CERVICAL CANCER SCREENING AND TREATMENT SERVICES IN SOUTH WEST SHOA ZONE OF OROMIA REGION

Hezkiel Petros, MD[1], Andarge Abie Ayele[1], BSc, MPH

[1]St. Luke Catholic Hospital , Waliso, Oromia Regional State, Ethiopia

ABSTRACT

INTRODUCTION: Global cervical cancer incidence increased by 0.6% annually for the last 30 years and reached 454,000 cases per year in 2010. Cervical cancer death rates have been decreasing but the disease still killed 200,000 women in 2010, of which 46,000 were aged 15-49 years in developing countries. There are an estimated 7,000 new cases of cervical cancer in Ethiopia per year; nearly 5,000 people are estimated to die of the disease per year.

OBJECTIVE: To describe outcome of cervical cancer screening services in Walliso St. Luke Catholic Hospital, to assess patient characteristics and associated factorsand to suggest recommendations based on findings

METHOD: Women who come for screening from September 2015-August 2016 at St. Luke Catholic Hospital in South West Shoa zone of Oromia region were included in the study. Patient sociodemographic characteristics, information on therapy and outcome were extracted from screening forms, log registration and patient files retrospectively with document review. Diagnosis of precancerous lesion is made by applying 3-5% acetic acid; positive precancerous lesions were treated with either cryotherapy or LEEP.

RESULT: The hospital screened a total of 1,004 clients with VIA, 73 clients had aceto-white lesion, 68 clients were eligible for cryotherapy treatment and 93% were treated with see and treat approach.

CONCLUSION AND RECOMMENDATION: The screening service is relatively good and with good treatment coverage rate, but the positivity rate is higher for some months so need to improve the quality of the screening and treatment services.

(Ethiopian Journal of Reproductive Health 2018;10:15-21)

INTRODUCTION:

Global cervical cancer incidence increased from 378,000 cases per year in 1980 to 454,000 cases per year in 2010 with a 0·6% annual rate of increase[1]. The majority of cases are found in developing countries; in Africa almost 60,000 women die of the disease each year[2]. Cancer patients in sub-Saharan Africa tend to present with advanced disease with low level of community awareness and lack of access to the diagnosis and treatment services[3]. The cancer burden in Africa is likely to increase as a result of increases in HIV. Recent studies have demonstrated that visual inspection with acetic acid (VIA) is an alternative screening method[4,5]. It is cheap and non-invasive, and can be done in a low-levelhealth facility like a health center[6]. More importantly, this "see and treat" method ensures adherence to treatment soon after diagnosis, hence stemming the problem of failing to honor patient referrals[7–9].

Cryotherapy as a method of treatment for precancerous lesions is effective[10,11] and easier to implement than other treatment modalities such as loop electrosurgical excision procedure (LEEP), loop excision of the transformation zone (LETZ) and cone biopsy [12].

Secondary prevention of cervical cancer through screening and treatment of precancerouslesions of the cervix is associated with an overall reduction of morbidity and mortality due to cancer of cervix[10, 13, & 14]. Against this background, Ethiopia launched the first comprehensive national action plan on non-communicable diseases (NCDs) in 2014 and national plan for prevention and control of cervical Cancer and Established a national steering committee on cancer control (co-chaired by the First lady of Ethiopia and the minister of health).

St. Luke Catholic hospital and collage of nursing and midwifery is situated in Wolliso town a capital town of South West Shoa zone Oromia regional state in collaboration with Doctors with Africa CUAMM. Oromia regional health bureau launched cervical cancer screening VIA and cryotherapy in the hospital and 11 health centers. Hence, this report highlighted the performance of cervical cancer screening service at St. Luke Catholic Hospital with VIA, VIA test positivity and treatment rate.

SUBJECTS AND METHOD

Women who come for screening from September 2015-August 2016 at St. Luke Catholic Hospital in South-West Shoa zone of Oromia region were included in the study. Patient socio demographic characteristics, information concerning therapy and outcome were extracted from screening forms, log registration and patient files retrospectively with document review.

Diagnosis of precancerous lesion is made by using 3-5% acetic acid applying over cervix and inspecting the cervix after 1 min, the precancerous lesion is found to be positive if the clinician found aceto-white lesion in the Squamo-Columnar Junction (SCJ). Diagnosis of cervical cancer is made after punch biopsy which is sent to Addis for pathological analysis and turnaround time is 3-4 weeks.

