

# REGISTERED NURSES' PERCEPTIONS OF THE CERVICAL SCREENING PROGRAMME IN PRIMARY HEALTH CARE CLINICS IN THE KWAZULU-NATAL PROVINCE OF SOUTH AFRICA

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## ABSTRACT

Cervical cancer is a significant problem in KwaZulu-Natal, South Africa. However, the implementation of the provincial cervical screening programme has been slow. Registered nurses need to be knowledgeable about the disease and comply with the screening programme. The purpose of this study was to determine the perceptions of registered nurses in the public sector primary health care clinics in KwaZulu-Natal, regarding the cervical screening programme, problems experienced and their compliance with the criteria for selecting clients for screening. An exploratory, descriptive and qualitative design was used. The sample consisted of all consenting registered nurses from the selected clinics ( $n = 21$ ), who participated in focus group discussions. Data were analysed using thematic content analysis. Although appreciative of the screening programme, the nurses disagreed with the starting age of 30 and 10 year intervals for Pap smears, believing that younger women are at risk due to HIV and AIDS and sexually transmitted infections. Further education of registered nurses should ensure that they understand the natural course of the disease and the rationale for the guideline policy.

**KEYWORDS:** cervical cancer, cervical screening, Pap smear, KwaZulu-Natal cervical screening policy, screening age

## INTRODUCTION AND BACKGROUND INFORMATION

Although cancer of the cervix is preventable, it is the most common cancer cause of death among women in sub-Saharan Africa (SSA) (Parkin, Whelan, Ferlay & Storm, 2005) and southern Africa has one of the highest incidence rates in the world. In South Africa it caused the deaths of 3 700 women in 2002 (Denny, 2006) and was responsible for nearly 2% of deaths of women aged 15-44 and 4% of women aged 45-59 respectively (Adar and Stevens, 2000). In the KwaZulu-Natal (KZN) province of

South Africa 1:40 women die from cancer of the cervix (Department of Health, 2000). In 2002 it represented 23% of all newly diagnosed cancers in South Africa (Denny, 2006). It accounts for 18.5% of female cancers in South Africa, with approximately 5 000 new cases reported annually and black women being most at risk (1:23) compared to white and coloured women (1:59) (KZN Department of Health 2004a: 24). De Jonge, Makin & Lindeque (1999: 44) reported more aggressive cervical cancer tumours in black women compared to white women in South Africa. In women of all races, the age specific cervical cancer rates for 1992 remained low up to 30 years of age, but thereafter it increased and peaked at 50 to 59 years (Denny, 2006). Similarly, Sitas et al. (1998 in Smith, Moodley & Hoffman, 2003) reported that the incidence of invasive cancer rises in the age group 35-39, with 87% of cases occurring in women over 35 years of age. It is a common cancer in poor women due to inadequate mass cervical cancer screening, and their cure rates are low if they present late (Denny, 2006). It is strongly associated with specific subtypes of the sexually transmitted human papillomavirus (HPV) (Hoytt, 1998). Despite the availability of vaccines to prevent HPV (CDC, 2008, Bomela & Stevens, 2009), many women will not be immunised. Regular checks including a Pap smear (a cytology-based detection test, hereafter referred to as a 'smear' for brevity's sake) and treatment of abnormalities remain essential for preventing cervical cancer.

Therefore cervical cancer was identified as a health priority and in 2000 a national screening programme was introduced (Department of Health, 2000:1) as well as a screening protocol for regions with limited resources as recommended by the WHO (1999 in Smith, Moodley & Hoffman, 2003). Using these criteria, the KZN cervical screening programme aims to identify women at risk (KZN Department of Health, 2004b: 2-14) by detecting pre-malignant lesions on the transformational zone of the cervix (Le Riche & Botha, 2006). The goal is to screen 70% of women in the target age group within 10 years of initiating the screening programme. This model should decrease cervical cancer incidence by 64% (Miller, 1992 in Smith, Moodley & Hoffman, 2003). Screening programmes are effective provided that they are well organised (Le Riche & Botha, 2006; Gaym, Mashego, Kharsany, Walldorf, Frohlich & Abdool Karim, 2007).

