Coverage and Factors Associated with Cervical Cancer Screening: Results from a Population-Based WHO Steps Study in Ethiopia.

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Background: Cervical cancer is the most common cause of cancer death in Africa with 10.4 deaths, accounting for one in five deaths from cancer in African women Munoz et al. Sub-Saharan Africa carries the highest global burden of this deadly but entirely preventable disease. The problem is particularly serious in sub-Saharan Africa, where the age-adjusted incidence rate is 45 per 100,000 women, Ethiopia at 35.9 per 100,000 women. Data from the Addis Ababa population cancer registry showed that breast and cervical cancer were the main causes of cancer, accounting for 22.6% and 10.8% of all cases, respectively. cancer.

Methods: A community cross-sectional survey based on the NCD Stepwise approach of the World Health Organization (WHO) was carried out. The survey was conducted in the 9 regions and two municipal administrations (Addis Ababa and Dire Dawa) in Ethiopia. The target population for this survey included all men and 15-69 year olds who consider Ethiopia as their main place of residence. A single population proportion formula was used to determine the design effect coefficient of 1.5, the Z score = 1.96, the proportion = 35.2 and the marginal error = 0.04 . A total of 513 environmental assessments were covered nationally. Thus, 5823 women were included in this study. A mix of sampling approach, namely three-stage stratified cluster sampling, simple random sampling and the Kish method were used to select study parameters and study participants.

Results: Cervical cancer screening rate in Ethiopia is extremely low (2.9%). When adjusted for demographic and residence confounders (age, location, income, education), cervical cancer screening is significantly associated with being at urban area (AOR=2.5, 95% CI: 1.1, 5.7), age 30-49 years (AOR=2.4, 95% CI: 1.2, 4.8), having annual household income of more than 30,000 ETB (AOR=7.1, 95% CI: 4.8, 10.4) and college and above level of education (OR=2.8, 95% CI: 1.1, 7.8).

Conclusions: Cervical cancer screening rate in Ethiopia is extremely low as compared to the rates of other countries. This needs a mechanism to establish and strengthen the multi-sectoral response in general for the prevention and control of cervical cancer and increasing awareness of the community towards cervical cancer screening and strengthening the health system in particular.

Keywords

 STEPs survey; Cervical; Cancer; Screening

Introduction

Cervix cancer is a public health problem. It is the third most common cancer in women worldwide and the second most common cancer among women in developing countries. Cervix cancer is the most common cause of cancer deaths in Africa accounting for 10.4 deaths, which represents one in five of all cancer deaths in African women Munoz et al. Sub-Saharan Africa bears the highest global burden of this fatal yet entirely preventable disease. The problem is particularly severe in sub-Saharan Africa, where the age-adjusted incidence rate is 45 per 100,000 women Kizer et al. With Ethiopia at 35.9 per 100,000 women data from the Addis Ababa population based cancer registry showed that breast and cervical cancers were the leading causes of cancer, comprising 22.6% and 10.8% respectively of all cases of cancers. A study conducted in the teaching hospitals of Ethiopia indicated that invasive cervical malignancy was the most common histological finding with its prevalence of 55.7 while cervical intraepithelial neoplasia (CIN) accounted for 8.6 of the cervical biopsy Nigatu et al. Oncologic outcomes can be improved by four principles namely early diagnosis, improved understanding of carcinogenesis, multimodality therapy, and interdisciplinary approaches. But the majority of women with cervix cancer access health care in an advanced stage of the disease. Possibly because cervical cancer tend not to have symptoms in the early stages and therefore women seek care once they become symptomatic. Where the incidence of cancer justifies it, and the necessary resources can be made available, screening for cancers of the breast and cervix is recommended. This is feasible mainly in medium and high-resource level countries. Screening for other cancer sites must be regarded as experimental and cannot be recommended at present as public health policy. The ministry of health targeted to llaunch HPV vaccination demonstration program, and achieve at least 80 percent coverage of girls within the target population, disseminate the National Cancer-Control Plan, Open 58 "Screen-and Treat" sites and reach at least 80% coverage of the appropriate target populations with screening and treatment for pre-invasive cervical-cancer cases. Therefore, the study is aimed to assess the coverage and factors associated with cervical cancer screening in Ethiopia.

Methods and Materials

Data source and study participants

The data used for this paper were obtained from WHO NCD Steps survey conducted in Ethiopia from April to June, 2015. The survey was conducted using the WHO NCD STEPS instrument version 3.1. The questionnaire consisted of three STEPS for measuring the NCD risk factors. STEP I included

questionnaires, STEP II included physical measurements and STEP III included biochemical measurements. This survey was a cross-sectional, representative National population based survey conducted by the Ethiopian Public Health Institute (Ethiopian Ministry of Health). A single population-proportion formula was used to determine the sample size. To adjust for the design effect, a complex sampling design effect coefficient of 1.5 was used to compute the sample size. In order to have an adequate level of precision for each age-sex estimate and place of residence, the sample was multiplied by the number of age sex and place of residence groups for which the estimates were reported. Thus, Z-score=1.96; proportion=35.2%(9) marginal error=0.04; design effect=1.5; age-sex estimate and place of residence-sex estimate=10 groups, and non-response rate=20. A total of 513 EAs were covered nationwide. Stratifying the sampling design by urban rural, 404 rural EAs and 109 to urban EAs. Taking into account the cost of the study and the level of precision - 20 Households (HHs) per EA and one eligible individual from each HH-the sample size the final sample size is calculated to be 10,260 HHs (10,260 study participants). Thus, 10,260 study participants were included in the study. A mix of sampling approach namely stratified, three-stage cluster sampling, simple random sampling and Kish method were employed to select the study settings and the study participants. Prior to sampling, supervisors and data collectors visited the selected EAs and conducted a fresh listing of all HHs in that EA in consultation with local health workers and any other active member who have a good understanding of the local context. Eligible individuals were selected from HHs using Kish method. Only one eligible participant in the selected HH was enrolled in the survey. Using the Kish method, eligible participants in each household were ranked in order of decreasing age, starting with men followed by women. Finally 9,800 participants were responded to the questions and making a response rate of 95.5%. As a result 5823 women were included in our analysis (Figure 1).

Conclusion and Recommendation

Cervical cancer screening rate in Ethiopia is extremely low as compared to the rates of other countries. Among the sociodemographic and economic variables contributing to the increased cervical cancer screening rate were advanced age of women, urban area of residence, high level of education and high household income of the women. This study outlines the major contributing factors for low cervical cancer screening in Ethiopia which should receive due priority in Ethiopia to establish and strengthen the multi-sectoral response in general for the prevention and control of cervical cancer and increasing awareness of the community towards cervical cancer screening and strengthening the health system in particular.

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