For those clients with precancerous lesion positive and eligible for cryotherapy, the treatment is provided

immediately with see and treats approach, whereas for the larger lesions the treatment modality is with LEEP or conizationaccording to the national cervical cancer screening and treatment guideline. For invasive early stage disease less than 2A are scheduled for possible radical hysterectomy and bigger stage disease were referred for possible chemo radiotherapy. Palliative care is provided to all cancer patients.

Ethical approval was obtained from St Luke Catholic Hospital ethical reviewboard (IRB) and no name or client identification information was used to assess the client socio- demographic and other related data.

RESULT

Totally 1,004 clients were screened with VIA from September 2015 to August 2016. From the total 1,004 clients, only 876 clients had full socio demographic data which makes the completeness of documentation of all relevant data. According to the document review conducted, from the total of 876 clients, majority of them (90%) were coming from South West Shoa zone followed by Gurage zone of Southern Nation and Nationality People Region (4.8%) and Jimma zone of Oromia region (0.3%). The district address of those clients came from South West Shoa zone were Woliso Urban, Woliso Rural and Goro districts with 52%, 23% and 8% respectively. The marital status of the clients was married 818 (93.4%) followed by divorced 25 (2.9 %) and widowed 18 (2.1 %) from the total. The clients had got the information about the screening services from different sources, according to document review, they have got the information from health care workers 699 (79.8 %), health development armies 63 (7.2 %) and health extension workers 20 (2.3 %).

Human immunodeficiency virus (HIV) sero status of clients were assessed and offered for HIV screening services. From 876 clients, 73 (10.6 %) clients had positive sero-status for HIV, and 590 (67.4 %) clients did not know their HIV sero-status.

The hospital screened a total of 1,004 clients with VIA. From those total screened clients with VIA, 73 (7.3%) clients had aceto-white lesion and the rest were found to be negative for precancerous lesion. From 73 precancerous lesion clients, 68 clients were eligible for cryotherapy treatment and five were not eligible due to big lesion (lesion involve more than 85% of the cervix). From those 73 VIA positive clients, 56.5% of the clients lie in the age range of 16-20 years, followed by greater than 20 years (31.9%) and less than 15 years (11. 6%).The marital status of precancerous clients was mainly married (89.4%) and the parities were mainly para 2 to 4 followed by parity above 5 (35.7%).

Table 1: -Sociodemographic characteristics of the study participants

Variable	No.	%
Source of information		
Health Care Workers	699	79.8
HDAs	63	7.2
Family	8	0.9
Mass media	5	0.6
HEWs	20	2.3
Friends	9	1.0
Others	72	8.2
Total	876	100
Address of the clients by zone of residency		
South West Shoa	788	90.0
Gurage	42	4.8
Jimma	3	0.3
West Shoa	2	0.2
Addis Ababa	2	0.2
Others	39	4.5
Total	876	100
Address of the clients by woreda of residency in South West Shoa zone		
Woliso Urban	413	52
Woliso Rural	179	23
Goro	63	8
Wonchi	36	5
Others	97	12
Total	788	100
Marital Status of the client		
Single	13	1.5
Married	818	93.4
Divorced	25	2.9
Widowed	18	2.1
Others	2	0.2
Total	876	100

DISCUSSION

The VIA-positive rate is 7.3% out of 1,004 screened, 73 were positive (see table 1 & 2) varied in months the highest rate after April (11%-30%) go in line with the findings in Zambia as high as 28.0% to as low as 5.7% in Nigeria. However, the overall rate of approximately 7.3% positive results is in agreement with other studies and WHO recommendation of test positivity rate[5].

The target population was all women aged 30 - 50 years, and resident in the catchment area. In collaboration with the information, education and communication (IEC) team in the ministry of health (MOH), existing IEC materials on cervical cancer and its prevention were adapted and designed to local needs and aimed to motivate women to come for screening. Community mobilization was achieved through activities such as the use of mass media; plays; public, church, or funeral meetings; health education at schools; distribution of posters or pamphlets; or direct personal contact. Eighty percent of the clients have got the information from health education sessions in the hospital and only 5% from media the proportion is expected to increase as more media coverage in different language has already started. From the total positive clients, 93% of all VIA positive lesion were eligible for cryotherapy and treated with cryotherapy which gave a 993% treatment rate higher than other studies and WHO bench mark of 10-15% need LEEP services there is tendency of under diagnosis of bigger lesion.

