International Journal of
Science Inventions Today
www.ijsit.com
ISSN 2319-5436
Research Article

THE PREVALENCE OF CERVICAL CANCER AND SCREENING IN MOGADISHU, SOMALIA

Iqra Sharif Hashi Siad

Department of OBS/Gynecology, University of South China

ABSTRACT

Aim: To assess the prevalence of cervical cancer and screening in Mogadishu, Somalia.

Methods: Four distinct phases of descriptive cross-sectional surveys were conducted during the course of the research period. Out of 1150 women between the ages of 25 and 50 who were invited, 100 women attended the cervical cancer screening clinic. The target research groups were surveyed using a variety of methods, including a semi-structured questionnaire that inquired about demographic, reproductive, and other risk factors.

Results: 15.7% of the women (146/925) overall tested positive, which is significantly higher than the Pap smear rate (7.6% vs. 5.1%; p=0.004). In total, 27/146 (or 18.4%) of all positive women received VIA and Pap smear results. Women who tested positive and underwent colposcopy and biopsy were found to have intraepithelial cervical neoplasia (CIN) in 73.9% of cases (108/146). The parallel tests are less specific than the individual tests, but they are more sensitive than the individual tests when taken separately.

Conclusion: The results of the study showed that VIA testing was more likely to be positive in women who had episiotomies, assisted vaginal births, uterine cervix lacerations, or female genital mutilations. According to the screening results, VIA is more sensitive than Pap smear. Although VIA is a useful, feasible, and acceptable cervical cancer screening technique in a primary healthcare setting in Mogadishu, positive results still need to be confirmed by colposcopy and biopsy.

Keywords: *Pap Smear, VIA, Risk Factors, Screening, Feasibility, Cervical Cancer*

INTRODUCTION

Cervical cancer is one of the most frequently diagnosed condition and the fourth worst killer of women with cancer, with an estimated 604,000 new cases and 342,000 deaths globally in 2020 [1]. Cervical cancer is the most often diagnosed malignancy and the main cause of cancer mortality in 36 countries, including the vast majority of those in Melanesia, South America, and South-Eastern Asia[2]. The highest rates of regional incidence and mortality are found in Sub-Saharan Africa, with Eastern Africa, Southern Africa, and Middle Africa having particularly high rates (Malawi has the highest incidence and mortality rate in the world). While incidence rates are seven to ten times lower, death rates can vary by up to 18 times in Northern America, Australia/New Zealand, and Western Asia (Saudi Arabia and Iraq) [3, 4].

Numerous cervical cancer prevention and control strategies have been developed and implemented globally [5]. These treatments, which involve early detection and treatment of precancerous lesions, have dramatically reduced the prevalence of the disease. Precancerous lesions can be found using a variety of techniques, such as cervical cytology (Pap smear), visual acetic acid inspection of the cervix (VIA), and HPV DNA testing [6]. Each of these methods has particular advantages, disadvantages, and demands on the healthcare system. By taking the HPV vaccine prior to their first sexual experience and, consequently, prior to being exposed to HPV infection, girls and women can greatly reduce their risk of acquiring cervical cancer over time. Raising women's awareness of cervical cancer's risks and the benefits of screening programs is essential for disease prevention [7].

The highest rates of regional incidence and mortality are found in Sub-Saharan Africa, with Eastern Africa, Southern Africa, and Middle Africa having particularly high rates [8]. Sub-Saharan Africa has the lowest prevalence among women (country-level median, 16.9%; range, 0.9% -50.8%), as opposed to high-income countries, where it is >60%. Annual cervical cancer diagnoses rate in sub-Saharan Africa is 34.8 per 100,000 females, while the mortality rate is 22.5 per 100,000. Low preventive health behaviors and a lack of access to reliable screening services that enable early detection and treatment can account for significant variations [9].

