Commentary

‘See-and-treat’ works for cervical cancer prevention: what about controlling the high burden in India?

Cervical cancer is a major public health problem in many developing countries and the absolute burden will increase in future if effective prevention measures are not undertaken. The global estimates for cervical cancer burden in the world around the year 2008 indicated that there were 5,30,232 new cases, 2,75,008 deaths, with four-fifths of the estimated global burden occurring in the low- and middle-income countries (LMICs) of South and South East Asia, sub-Saharan Africa, and South and Central America. In this issue Singla and colleagues report the results of a ‘see-and-treat’ approach combining visual screening with acetic acid (VIA)/Lugol’s iodine (VILI), colposcopy and loop electrosurgical excision procedure (LEEP) in the context of a cervical cancer screening study in New Delhi, India.

‘See-and-treat’ electrosurgical loop excision of the cervical transformation zone is an excisional surgical procedure that enables simultaneous histologic diagnosis and treatment of cervical precancerous lesions, thus eliminating the need for a cervical punch biopsy and an additional visit. It involves two visits instead of the three visits [first a screening visit, a second visit for colposcopy and directed biopsy and the third visit for treatment of confirmed cervical intraepithelial neoplasia (CIN) cases] needed using Pap smear screening; however, it may be carried out in a single visit following VIA/VILI screening as the results of screening are immediately available facilitating immediate colposcopy and treatment with LEEP or cryotherapy.

The above approach should not be confused with a single visit ‘screen-and-treat’ when screen-positive women, without evidence of invasive cancer, are treated with cryotherapy or cold coagulation, without triaging procedures such as colposcopy and biopsy; ‘screen-and-treat’ eliminates investigations to confirm a diagnosis prior to treatment and minimises loss to follow up, delay in treatment and missed disease. A major concern with ‘screen-and-treat’ cervical cancer prevention strategies is that a large number of women without precursor lesions will undergo cryotherapy/cold coagulation, although there are no data to suggest that overtreatment is harmful. On the other hand, it may provide some marginal benefit by protecting women against future HPV infection and by reducing cervical ectopy and targeting the transformation zone (TZ) where cervical neoplasia occur. Current evidence suggests that screen-and-treat interventions are safe, well accepted by women and effective in preventing cervical neoplasia. Currently, Thailand is implementing a large ‘screen-and-treat’ programme with VIA and cryotherapy in 20 provinces and more than a million women have been screened with this approach.

Singla and colleagues demonstrated the clinical utility, safety, and acceptability of “see-and-treat” approach using cross-sectional data in the Indian context and showed that the overtreatment associated with this approach was minimal, though the study sample size was rather small. ‘See-and-treat’ LEEP has already been used for treatment of 1141 women during 2000-2004 screened with VIA or cytology or HPV testing in the context of a population-based large randomized screening trial in Osmanabad district in Maharashtra in India to maximize adherence to treatment and to minimise loss-to-follow up by reducing the number of visits, which has been the objective of the present study in New Delhi. In this study, all the women had satisfactory colposcopy and had a prior punch biopsy before LEEP; on the other hand, most women involved in the Osmanabad study had unsatisfactory colposcopy (51%) and had no prior punch biopsy (71%). The overtreatment rate in New Delhi study was 12.5 per cent where as it was 45 per cent in the Osmanabad study.
LEEP may be considered as the work horse for the management of women with precancerous lesions in developing countries, this is feasible only in selected instances. A more pragmatic approach is ‘screen-and-treat’ cryotherapy, which is much more feasible and affordable, particularly when a large volume of screen positive women with CIN has to be managed.

It is worthwhile to consider the current status of cervical cancer in India, the country presenting the largest burden of disease in the world. One of every five cervical cancer patients in the world is an Indian woman. In spite of this heavy burden and the important demonstration of feasible and cost-effective screening and treatment approaches for cervical cancer prevention in a number of well-conducted research studies in India, there has been very little scale-up of cervical cancer screening services in the country.

Despite the depressing statistics on cervical cancer, there is no government sponsored public health policy on prevention by either screening or vaccination or both in India. This large burden has not yet sufficiently seized the attention of public health authorities and there has been very little progress in publicly funded cervix cancer prevention initiatives. That significant progress could be made is clear from encouraging initiatives taken in countries such as Thailand, Bangladesh, Brazil, Argentina, and Mexico among others. The situation is paradoxical given not only the large burden of disease but also that India has been responsible for some of the world-leading research demonstrating feasible and cost-effective approaches for cervical cancer screening and prevention in low- and medium-resource countries.

Randomized trials in India have shown a significant reduction in cervical cancer mortality following single round of screening with HPV testing or VIA screening. Studies from India have shown the safety, feasibility and efficacy of out-patient treatments for CIN. These data from India have catalyzed both implementation and reorganization of national screening programmes in countries such as Argentina, Bangladesh, Morocco and Mexico among others, but little up-scaling of screening has happened in most States of India other than Gujarat, Maharashtra, Kerala, Tamil Nadu, Sikkim and West Bengal. Bangladesh, for example, has established a VIA screening programme which uses both ‘screen-and-treat’ LEEP or cryotherapy for managing lesions, taking leads from the Indian studies. Mexico is the first country in the world to establish primary testing with HPV followed by Pap smear triage as their national policy, based on their own research studies and
the outcome of research studies in India, Canada and Europe. They have already established a large network of high technology laboratories and have screened several million women with HPV tests. In Brazil more than 95 per cent of the municipalities provide Pap smear services and around 12 million smears are taken annually and the Brazilian Government has recently allocated an additional 2.4 billion USD for cervix and breast cancer screening over the next four years.\textsuperscript{34}

A further challenge to reducing the burden of cervical cancer in Indian women is the misinformation about the safety and efficacy of HPV vaccination as a control strategy, resulting in costly delays in resolving the controversies\textsuperscript{35-37}. Meanwhile, neighbouring Bhutan introduced HPV vaccination as part of the national immunization programme. Malaysia, Panama, Mexico and Argentina are also implementing HPV vaccination of girls aged 10-13 yr either nationally or in selected provinces with high risk of disease. The time has arrived for India to take full advantage of the seminal research conducted on cervical cancer prevention in the country in order to tackle its own high burden of this disease and to prevent it. Cervical cancer predominantly affects socio-economically disadvantaged women; offering opportunities to reduce the suffering associated with this eminently preventable cancer is an ethical imperative that should go hand-in-hand with the remarkable economic progress the country is now achieving.

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