From the total 1,004 clients, 37 had suspicious lesion of whom 31 had invasive cancer and six were having chronic cervicitis/polyp had pathology specimen taken and eight were lost to follow up may be because of financial limitation and social reasons like lack of support systems and death.

Table 2: - VIA test result and patterns of test positive clients with different variables

VIA test result			
Negative	894	89.10%	93.5
Positive	73	7.30%	6.5
Suspicious	37	3.30%	
Total	1004	100	100
Single	1	1.5	1.5
married	59	89.5	89.5
divorced	4	6	6
widow	2	3	3
Total	74	100	100
Parity of VIA positive clients			
1	4	5.7	5.7
4-Feb	41	58.5	58.5
Above 5	25	35.7	35.8
Total	74	100	100
Age at marriage of VIA positive clients			
Less than 15	8	10.8	10.8
16-20	39	52.7	52.7
>20	22	29.7	29.7
Unknown	5	6.8	6.8
Total	74	100	100
Mensural cycle of VIA positive clients			
regular	39	52.7	52.7
irregular	16	21.6	21.6
Breast feeding	7	9.5	9.5
menopausal	8	10.8	10.8
Unknown	4	5.4	5.4
Total	74	100	100
Family planning utilization status of VIA positive clients			
Using FP	57	77	77
Not using FP	17	23	23
Total	74	100	100
History of STI infection for those VIA positive clients			
Had STI	14	21.20%	21.2
Had no history of STI	52	78.80%	78.8
Unknown	8	10.9	10.9
Total	74	100	100
HIV sero-status of VIA positive clients of the study participants			
HIV positive	7	9.5	9.5
HIV negative	58	79.5	79.5
UK	8	10.9	10.9
Total	74	100	100
VIA per month			
Sept	63	6.30%	
Oct	140	13.90%	
Nov	85	8.40%	
Dec	42	4.20%	
Jan	82	8.10%	
Feb	66	6.60%	
Mar	82	8.10%	
Apr	20	1.90%	
May	102	10.20%	
Jun	145	14.40%	
July	45	4.50%	
Aug	88	8.80%	

Currently, the hospital has started arranging car and fee for referral cases and communicate with *Mathiowos Wondu Yecancer* association for possible accommodation and support.

Eight (25.8%) had early stage disease compared to 16% from Black Lion Hospital (BLH) because patient had to spend long to arrive at oncology service of BLH. Whereas early stage 1B1-2 two had been operated at this hospital and others given appointment. Around 21/31 (67.7%) had stage 2b-3b and 2 (6.4%) had stage four and critical stage for whom only palliative care were provided 3.1% has invasive cancer much higher than baseline rate in many screening sites. Is was compared to 1.7% different African countries WHO estimate is less than 1% in screening population because it referral center for the zone.

A total of 87.7% of all VIA-positive cases were eligible for cryotherapy demonstration project in six African countries and 97% received cryotherapy mostly with in the same day. Out of 5 cases who decline to take the treatment, 3 wanted to consult their husband and did not come back again.

In six African countries the majority of clients (63.4%) received cryotherapy within one week of initial screening. The single-visit approach enabled 39.1% of clients to be screened and treatedon the same day. However, over 39.1% of all clients eligible for cryotherapy did not receive treatment, for various reasons, including equipment not being in working order at the time of screening. Rates of VIA positivity varied greatly across sites, ranging from as high as 28.0% to as low as 5.7%. Nevertheless, the total rate

of positive VIA results was 7.3%, which is in agreement with other studies. The high rate of positive results (28%) recorded in Zambia can be explained by the following facts. Those were a large number of women screened were in a very young age group (16–26 years), the period closes to sexual debut when human papillomavirus (HPV) infection is usually acquired, and leading to visible cervical changes consistent with HPV infection. Further, this is a period in life when squamous metaplasia of the cervix is prevalent a visual finding that can often be confused with precancerous change. Although Nigeria had a VIA-positive rate of 5.7%, the data from this demonstration project did not capture adequate social characteristics of the women. Thus, no conclusions can be made about the reason for the low rate of positive results, in the absence of information on lifestyle factors such as religion, number of sexual partners and sexual networking, and vaginal health. A number of sites were not able to offer the "screen and treat" approach, and this accounted for the time lag between testing and cryotherapy, and the women lost to follow-up. Women at a facility without cryotherapy equipment who had apositive VIA test and were eligible for cryotherapy were referred to a district hospital.