The increase in human immunodeficiency virus (HIV) infected women in resource-poor areas, compounds the problem because they have an increased risk of HPV infection (Goldie, Kuhn, Denny, Pollack & Wright, 2001). South Africa has an estimated 27 million people who are infected with HIV and AIDS (UNAIDS, 2008). About 70% of the HIV positive pregnant women attending antenatal clinics are below the age of 30 (Department of Health, 2007: 5). The prevalence rate among young people aged 20-24 was estimated to be 30%, with the highest prevalence rate of about 40% among women aged 25-29. Cervical cancer is an important AIDS-related disease and is considered as an AIDS-defining illness in women with HIV (KZN Department of Health, 2004a: 29). HIV positive women have a high rate of persistent HPV infections (Hoytt, 1998). HIV-positive women are almost five times more likely to present with cervical dysplasia than HIV-negative women (KZN Department of Health, 2004a: 30).

In recognition of the link between HIV and HPV, in 2004 the KZN cervical screening programme was modified for HIV-positive women recommending shorter and different screening intervals (smears every six months and referral of clients with atypia or dysplasia for colposcopy) and no specification of the age for first smear (KZN Department of Health, 2004a: 30). The KZN policy for women who are not HIV positive states that every woman attending public sector health services is entitled to three free Pap smears from the age of 30 years at intervals of ten years (KZN Department of Health, 2004b).

Newer alternative cervical screening methods being developed (Goldie et al., 2001; WHO, 2002) include DNA testing for HPV and visual inspection with acetic acid (VIA). Strategies using VIA or HPV DNA testing may offer attractive alternatives to cytology-based screening programmes in low-resource settings (Goldie et al., 2001). In developing countries there is often a long interval (1-3 months) between the Pap screenings and when the test result is available. VIA has the advantage of requiring low-technology equipment and the result is available immediately (Jeronimo, Morales, Horna, Pariona, Manrique, Rubinos, & Takahashi, 2005). Although they may be more practical and cost effective, these methods have not replaced the Pap smear for cervical screening.

## **PROBLEM STATEMENT**

Difficulties have occurred with the implementation of the South African cervical screening programme. Fonn (2003) reported that implementation was slow, whilst Moodley, Kawonga, Bradley and Hoffman, (2006) found that cervical screening in the public health service focused on younger women attending family planning and ante natal services. An evaluation of the implementation of the programme in clinics in the eThekweni region, previously named Ilembe, was attempted by conducting focus group discussions with the registered nurses.

The WHO (2002) states that the cervical screening programme must have the ability to “ensure high levels of coverage of the target population, to offer high quality, caring services, to develop and monitor good referral systems that ensure good client follow-up and to ensure that the clients receive appropriate, acceptable and caring treatment in the context of informed consent.” In South Africa, registered nurses implement the programme. It is thus essential that registered nurses are knowledgeable and comply with the stipulations of the programme. Zweigenthal's (1998) study was based in Johannesburg, Fonn (2003) reported the results of a South African wide study, and Smith et al. (2003) conducted their study in the Mitchells Plain area of Cape Town. These studies reported nurse-related problems. In Mitchells Plain, registered nurses' opposition to the policy contributed to low screening coverage (Smith et al., 2003), and nurses did not accept 30 years as the age at first screening. Lack of feedback acted as a barrier to the implementation of the programme (Fonn, 2003). No similar studies conducted in KZN were identified. Registered nurses implemented the programme

in the eThekweni region's clinics. Focus group discussions were conducted with these registered nurses to investigate their perceptions and acceptance of the cervical screening programme.

## **PURPOSE OF THE STUDY**

The purpose of the study was to determine the perceptions of registered nurses in public sector primary health care (PHC) clinics in the eThekweni region, regarding the cervical screening programme, problems experienced and their compliance with the criteria for selecting clients for screening. Problems experienced and their compliance with the criteria for selecting clients for screening.

## **RESEARCH APPROACH**

An exploratory, descriptive and qualitative design was used. The context of the study was the public sector PHC clinics in the eThekweni region. The accessible population consisted of the clinics in the eThekweni region that referred clients to a secondary hospital. A two-stage selection plan was applied (Polit & Beck, 2006). Firstly, two clinics from an urban area and two from a rural area were randomly selected. Urban clinics were labelled as clinics A and B, and rural clinics as C and D.

