Concept Paper

Title: Piloting screen and treat program for cervical cancer in Arua district

ORGANIZATION: World Action Fund

TYPE OF ORGANISATION: Local NGO

PROJECT LOCATION: Arua District - Uganda

SCOPE: Arua District

BENEFICIARIES: 2,000 women aged 15-50 years

PROJECT DURATION: 12 months

FUNDING REQUEST: US$ 30,000

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Cervical Cancer is the most common cancer among women, most especially in Sub-Saharan Africa which carries the majority burden of the disease (WHO update 2009). Uganda has one of the highest cervical cancer rates in the world and poor access to screening programs lead to high mortality rates Ministry of Health (MoH, 2010). In Uganda, every year approximately 3,915 new cervical cancer cases are diagnosed. Cervical cancer stands as the number one cause of female cancer and is the most common female cancer among women who fall between ages 15 and 44 years(MoH, 2010). High prevalence of HPV infection of up to 74% has been reported in certain populations. Despite the overwhelming burden of cervical cancer, little exists in terms of screening programs especially in the country side where human resources are constrained and laboratory services are limited. Uganda has the challenge of competing health priorities and lack of health care infrastructure to fully implement the national cervical cancer screening strategies. West Nile sub region Arua district in particular is the second worst region in terms of health indicators after Karamoja. Currently WHO has recommended cytology, visual inspection with acetic acid and detection of high risk strains of the human papillomavirus(HR-HPV) DNA as tools for cervical cancer screening(WHO, 2014).

Uganda has been using the traditional method of screening cervical cancer which requires highly trained human resource and substantial amount of laboratory equipment. Due to the limited resources and competing priorities, this has led to limited availability of the screening programs leaving many women without the required services and contributing to high rates of cervical cancer in the country. Yet many countries now have the availability of an effective primary prevention option, the HPV vaccine and early secondary prevention interventions with screening (MoH, 2010; WHO). This is a clear indication that new approaches of screening are needed to address this challenge. The new recommended strategies are still at their infancy and in limited places in Uganda. The key aim of this project will therefore be to pilot the screen and treat strategy recommended by WHO in West Nile which has very poor health indicators generally and high rates of cervical cancer in particular. However, because of the limited screening interventions in the district and the region, the prevalence rates of cervical cancer in West Nile in general and Arua district in particular is unknown, knowledge attitude and practices of the people about the disease is also not know and the most prevalent genotypes of the virus are unknown. Beside piloting the screen and treat strategy, studies will be designed to know the prevalence of the disease, the knowledge, attitude and practices of the people before the pilot starts and to determine the various most prevalent genotypes.

More than 170 types of HPV have been identified with greater than 40 that are sexually transmitted and able to infect the anogenital region (CDC Division of STD Prevention 1999).

Persistent HPV infection with high-risk HPV types, such as HPVs 16, 18, 31, and 45, can lead to the development of cervical cancer or other types of cancer (Schiffman M, Castle PE 2005). Available data suggests that both oncogenic HPV types 16 and 18 are responsible for over 65% of
cervical cancer cases (Baseman JG, Koutsky LA 2005; Cohen J 2005). HPV genotype 16 is responsible for 41 to 54% of cervical cancers (Baseman JG, Koutsky LA (2005), Noel et al. 2001 (2001)) and an even greater majority of HPV-induced vaginal/vulvar cancers, (www.advanceweb.com. 2009). After HPV16/18, the six most common HPV types are the same in all world regions, namely 31, 33, 35, 45, 52 and 58; these account for an additional 20% of cervical cancers worldwide (Clifford G, Vaccine 2006;24(S3):26). In this project, the most prevalent genotypes in Arua where this project will be implemented will also be ascertained in order to make policy decisions.

The data generated will be useful to policy makers, Ministry of Uganda and other development partners for Cervical cancer prevention and treatment.

**Main Objective:** To pilot the screen and treat program for cervical cancer in Arua district with the aim of reducing cervical cancer rates and related morbidity and mortality.

**Specific objectives**

i. To determine the knowledge, attitude and practices of people of Arua towards cervical cancer screening and treatment

ii. To carry out awareness about cervical cancer screening and treatment program

iii. To pilot the screen and treat program for cervical cancer in Arua district

iv. To determine the prevalence of HPV infection among women presenting for cervical cancer screening in Arua district

v. To determine the circulating genotypes of oncogenic HPV in samples of women with a positive HPV DNA test

vi. To determine genotypes of HPV among participants with a positive VIA screening prior to, and after treatment

**Methodology:** Both social and clinical methods will be used to collect the required data.

For social research appropriate tools will be designed to collect the data.

**Lab Methods:** Cervical cells will be collected using the Cervex-Brush® (Rovers Medical Devices B.V., Oss, the Netherlands) and kept in the SurePath™ (BD) liquid-based Pap test solution for fixation and storage at 4°C. DNA will be extracted with the QIAamp DNA Blood Mini Kit (Qiagen). A PCR assay using the MY09/11 L1 consensus primer set will be performed. Genotyping will be done using the for genotyping using AmpliSens® HPV HCR genotype-EPh PCR kit (Federal Budget Institute of Science “Central Research Institute for Epidemiology”, Moscow, Russia).

**Strategies**
• Baseline studies
• Public awareness
• Social mobilization for service uptake using various approaches
• Training workshops for health workers
• Screening and treatment
• Operational studies

Activities

• Inception meetings
• Approval of studies by ethical bodies
• Baseline studies
• Public awareness
• Training of health teams
• Procurement of supplies
• Screening and treatment
• Operational studies

Technical Partners in Uganda

• Epicentre Research Center in Uganda

• Uganda Virus Research Institute www.uvri.go.ug

• Ministry of Health, Uganda www.health.go.ug

References


Baseman JG, Koutsky LA (2005). "The epidemiology of human papillomavirus infections". J. Clin. Virol. 32 (Suppl 1): S16–24. doi:10.1016/j.jcv.2004.12.008. PMID 15753008. Overall, these DNA-based studies, combined with measurements of type-specific antibodies against HPV capsid antigens, have shown that most (>50%) sexually active women have been infected by one or more genital HPV types at some point in time [S17].


