

Cervical cytology screening in Sub-Saharan Africa

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Cervical cancer is still a serious issue of women's health in the world, especially in underdeveloped countries without any organized cancer screening programs for women. Every year, there are over 500,000 new cervical cancer cases and unfortunately about half of those cases die from this disease [1, 2]. Cervical cancer is the third most frequent cancer type in women after breast and colorectal cancers. The deaths caused by cervical cancer are preventable. When the women of a community is extensively screened, —which is the case in developed countries— most deaths caused by this disease could be prevented. For this reason, cervical cancer is 6th or 10th reason in gender-specific death cause by cancer. Yet, it is still in the 2nd place in underdeveloped countries. In developed countries, 80% of cases were diagnosed during Stage I or II meanwhile in underdeveloped countries, 80% of the patients are diagnosed during Stage III or IV of the disease [3, 4].

Globocan study done by International Agency for Research on Cancer in 2012, every year 528,000 patients are diagnosed with cervical cancer and about 266,000 of those patients die from this disease [2]. And the estimated rate in 2015 seems to be increased.

Cervical cancer is a relatively easier type of cancer to treat when compared to other women's cancer types due to a more clear understanding of its development, etiopathogenesis, screening strategies and treatment plans.

The risk factors for cervical cancer are as follows: [5–7]

- Multiple sexual partners
- High-risk male partner (e.g. with previous partners which have cancerous or pre-cancerous structures in cervix)
- Human papillomavirus (Especially, Type 16, 18, 31, 33, 45).
- Marriage at a very young age
- Pregnancy and giving birth in a young age
- Sexual activity during puberty
- Smoking
- Immunosuppression (e.g. HIV)
- Herpes Simplex Virus (HSV) Type-2
- Medium severity dysplasia seen in PAP Smear test in last 5 years
- Intercourse within the first year of initial menarche
- No previous screening for cervical cancer
- Lower socio-economical status
- Race (Africans are within a higher risk group compared to Caucasians)
- Oral contraceptive usage

These are the main risk factors for cervical cancer in women. When we look into the region we currently live in, we can see that risk factors such as lower socio-economical status, multiple sexual partners, African race, sexual activity during early ages, pregnancy and births in a very early age, widespread chronic illnesses that cause immunosuppression and lack of screening processes show us the importance of our cervical cytological screening tests for early diagnosis in Sudan-Darfur area in Sub-Saharan Africa.

Initial cervicovaginal studies concerning detection of abnormal cervical cells began in 1927 [8]. Papanicolaou and Trout developed Pap smear test to detect cancerous or precancerous formations from the samples gathered from uterus cervix cells. Since the development of this test, its widespread usage decreased cervical cancer deaths in US by 75% [9]. More than 50% of cervical cancers are seen in women with no previous Pap smear tests and 60% of

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these women did not have a Pap smear screening in last 5 years [10]. For this reason, increasing the screening rate for these women under high-risk profile for cancer by making Pap smears more accessible is now the concern of first-step healthcare services. In many countries, government health policies also promote the usage of Pap smears as basic screening tests for women. Precancerous formations are most commonly seen between the age of 25 and 35 years. Unfortunately, despite the fact that such an effective method exists, the women in Sudan-Darfur region either have no clue about this screening process or the health policy of government is either ineffective or not widespread to warrant proper healthcare. Pap smears are a very unique screening process since it is relatively cost-efficient, easily applicable, could be easily accepted by patients and can decrease cervical cancer deaths up to 90% with communal screening tests [10]. Pap smears are not necessarily confined to hospital environments. With proper planning and a good referral system where the taken smear samples can be sent (for pathological-cytological screening) to a center, all first-step healthcare institutions can do this tests. Although its effectiveness and relatively cheapness, it is an expensive screening program for low source African under-developed countries. For this reason WHO recommends another screening program VIA (Visual inspection with acetic acid). VIA is a unique screening test to highlight the precancerous lesions. It gives us a chance to detect the lesion with naked eyes, and to treat it at the same time with ablative methods. But in our study we chose Pap smear because of our economical support from Turkey government which promotes the healthcare system in our hospital.

To sum up, in Sub-Saharan African communities which are in a bad socio-economical situation and have a high-risk of cervical cancer, not only doctors but also midwives, nurses and other healthcare professionals can explain the female patients or families that came for examination and during vaccination programs or general health screening programs that the Pap smear test is a simple and easy procedure as well as cost-effective and have a high efficiency rate for protecting against cervical cancer, also helping early diagnosis.

Keywords: Cervical cancer, Cytology, Risk factors, Sub-Saharan Africa

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Ozer Birge – Substantial contributions to conception and design, Acquisition of data, Analysis and interpretation of data, Drafting the article, Revising it critically for important intellectual content, Final approval of the version to be published

Mustafa Melih Erkan – Analysis and interpretation of data, Revising it critically for important intellectual content, Final approval of the version to be published

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The corresponding author is the guarantor of submission.

Conflict of Interest

Authors declare no conflict of interest.

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