The second stage involved the selection of all consenting registered nurses from every selected clinic. Registered nurses are the only category of nurses permitted to do smears. The sample consisted of 14 registered nurses from two urban clinics and seven from the rural clinics. Therefore, 21 registered nurses out of a total of 39 (53.8%) participated in the focus group discussions.

## **ETHICAL CONSIDERATIONS**

Ethical approval was obtained from the Ethics Committee of the Durban University of Technology, Faculty of Health Sciences. Permission to conduct the study was obtained from authorities of the hospital and clinics. The study was explained in an information sheet and each participant gave written consent.

## **TRUSTWORTHINESS**

Strategies from Guba's model of trustworthiness were followed, the main aspects being credibility, transferability, confirmability and dependability (Lincoln & Guba, 1985: 290).

To enhance the credibility, the researcher discussed the research process and findings with six expert colleagues experienced in qualitative research and reproductive health. Tape recordings and field notes during the focus group discussions (FGDs) were used

to record data. Permission to have the scribe present during the FGDs was obtained from the participants. The researcher did member checking with participants to verify whether the transcribed notes were true reflections of their perceptions.

Transferability was achieved by providing a full description of the data collection method and data analysis procedures. To achieve the criterion of confirmability, the researcher maintained an audit trail whereby all records were meticulously kept. Dependability was achieved because the methodology was clearly described. Interviews were conducted until data saturation occurred. Field notes were taken and non-verbal cues noted. The researcher transcribed tape recorded data verbatim.

## **DATA COLLECTION**

Focus group discussions regarding the cervical screening programme and selection of clients were conducted with consenting registered nurses at each clinic. The purpose was to develop an understanding of nurses' perceptions, beliefs, attitudes and experiences and to explore the context within which these existed. To ensure accuracy, the discussions were tape-recorded and later transcribed verbatim (Burns & Grove, 2001: 305). The focus group discussion guide's questions elicited the following information:

- nurses' own experiences of having a Pap smear
- experience in taking Pap smears from clients
- criteria applied in taking Pap smears from clients and
- problems experienced with implementing the cervical screening programme, and.
- views regarding the programme, problems and solutions for overcoming problems.

## **DATA ANALYSIS**

The transcribed data were analysed using thematic content analysis (Green & Thorogood, 2004). Themes, codes and relationships were identified and recorded in the format of a mind map.

## **RESEARCH FINDINGS**

Table 1 provides a summary of the findings.

**Table 1: Summary of findings from the focus group discussion**

| <b>Question</b>  | <b>Answers from participants from clinics A, B, C and D</b>   |
|--|---|
| 1. Have you ever had cervical Pap smear done on yourself?                                    | All respondents had a cervical Pap smear done except one from clinic C  |
| 2. If so, what age were you when it was first done?  | All respondents were reportedly 20 -30 years old when their first Pap smears were taken   |
| 3. If you have not had a Pap smear done, what is the reason?                                 | One respondent who had no Pap smear done was unaware of its importance  |
| 4. Have you taken a Pap smear from a client?   | Only one respondent from clinic A had never taken a Pap smear from a client   |
| 5. If not, what is the reason for this?  | One respondent was newly appointed and awaited training for doing Pap smears  |
| 6. At what age do you think a woman should start having a Pap smear done?                    | All respondents indicated that this age should be 20-25 for sexually active women   |
| 7. What criteria do you use to decide to take a Pap smear on a client?                       | Vaginal bleeding, repeated STIs, on request if sexually active, before a tubal ligation   |
| 8. How long does it usually take to obtain Pap smear results from the laboratory?            | Respondents from clinics A, B and C said about six weeks but Clinic D had not received results from the laboratory                      |
| 9. How do you contact clients whose results are positive?                                    | By telephone or by sending messages through community workers, other clients, neighbours  |
| 10. What problems do you experience with following up clients?                               | Incorrect contact details, changes of address, clients without telephones, no house numbers, no postal services, no telephone at clinic |
| 11. Where and how do you refer clients?  | Refer clients to the hospital according to the guidelines   |
| 12. What feedback do you receive from referral institutions?                                 | No feedback unless client comes back to the clinic for the next visit   |
| 13. Do you experience problems with the supply of drugs relevant to the screening programme? | None  |

|  |  |
|--|--|
| 14. What are the problems of the cervical screening programme?   | 30 years for first Pap smear is too late due to HIV, lack of equipment, delayed laboratory results, lack of training, collecting fees from women younger than 30 |
| 15. How could these problems be overcome?                        | Provide free Pap smears on request, enable follow-up of patients   |
| 16. What do you like about the screening programme?              | The tests are free   |
| 17. What do you dislike regarding the screening programme?       | Age of 30 years to start is too late and 10-year intervals are too long  |
| 18. What changes to the screening programme would you recommend? | The first Pap smear should be done at the age of 20 with 5-year intervals  |

