

National Immunization Summit 2015

16th January, 2015 Colombo, Sri Lanka

Discussion on Cervical Cancer Burden and Options on Human Papilloma Virus (HPV) Vaccination in prevention

The 3rd National Immunization Summit organized by the Epidemiology Unit of the Ministry of Health was held at the Hotel Cinnamon Grand Colombo, on 16th January, 2015.

A short report of the presentation and discussion on "Cervical Cancer Burden and Options on Human Papilloma Virus (HPV) Vaccination" at the National Immunization Summit is given below. Future areas which need strengthening in cervical cancer prevention was discussed as requirement of proper cervical cancer burden identification, expansion of cervical cancer screening and possible vaccination options considering cost prioritization preventive strategies. It was decided to form an expert committee to further discuss on this and provide observations to the Advisory Committee on Communicable Diseases.

Many participants representing all relevant authorities of the Ministry of Health, Professional Colleges, Academic institutions including Universities, UN organizations and other experts of various fields were actively involved in discussions. Participants from vaccine manufacturers attended as observers.

Cervical Cancer Burden and Options on Human Papilloma Virus (HPV) Vaccination- presented by Dr. Deepa Gamage

Most of the HPV infections are asymptomatic and cleared within 2 years without any disease condition. If it is not cleared and there is persistent infection it can lead to anogenital warts, recurrent respiratory papillomatosis (RRP), cervical cancer precursors (cervical intraepithelial neoplasia = CIN), cancers of cervical, anal, vaginal, vulval, penile and oropharyngeal. However cervical cancer is the major burden of HPV infections and the focus of prevention through a HPV vaccine.

There are more than 100 genotypes of HPV and around 40 types are associated with mucosal / genital infections which include high risk oncogenic and low risk non oncogenic genotypes. Studies have shown that while majority of HPV infections are cleared about 10% of persistent HPV infections could lead to cervical cancers in 10-15 years.

Cervical cancer is the 2nd most common female cancer in Sri Lanka and according to most latest published data from National Cancer control Programme; 10% of all female cancers are cervical cancers. Nearly 850-950 new cervical cancer cases are admitted to government hospitals calculated to crude incidence rate of 7.3/ 100,000 population in Sri Lanka. National Cancer Control Programme is piloting a "Population based cancer registry" in the district of Colombo since 2012

and feasibility assessments are underway. Hence specific data is unavailable and decisions have to be based on estimates.

Preventive options for cervical cancers are described as:

- Early detection and treatment of cervical cancers in cervical cancer screening and management of precancerous stages and invasive cervical cancer stages
- Vaccination : for prevention of genital HPV infection in females due to High Risk (HR) genotypes

Cervical cancer screening by doing Pap smear screening is carried out by the Family Health Bureau under the implementation of Well Women Programme since 1996 above the age of 35 years. Further organized age cohort Pap smear screening has been started since 2010 and achieved Pap smear coverage of around 30-40% in females of 35 year age cohort by 2013.

The HPV community prevalence study done in the district of Gampaha in 2009 among 20-59 year old sample number of 2000 women showed overall prevalence of 3.3% (95% CI 3.2-3.4) while HR geno types 16 and 18 prevalence of 1.2% (95% CI 1.15-1.25). On genotype identification the majority were HR genotype 16 and 18 (42%). Therefore the pattern in Sri Lanka seems similar to that reported in other countries.

The number needed to screen in prevention of one cervical cancer was estimated applying study findings of HPV infection status, pre-cancers and cervical cancers to the literature described cervical cancer progression proportions. It was estimated to 1130 when considered only above 35 year old women at this current prevalence status and described that nearly one million women need to be screened by Pap smear per year in prevention of total cervical cancer case load of 850-900 new cases and discussed the practical difficulties in implementation.

A case control study to assess the HPV risk attribution in developing cervical cancer by studying 40 cervical cancer cases and 160 age category and area matched community controls showed HPV positivity rate of 80% among cases and 3.8% among controls. Population attributable risk percent (PAR%) has been calculated to 85% for all genotypes and 69% for HR geno type 16 and 18. This means that out of 100 cervical cancer cases 69 contributed by HPV genotypes 16 and 18 in Sri Lanka and compatible with 70% which is described in literature.

Preventive option of vaccination was discussed and the available 3 types of vaccines discussed as follows:

- Quadrivalent HPV (HPV4) vaccine (for prevention of 70% of cervical cancer cases)
 - ó Contains HPV types 16 and 18 (high risk) and types 6 and 11 (low risk)
 - ó Approved for females and males aged 9 through 26 years
- Bivalent HPV (HPV2) vaccine (for prevention of 70% of cervical cancer cases)
 - ó Contains HPV types 16 and 18 (high risk)
 - ó Approved for females aged 10 through 25 years

- Ninevalent HPV vaccine (9v HPV) (for prevention of 90% of cervical cancers)
Contains HPV geno types 6, 11, 16, 18, 31, 33, 45, 52, and 58 ,for use in girls and young women 9 to 26 years of age , for prevention of cervical, vulvar, vaginal, and anal cancers ,pre-cancerous or dysplastic lesions genital warts caused by HPV types 6 and 11.

It was discussed that if consider the strategy of vaccine implementation as a preventive option of cervical cancer in Sri Lanka, only females would be considered at the adolescent age group. Clarifying quarries on cost, it was discussed that our country would support to be purchased to the GAVI price and country specific decisions need to be taken for the selecting the type of the vaccine.

The Expert Committee meeting to further discuss on this will be held on 12th February 2015 as with the recommendation of the National Immunization Summit.

The committee is expected to further review relevant information of the country in the following areas.

1. Identification of cervical cancer and pre-cancer related disease burden in relevance to economic and social impact
2. Review preventive options of the HPV related disease burden and most appropriate cost effective strategy/strategies in the country
3. Most appropriate cost effective and successful implementation strategies of preventive options for HPV related cervical cancer

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