Approximately 4.61 million women in Somalia who are 15 years of age or older are at risk of acquiring cervical cancer[10]. According to current estimates, 812 women die from the disease each year, while 1055 women receive a cervical cancer diagnosis. In Somalia, 10.2 new instances of cervical cancer are diagnosed for every 100,000 females each year, and 13.2 new cases are diagnosed [13]. The same factors that contribute to cancer in other African countries also exist in Somalia[11]. The age-standardized rate was 81.6 per 100,000, the predicted annual number of new cases of cancer was 21900, the expected annual number of cancer fatalities was 16700, and the chance of having cancer before the age of 75 years was 8.6% for the entire population. There is only one clinic in Somalia that specializes in the early identification and treatment of cancer [12]. However, there are no screening programs, educational materials, or preventative cancer services available. There is no comprehensive research agenda on cancer because of a lack of funding and competition from other health goals[13].

In order to improve the situation, more resource-intensive screening and immunization programs should be implemented there. Programs for HPV vaccination may reduce the long-term burden of cervical cancer if there is a sufficient uptake [14]. The most effective and affordable strategy, according to the WHO, is a 2-dose HPV vaccine for females between the ages of 9 and 13 years old. High-quality screening programs are necessary for the prevention of cervical cancer in women who have not received the vaccination as well as for oncogenic subtypes not covered by the vaccine[15]. The WHO recommends screening women between the ages of 30 and 49, followed by timely and efficient treatment of precancerous lesions, whether by visual examination with acetic acid in resource-constrained settings, a Papanicolaou test (cervical cytology) every 3 to 5 years, or HPV testing every five years.

Aim of the Study:

The aim of this study was to assess the prevalence of cervical cancer and screening in Mogadishu, Somalia.

MATERIALS AND METHODS

Research plan:

Four phases of descriptive, cross-sectional surveys were conducted over the course of the research period. A hospital-based survey was done in the second phase to collect data from the cancer registry unit in order to discover predictors of various cervical cancer stages at diagnosis. The first phase involved doing pilot study to look into cervical cancer risk factors. The performance of the VIA test was conclusively compared to that of the Pap smear in the third phase, and a survey was conducted to assess physicians' knowledge and cervical cancer screening practices in the fourth phase.

Study population:

In the pilot study, asymptomatic women living in Mogadishu and the neighboring areas of Somalia made up the study population. The target population for the second survey was women who had been identified as having cervical cancer and had enrolled at the cancer registry unit in the diagnostic facility.

Sample size and methods of selection:

Data on married women aged 25 to 49 was acquired from the Statistic Department of the Somalia Ministry of Health in Mogadishu. In total, there were 1150 women. GLABCAN statistics show that the prevalence of cervical cancer in Somalia is 13.3% from 2017 to 2020.

Data Collection:

The target research groups were surveyed using a variety of methods, including a semi-structured questionnaire that inquired about demographic, reproductive, and other risk factors. The recruited women underwent screening utilizing colposcopy and biopsy, as well as conventional Pap smear procedures and visual examination with acetic acid (VIA). A self-administered questionnaire on screening practices and cervical cancer awareness was given to doctors. Complete data of the women with cervical cancer diagnosed

in the years 2017 to 2020 were obtained from the Statistic Department of the Somalia Ministry of Health in order to find predictors of various stages of cervical cancer upon diagnosis.

RESULTS AND DISCUSSION

Out of 150 women between the ages of 25 and 50 who were invited, 100 women attended the cervical cancer screening clinic. (67% answer rate). the character qualities of the subjects. 35 years old on average, 36% illiterate, and 33% employed. Female genital mutilation (20.15%), uterine cervix laceration (18.6%), parity (5.8%), episiotomy (5.0%), and contraceptive use (30%) were among the procedures performed on the participating women. explains how risk factors and VIA positive are related. Additionally, a positive VIA was strongly linked with aided vaginal birth (OR 14; 95%CI: 3.2-61.1; p=0.0004). High statistical significance was found for the association between uterine cervix laceration and VIA positivity (OR 18.6, 95% CI: 3.2-107.9; p=0.001). Contrary to nulliparous women, parous women had a considerably higher chance of testing positive for VIA (OR 5.8; 95% CI: 1.2- 27.0; p=0.02). Additionally, no association between a positive VIA test and female genital mutilation was discovered in this study (OR 0.7; 95 percent CI: 0.1-3.8, p=0.7). The data also showed a statistically significant association between a positive VIA test and episiotomy (OR 5.0; 95 percent CI: 1.2-25.1; p = 0.04).