- STI- sexually transmitted infection    T/L – tubal ligation

### **Appreciation of the cervical screening programme**

Participants appreciated that cervical screening was provided at no charge to women attending public sector health services, who met the criteria according to the cervical screening policy. They hoped more women would use Pap smear services if all service providers participated as stipulated in the screening policy.

### **Concerns about the Pap smear screening age and intervals**

All participants thought women should have their first Pap smear at the start of their sexual activity, probably at the age of 20 years, and the intervals should be five years due to the high rate of HIV/AIDS in the KZN province. The participants argued that there was an association between cervical cancer and HIV/AIDS and sexually transmitted infections (STIs) hence younger women were at risk.

The participants took Pap smears if there was a history of abnormal vaginal bleeding, repeated STIs, and on request from the client if she was sexually active. Other reasons included a client's first visit for contraceptives, before undergoing a tubal ligation, and visible cervical abnormalities.

### **Challenges to the implementation of the cervical screening programme**

Long periods elapsed between the time of taking the Pap smears and receiving the results, usually six weeks (refer to Table 1). The follow-up system at the clinics was inadequate creating problems with tracking clients with abnormal smears. There were difficulties locating clients due to incorrect client details, a lack of proper addresses, and incorrect or outdated address details. Where possible, results were given to clients telephonically, otherwise through community health workers, or messages were sent



via other clients or neighbours who visited the clinic. One clinic had no telephone. All nurses experienced a lack of feedback from the referral hospital, except if the client came back for the next clinic visit. One participant was not doing Pap smears as she was awaiting training. At one clinic, inadequate equipment, including a broken sterilizer, had resulted in Pap smears not being taken for the previous nine months. Participants had experienced problems with supplies of drugs for infections.

## **DISCUSSION OF FINDINGS**

### **Appreciation of the cervical screening programme**

The participants appreciated that cervical screening was provided at no charge and they hoped more women would use Pap smear services. Cronje and Beyer (2007:168) argue that the coverage of the population chiefly depends on the provision of funds, initiatives on the part of health care services and the compliance of the targeted population. Walker, Michelow and Walker (2002) found that African clients seek help only when cervical cancer is far advanced, thereby rendering cure or control nearly impossible.

### **Concerns about the Pap smear screening age and intervals**

The participants disagreed with the screening programme's criteria regarding age and intervals of screening. The participants believed that the first Pap smear should be done at the age of 20 and thereafter at intervals of five years. As a result of the increased incidence of HIV/AIDS and STIs, younger women were at greater risks of getting cervical cancer (KZN Department of Health, 1999: 68). Approximately half of the registered nurses (Smith & Hoffman, 2000) in Mitchells Plain, Cape Town, thought women should have their Pap smears done at the start of sexual activity, whilst a quarter thought that this should occur when the woman is younger than 30. The participants in the current study also believed that the age for the first Pap smear should be younger than 20 and should be repeated at five year intervals, because of the high rate of HIV/AIDS in the KZN province.

Such sentiments could be criticised on the grounds that the registered nurses might not understand the natural course of the disease nor the rationale behind the screening programme (Fonn, 2003: 903; Smith et al. 2003). These criteria were developed from a mathematical model that sought the most cost-effective screening approach for resource poor settings. By taking three Pap smears, starting at 30 years and continuing at 10-year intervals, for 70% of the population, it was estimated that the incidence could be reduced by 64%. This reduction could be increased but the yield relative to costs would increase, which would be unaffordable. For example, Fonn (2003) pointed out that the number of additional Pap smears generated by lowering the starting age to 20 would be unmanageable for the available cytotechnicians in South Africa.

