PROPOSED INDICATORS TO MEASURE A NATIONAL HEALTH SYSTEMS RESPONSE TO CERVICAL CANCER

The second World Health Organization (WHO) discussion paper (version 22nd March 2012), presented an updated set of proposals on the development of global NCD targets and indicators. This included the following indicators to be included in a national health systems response to reduce cervical cancer burden:

- Vaccination against infectious cancers: Human Papillomavirus (HPV)
- Prevalence of women between ages 30-49 screened for cervical cancer at least once.

Here, we provide supporting information for Member States for proposed indicators to measure this response at the country level [1].

1. IMPLEMENTATION OF HPV VACCINATION PROGRAMMES TO REDUCE THE RISK AND INCIDENCE OF CERVICAL CANCER

PURPOSE

Immunisation with human papillomavirus (HPV) vaccine is now recognised as an effective way to significantly reduce the burden of cervical cancer. In clinical trials, HPV vaccines are at least 90% effective in preventing persistent HPV infection caused by types 16 and 18, and 93% effective in preventing type-specific cervical lesions when given to girls prior to HPV infection1,2. It is estimated that at coverage rates of 70% in all 57 GAVI-eligible countries vaccination of young adolescent girls could avert close to 3 million deaths from cervical cancer over 10 consecutive years[3].

RATIONALE

The Political Declaration on NCDs agreed at the High Level Meeting refers specifically to the need to promote increased access to cost-effective vaccinations to prevent infections associated with cancers as part of national immunization schedules (see paragraph 43j). Moreover, the WHO Action Plan for the Global Strategy for the Prevention and Control on Non-Communicable Diseases includes a commitment to measure improving access to, and availability of affordable vaccines including against human papillomavirus (paragraph 29a).

[1] This document was developed with Vivien Tsu and Scott Wittet (PATH, Seattle)

DESCRIPTION

The World Health Organization recommends immunisation targeted at young adolescent girls aged 9 to 13 years in countries where cervical cancer constitutes a public health priority and where vaccine introduction is feasible4. The recommended age range is to target girls before they become sexually active and are exposed to HPV infection. Three doses of the vaccine are required within six months4. Based on these recommendations, we propose that an indicator is adopted to measure the percentage vaccine coverage of girls by the age of 15 years.

FEASIBILITY

At the end of 2010, 33 countries had included HPV vaccinations in the national immunisation schedule with 20 additional countries undertaking pilot programmes5. Results from PATH-led HPV vaccination demonstration projects in India, Peru, Uganda, and Vietnam 6,7,8 indicate that vaccinating girls in school settings is feasible in low resource settings (with outreach to out-of-school girls, e.g. in community health clinics), and this is supported by evidence from pilot programmes in several low- and middle-income countries.

Vaccine prices have been reduced to make them more affordable to developing countries, and in June 2011, Merck & Co announced that it would provide its HPV vaccine at US $5 per dose to GAVI. Subsequently, the GAVI Alliance announced that it will begin accepting applications for support for HPV vaccine introduction through governmental programs in GAVI-eligible countries. Country level examples now exist in all resource settings demonstrating the introduction of HPV vaccine into national immunization programmes.

METHODOLOGY ON INDICATOR

Number of girls aged 15 in target population who have received three doses of the HPV vaccine / Total number of 15 year old girls in target population x 100.

Only girls who have completed all three doses of the HPV vaccines will be counted in this indicator.

DATA REQUIREMENT

Total number of girls in target population; age of girl; record of vaccination

2. DEVELOP AND IMPLEMENT ORGANISED SCREENING AND EARLY DETECTION PROGRAMMES FOR CERVICAL CANCER

PURPOSE

The cervical cancer burden can be significantly reduced through practical interventions that can be tailored to the resource setting and population-based need. These include new alternatives to cytology-based (Pap) testing such as visual inspection strategies and HPV DNA testing, along with cryotherapy for treatment of precancer.

The Action Plan for the Global Strategy for the Prevention and Control of Noncommunicable Diseases recommends that Member States implement and monitor cost-effective approaches for the early detection of cervical cancer9 and is endorsed in the Political Declaration on NCDs (Para. 43k). WHO has recommended that "the prevalence of women between ages 30-49 screened for cervical cancer at least once" be used as an indicator of an effective health systems response to cervical cancer.

RATIONALE

When HPV infection is found in women over 30, there is a greater chance that the infection is persistent (and therefore at higher risk of progressing to cancer). Studies have shown that even a single screening between the ages of 30 and 40 can reduce a woman's lifetime risk of cervical cancer by 25 to 36%[10].

The critical issue for screening programmes is to select the test that is most appropriate for the context in order to achieve the highest screening coverage, high quality testing and reliable follow-up for women. In this context, we propose here that an appropriate performance indicator is adoption of policies to support national programmes for cervical cancer screening that are appropriate and feasible for the population-need and resource setting.

DESCRIPTION

The development and implementation of policies and national programmes that support cervical cancer screening programmes should be tailored to the resource setting and population-based need, and may include a multimodality approach to primary screening.

Evidence over the past decade supports the use of alternatives to cytology (Pap) screening, including visual inspection with acetic acid (VIA) and HPV DNA testing in developing countries11. In low-resource settings, visual inspection methods, especially VIA, provide a reliable and effective means for reducing the burden of cervical cancer. Building VIA capability in the short-term can serve the needs of women now while at the same time

creating the infrastructure to support the future introduction of HPV DNA testing to replace VIA as a primary screening tool as affordable DNA tests become more widely available.

Current evidence from randomised screening trials from both low- and high-resource settings supports the use of HPV DNA testing alone as a primary screening test in women aged 30 years or older and that high-risk HPV-negative women have an extremely low risk of developing cervical cancer in the 5 to 10 years after screening11. HPV DNA testing has the additional advantage of cost-effectiveness, gained from lengthening the screening interval for HPV-negative women.

In low-resource settings, cryotherapy, or freezing cervical tissue that is likely to develop into cancer, can be used to treat precancer among women who have been screened using VIA or HPV DNA testing. The procedure is both cheaper and technically simpler than other treatment options, making it more accessible and field-friendly. A screen and treat approach that combines VIA or HPV DNA testing with cryotherapy -without an additional diagnostic step - is a low-cost strategy that can be established close to populations in need. A single visit approach, because it requires cryotherapy equipment and supplies to be available at every screening session, is ideal, but is generally only feasible if done with a mobile screening and treatment team due to the cost of the equipment and challenge of maintaining gas supplies.

FEASIBILITY

Country level examples include both low- and middle-income countries to demonstrate introduction of programmes of VIA for cervical cancer screening, with over 40 low-income countries having introduced this approach on a national or pilot basis. In some countries, a multimodality approach is being taken with at least 4 countries with pilot programs for HPV DNA testing (China, Nicaragua, Paraguay and Uganda) currently running national VIA screening programmes.

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