All of these relationships remained statistically significant after taking into account additional factors like age, educational level, and employment as well as potential confounding factors like smoking, the number of partners one has had sexual relations with, the circumcision of a male partner, and the use of a contraceptive method. 98% of the examined ladies were content with their decision to get screened.

In addition, half of the research sample's female participants were married and lived in rural locations. Health insurance was 37% more expensive. The sample's female participants had invasive cervical cancer that had spread past the cervix in about 72% of cases. Compared to women with early-stage disease, those with advanced cervical cancer frequently had older ages. More than 50% of patients had a stage IV diagnosis.

The proportion of women who had an advanced stage cervical cancer diagnosis was higher than the proportion who obtained an early stage diagnostic (71.5% versus 28.4%). Early stage cervical cancer was detected in more women under the age of 54 than over the age of 54 (30.1% versus 27.4%, respectively). While cervical cancer in an advanced stage was more frequently found in women under the age of 54 than in those over the age of 54 (72.6% vs 69.9%, respectively). Women who resided in urban areas had a higher chance of getting an early-stage diagnosis than those who lived in rural areas.

Women who had assisted vaginal delivery, female genital mutilation, episiotomy, or uterine cervix laceration are more likely to test positive for cervical cancer, according to the findings of this study on the practicality and acceptability of the VIA screening procedure in Mogadishu, Somalia. Women with cervical cancer in Somalia are more likely to be diagnosed at an advanced stage if they are elderly, uninsured, and live in a rural area. VIA and Pap smear screening tests on women revealed positive results in 12.7% of cases. 7.6%

against 5.1%; p=0.004; VIA identified significantly more positive women than Pap smear. VIA has a better sensitivity but a worse specificity when compared to a Pap smear.

The vast majority of women who had testing said VIA was satisfactory, and the survey's doctors had adequate knowledge of cervical cancer and screening methods. Overall findings indicate that VIA may be used in basic healthcare settings in the research region to screen for cervical cancer; however, colposcopy and biopsy are still needed to confirm positive results. Additionally, research shown that VIA is an efficient and well-tolerated cervical cancer screening method in the Somali context.

In this pilot study in Mogadishu, Somalia, 13.3% of the 100 women who took part had a positive VIA test. The biggest risk factors identified were female genital mutilation, episiotomy, assisted vaginal birth, and uterine cervix laceration. The VIA prevalence in Somalia, where 26% of the sample population tested positive for the VIA virus, was lower than that of Ethiopia, where it was 13.8 percent, but higher than that of Kenya, Mozambique (31.7%), and Latin America (12%).

The results unmistakably suggest that uterine cervix stress events are linked to cervical cancer in Mogadishu that has a VIA positive status. This also applied to women who had aided vaginal births, genital mutilations, uterine cervix lacerations, vaginal deliveries, episiotomies, and were parous. Furthermore, an earlier episiotomy has been demonstrated as a site for the implantation and recurrence of the disease in women who had cervical cancer during pregnancy and delivered vaginally. Women who are highly parous have been demonstrated to have a higher incidence of cervical cancer, and the trauma and repair experienced during birth have also been associated to metaplastic changes.

The results of this study showed that women without a high probability of being VIA positive were uneducated and unemployed, which is consistent with prior findings indicating cervical cancer is more common in groups with lower socioeconomic status and less education. Due to their high prevalence in the sample group, factors including partner circumcision and lower body cosmetic smoking could not be considered as risk factors for cervical cancer. This requires research with a larger or more representative sample. The study's findings indicate that episiotomy, female genital mutilation, and assisted vaginal birth are new risk factors for VIA positivity.

CONCLUSION

The study found that women who experienced cervix damage via a vaginal birth, uterine cervix laceration, female genital mutilation, or episiotomy were more likely to test positive for the disease. The results show that cervical trauma raises the risk of infection, which can result in cervical cancer. The importance of developing norms and SOPs for assisted vaginal birth or episiotomy in obstetrics practice, as well as secure delivery facilities, is emphasized in this conclusion. The prevalence of cervical cancer may also be greatly reduced if female genital mutilation were to end.