CONCLUSION AND RECOMMENDATION

In conclusion the screening service is going well. But the test positivity rate in some months was higher than the WHO recommendation and the clients referred for LEEP is below the World Health Organization (WHO) recommendation that might be due to skill gap of under diagnosis. Moreover, relatively higher clients are diagnosed with cancer that may be associated with low level of awareness and accessibilityof the service. There for it is recommended that the quality of the service provision strictly monitored, mentoring of the service providers conducted by experienced and senior staffs.

The awareness creation activities better be intensified to reach more clients at precancerous stage and early stages of cervical cancer. Quality assurance (QA) of a screening program involves the systematic monitoring and evaluation of the various aspects of screening services and facilities to maximize the probability that the program is attaining the minimum standards of quality. Quality assurance of the cervical cancer screening program requires a robust system of program management and coordination, and assuring that all aspects of the service are performing

adequately.

Corresponding Author

Hezkiel Petros, MD

St. Luke Catholic Hospital, Waliso, Oromia Regional State, Ethiopia

hezkielpet@gmail.com

REFERENCES

1. Forouzanfar MH, Foreman KJ, Delossantos AM et al. Breast and cervical cancer in 187 countries between 1980 and 2010: a systematic analysis. Lancet 2011; 378:1461–1484.
2. Cancer Incidence and Mortality Worldwide.International Agency for Research on Cancer. Available at: http://globocan.iarc.fr. Accessed March 30,2014.
3. Cancer in Africa: Epidemiology and Prevention.Parkin DM, FerlayM, Hamdi-CherifM, SitasF,Thomas J, Wabinga H, Whelan SL, eds. IARC Scientific Publications No. 153. IARC Press Lyon,France 2003.
4. Curado MP, Edwards B, Shin HR et al. Cancer Incidence in Five Continents, Vol. IX: IARC Scientific Publications No. 160. Lyon, France: International Agency for Research on Cancer, 2009.
5. Dey S, Hablas A, Seifeldin IA et al. Urban-rural differences of gynaecological malignancies in Egypt (1999–2002). BJOG 2010; 117:348–355.
6. Sighoko D, Bah E, Haukka J et al. Populationbased breast (female) and cervix cancer rates in the Gambia: Evidence of ethnicity-related variations. IntJ Cancer 2010; 127:2248–2256.
7. Braun G, Fuhrer A, Breitenstein E Et al. Cancer in Africa: AORTIC 8th International Cancer Conference'Enteringthe 21st Century forCancer Control in Africa' 30.11.-2.12.2011. Breast Care (Basel) 2012; 7:177–179.
8. United Nations Population Estimates, "Total Population-Female." Available at http://esa.un.org/unpd/wpp/Excel-Data/population.htm.Accessed March 6, 2013.
9. Central Statistical Agency [Ethiopia] and ICF International. Ethiopia Demographic and Health-Survey 2011. 2012. Addis Ababa, Ethiopia and Calverton, Maryland, USA: Central Statistical Agenc and ICF International.
10. Population Fact sheets Ethiopia. Available http://globocan.iarc.fr/Pages/fact_sheets_populati on.aspx.AccessedMay 15, 2014.
11. Holmes MD, Dalal S, Volmink J et al. Noncommunicablediseases in sub-Saharan Africa: The case for cohort studies.PLoS Med 2010;7: e1000244.
12. Jemal A, Bray F, FormanDet al. Cancerburden in Africa and opportunities for prevention. Cancer2012; 118:4372–4384.
13. Olsen J, Bertollini R, Victora C Et al. Global response to non-communicable diseases: The role of epidemiologists. Int J Epidemiol2012; 41:1219–1220.

14. Pecorelli S, Zigliani L, Odicino F. Revised FIGO