Gaym et al. (2007: 122) revealed a high prevalence of abnormal Pap smears in young sexually active women co-infected with HIV in the KZN. Moodley and Mould (2005)



found that on average HIV positive women with cervical carcinoma presented 13 years earlier than HIV negative women, whilst Lomalisa, Smith and Guidozi (2000) reported that HIV positive women presented 10 years earlier than HIV negative women. All Pap smears with moderate to severe cervical dysplasias (Gaym et al., 2007) were women (mostly HIV positive) under 30 years of age, whereas these abnormalities usually occur in the 35-40 year age group. The prevalence of low grade cervical dysplasia was much higher than usual, which warranted further investigations among HIV positive women. The findings of these studies contrast with earlier studies that may not have included the influence of HIV infections, such as Goldie in Wang (2002) who argued that cervical cancer caused by HPV progresses slowly, and women infected in their 20s may not develop pre-cancerous lesions until their 30s or 40s. Denny (2006) noted that the mathematical models were developed in the 1980s.

The KZN cervical screening programme recommends shorter and different screening intervals for HIV positive women. These women must have Pap smears every six months and be referred for colposcopy if atypical cells or cervical dysplasia are identified (KZN Department of Health, 2004a:30). The problem is that the HIV status of many of the women remains unknown. Two other reasons could explain the participants' beliefs that a starting age of 30 years is too late. Only one participant had her first Pap smear done after 30. The criteria applied by all the participants when they took their first Pap smear from a client were that the client was between 20 and 25 years of age and was sexually active. This is likely due to the fact that at that time, cervical screening was typically conducted on women under 30 years of age (Baillie 1994 in Denny, 2006).

Zweigenenthal (1998) found that registered nurses, with high levels of knowledge of cervical cancer and screening criteria, were more likely to motivate women to have Pap smears done. The small numbers of Pap smears being done was a major concern in the studies by Smith et al. (2003) and Fonn (2003), as they reduced the likelihood of the national goal of 70% coverage. The participants in this study all gave two correct criteria for deciding whether to take a Pap smear from a client; a history of abnormal vaginal bleeding or any visible cervical abnormality. No participant mentioned the age and interval criteria. It therefore appeared as if they were continuing with past practices based on earlier training, and not complying with the current screening programme policy (KZN Department of Health, 1999).

### **Challenges to the implementation of the cervical screening programme**

The problems related to the implementation of the screening programme, namely delays in receiving results, an inadequate follow-up system, lack of feedback from the referral hospitals and lack of equipment would result in clients with abnormal Pap smears being lost for further treatment. The ability of a screening programme to impact on mortality and morbidity, depends on good relationships between primary and referral sites and monitoring systems (Fonn, 2003). VIA, as an alternative routine screening method,

could be a possible solution for many of these problems. It is cheaper and easier to do than a Pap smear and the results are available immediately (Goldie et al., 2001; Jeronimo et al., 2005).

One participant had not been trained to take Pap smears. The policy (KZN Department of Health, 1999:15) further states that the adequacy rate of a screening facility must reach at least 70% and if the facility consistently achieves below 70%, the screening programme stipulates that the staff will have to be re-trained. Smith et al. (2003) suggested that low coverage may be due to registered nurses' opposition to and poor understanding of the screening programme. Given that the participants disagreed with the starting age and intervals for Pap smears, and mentioned inappropriate criteria, there was a need for further training.

## **LIMITATIONS**

Only twenty-one registered nurses participated in the focus group discussions. However, there was remarkably little variation in the findings between the focus group discussions as portrayed in Table 1.

## **CONCLUSION**

Despite the commendable screening programme, implementation challenges exist in KZN. In this setting with limited resources, the registered nurses who participated in the study, believed that Pap smears might not meet the objectives of reducing cancer of the cervix. Pap smears are started too late and are done too infrequently, considering the high prevalence of HIV in the province and the unknown HIV status of many clients attending the clinics. These beliefs are also likely due to their personal health experiences, past training and practices, and not knowing the rationale for the criteria.

## **RECOMMENDATIONS**

The use of VIA as a screening tool should be considered as it is a realistic alternative for low-resource settings. VIA training should be instituted and registered nurses trained to perform it effectively. Part time registered nurses, possibly including retired registered nurses, could perform VIAs at primary health care clinics, together with breast examinations. This could enable better use of limited resources, such as cytotechnologists. Ongoing education of registered nurses to ensure adequate understanding of the natural course of the disease and the rationale for the screening criteria is essential.

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