Training birth attendants in safe delivery techniques and increasing community awareness of the risks associated with female genital mutilation may both significantly aid in bringing up the topic. The

introduction of cervical cancer screening in Somalia needs to be given more thought. The results of the study show that VIA is more sensitive and less specific than a Pap smear. The specificity and sensitivity of cervical cancer diagnosis were enhanced by the VIA/Pap combo. The study's conclusions indicate that VIA is an effective screening technique for identifying cervical cancer in areas with limited access to healthcare. In Somalia's primary healthcare settings, it is also a useful and well-tolerated screening method.

Acknowledgements:

I thank all patients who participated in this study and all the staff engaged in this study.

REFERENCES

1. Abeloff MD, Armitage JO, Niederhuber JE, Kastan MB, McKenna WG . Clinical Oncology. 3rd ed. Philadelphia, PA: Elsevier Churchill Livingstone; 2004.
2. Agency for Health Care Policy and Research. Evaluation of cervical cytology. Technology Assessment Report No. 5. Rockville, Agency for Health Care Policy and Research.1999. (Available at http://www.ahcpr.gov)
3. Anderson MC, Brown CL, Buckley CH, Fox H, Jenkins D, Lowe DG, Manners BT, Melcher DH, Robertson AJ, Wells M. Current views on cervical intraepithelial neoplasia. Journal of Clinical Pathology. 1991; (44): 969–78.
4. Anderson MC. Premalignant and malignant squamous lesions of the cervix. In: Fox H. Haines and Taylor: obstetrical and gynecological pathology. Edinburgh: Churchill Livingstone, 1995:273–322.
5. Anne Andermann, Ingeborg Blancquaert , Sylvie Beauchamp , Véronique Déry. Revisiting Wilson and Jungner in the genomic age: a review of screening criteria over the past 40 years. Bulletin of the World Health Organization ,volume 86, April 2008, 241-320.
6. Bayo S, Bosch FX, de Sanjosé S, Muñoz N, Combita AL, Coursaget P, Diaz M, Dolo A,van den Brule AJ, Meijer CJ. Risk factors of invasive cervical cancer in Mali. International Journal of Epidemiology, 2002 Feb, volume 31,1:202-9.
7. Bell S, Porter M, Kitchener H, Fraser C, Fisher P, Mann E. Psychological response to cervical. Preventive Medicine,1995, 24:610-616.
8. Bosch FX, Manos MM, Munoz N, Sherman M, Jansen AM, Peto J, Schiffman MH, Moreno V, Kurman R, Shah KV. Prevalence of human papillomavirus in cervical cancer: a worldwide perspective. Journal of National Cancer Institute.1995, (87): 796-802.
9. Bradley J, Barone M, Mahé C, Lewis R, Luciani S. Delivering cervical cancer prevention services in low-resource settings. International Journal of Gynecology & Obstetrics, 2005 May, volume 89 Suppl 2:S21-9.
10. Bray F, Carstensen B, Moller H, et al. Incidence trends of adenocarcinoma of the cervix in 13 European countries. *Cancer Epidemiol Biomarkers Prev.* 2005;14:2191-2199.
11. Brisson M, Kim JJ, Canfell K, et al. Impact of HPV vaccination and cervical screening on cervical cancer

elimination: acomparative modelling analysis in 78 low-income and lower-middle-income countries. *Lancet.* 2020;395:575-590.

12. Buckley CH. Oncogene expression in gynecological cancer. The biology of gynecological cancer, RCOG Press 1995:21–33.
13. Buckley CH. Tumors of the cervix uteri. In: Fletcher CDM, ed. Diagnostic histopathology of tumors. Edinburgh: Churchill Livingstone, 1995b:478–94.
14. Buntinx F, Knottnerus JA, Andre J, Crebolder HF, Essed GG.The effect of different sampling devices on the presence of endocervical cells in cervical smears. A systematic literature review. European Journal of Cancer Prevention. 1994, 3: 23-30.
15. Chan PKS, Li WH, Ma Wi, Cheung JLK, Cheng AF. High prevalence of human papillomavirus type 58 in Chinese women with cervical cancer and pre-cancerous lesions. Medical Virology Journal,1999, 59: 232-238.