknesses in nursing competence as one of the challenges in cervical cancer screening outcomes. While Sibiya and Grainger (2010) recommended ongoing education of nurses as an essential component of achieving desired outcomes of screening for cervical cancer.

The health promotion intervention had several components which supported acceptability of preventive measures against cervical cancer, which included an increase in knowledge. This was supported by other researchers (Abotchie and Shokar, 2009; Iyasu et al, 2010). Although women may not necessarily oppose the idea of having a pap smear, they do not always think that the need to have one applies to them personally (Champion et al, 2007). This intervention addressed that component by applying the perceived susceptibility construct of the HBM, which raised awareness of the susceptibility of cervical cancer. This approach was previously successfully used to increase the uptake of cervical cancer screening in other settings (Gillam, 1991; Burak and Meyer, 1997; Johnson et al, 2008).

In order for the health professionals to be adequately knowledgeable about the disease, understand, accept and comply with the program, they must be trained through the continuing professional development system, as this will enable and encourage them to perform more screening tests. There is also need to educate individuals, communities, employers, and traditional healers about cervical cancer (Moodley et al, 2006; Perkins et al, 2007), and this can be done by utilizing the primary health professionals in health facilities.

Limitations of the study

One of the limitations of the study was that the relationship between demographic variables and screening was not explored, which could have enabled the study to provide stronger explanations for the intervention outcomes.

Conclusion

This study found that active health promotion in a clinic setting could be successfully used to increase the uptake of cervical cancer screening. The intervention is likely to have prolonged impact because the health professionals who participated in the study are likely to use their influence to encourage future patients to avail themselves for screening after the study was completed. Furthermore, clinic attendees can still access the posters even after the study was completed. As proposed by Naledi et al (2011), health care service delivery can be enhanced by giving more decision-making powers to facility managers of clinics, as well as District Management Teams. This decision-making at facilities can have quicker benefits for the cervical screening program, instead of waiting for policy changes at the national level. Lastly, this study

has highlighted the need to enhance the cervical cancer screening program by developing human resources and the related human systems, as advocated by other researchers.

Active health promotion should be integrated into the implementation of the Cervical Cancer Screening Programme, in the form of pre-recorded presentations which could be placed in primary health care facilities to be used over and over again. This can reach many more people who attend the clinics for various reasons. The primary health care outreach teams should adopt cervical cancer screening as one of their specific mandates; this could significantly increase the uptake of screening to reach the state targets. Cervical cancer screening should be included as a key performance indicator for health managers at various levels of the health care system.

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