

# Save women from cervical cancer in low middle income countries and middle income countries

**Abbreviations:** HICS, incidences rate between high; LICS, low income countries; LMICS, low

middle income countries; VIA, visual inspections with acetic acid; ISH, in situ hybridization; IHC, immunohistology; UN, the united nations; NCD, non communicable diseases

## Editorial

No women should die of cervical cancer in this day and age and yet each year more than 2,60,000 women world wide in Low and middle income countries die of this cancer only. There is dramatic disparity in the incidences rate between high (HICS) and low income countries (LICS) and this disparity is likely to be due to differential access to screening of cervical pre cancerous lesions, treatment facilities available in primary level and taking preventive measures with new HPV-9 vaccines- as use of Human papilloma virus vaccinations continues to be lag in the low middle income countries (LMICS). Dramatic benefits were observed from vaccinations of HPV and early cervical pre- cancerous lesions.<sup>1</sup> The new HPV-9 vaccine which includes 9 or more HPV types there is good chance after several decades cervical cancer screening may no longer be warranted. But that is for the high income countries. What about for LMICS and MICS like India or in West Bengal Province of India? Hundreds and millions of women are already beyond the age of adolescence and age of vaccination and remains without screening and preventive treatment due to lack of human resources like trained pathologists & laboratory technicians as resource personals and this author apprehends that some 25millions women will die of cervical cancer by next 25years in MICS and LMICS.

We and government know that successful methods that could reduce the incidence of cervical cancer are Pap smear, colposcopy and biopsy and new 9 HPV vaccines. But women in LMICS has almost nil access to biopsy & Pap smear due to lack of adequate trained pathologists in rural, urban, suburban districts, sub divisional, and state general level public hospitals. The basic tools for cervical screening already exists and getting better and better (new Bethesda classification -2014 thin prep smear fluid based cytology and HPV detection) in high income countries but still out of reach for millions of women in LMC and MICS like India only due to lack of human resources and budgetary allotment by the government.

One notable advances in screening methods is visual inspections with Acetic Acid (VIA) which allows trained health workers to spot cervical abnormalities with just a speculum examination available even at primary health center (primary care level) of West Bengal , India The high cost bearing but highly sensitive molecular tests by In situ Hybridization (ISH) or by Immunohistology (IHC) that detect HPV infections- is not accessible for remote villages urban semi urban hospitals except in some Medical colleges of West Bengal state as it needs sophisticated laboratory infrastructure like thin prep, monoclonal primary and secondary antibodies or PCR or FISH technology and trained pathologists. However both Visual inspections

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**Pranab Kumar Bhattacharya**

Professor of Pathology, Murshidabad Medical College, India

**Correspondence:** Pranab Kumar Bhattacharya, Professor of Pathology, Murshidabad Medical college, (university of Calcutta) FIC path, Berhampore station road, Berhampore Court, District -Murshidabad, West Bengal, India, Tel 9231510435, Email profpkb@yahoo.co.in

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with Acetic Acid (VIA) and Molecular identifications of HPV are now acceptable screening methods by WHO also. There has been much improvement in preventive treatment using technologies such as Cryo pen and thermal coagulation and conventional cryotherapy. Advances in the uses of mobile phones for tracking health information and reaching patients and the explosive growth of their availability in MICS and LMICS is another opportunity to improve cervical cancer prevention. So a state or a country must have political will to take advantages of knowledge and technologies to provide sufficient human resources (here pathologists, technicians, health workers) training. Providing budget for in situ hybridization or immunohistology or immunocytochemistry and extending even to primary care or community care. Fortunately in 2017 Government of India included it as national health program in 2017 declared. The United Nations (UN) summit on non communicable diseases (NCD) held in 2011 and listing WHO for screening and treatment of cervical pre-cancerous lesions to prevent cervical cancer is a feasible proposition for LICS and MICS.

Why the LICS are not much interested in the effective cervical, Lung cancer, breast cancer screening diabetes, hypertension, stroke, prostate cancer screening in the national health program? They are enable to in funding in many health issues like eradications of malaria ,dengue, polio, wide spread treatment of HIV-AIDS, 5% reduction of mortality of children, and tobacco control program, malaria dengue vaccine development program when signs of global commitments are emerging in 2015 as five years initiative “ taking cervical cancer Prevention: Protecting all women and girls”.

- i. According this author for the MICS like India has to build
- ii. Efficient screening services and in India and west Bengal provinces of India there is much shortage of Pathologists, laboratory technicians and health workers.
- iii. In India the health system is week and both private and public mixed type and private care health system never participate in national health program as there is no profit in this system.
- iv. Inadequate health information system.
- v. Tracking individual patients is lacking.

- vi. Monitor program performance is lacking.
- vii. Vaccination campaign in adolescent girls to be done.
- viii. Proper training of pathologists to identify pre cancerous lesions in low resource setting if possible by VIA.

Of course molecular testing like HPV and its sub typing using cervical or vaginal smears form sophisticated laboratories in cities and Medical colleges( all medical colleges do not have this facility yet) after collecting it from rural sub divisional districts hospitals even by self collections from homes or communities by health workers possible and providing HPV 9 vaccinations [9VHPV—a new Vaccine 0.5ml contains 30ug HPV-6, 40ug HPV 11, 60ug HPV 16, 20ug, HPV 18 virus like particles and 20ug HPV 31, 21ug HPV 33, 20ug HPV 45, 20ug HPV 58 virus like particles] for those who are positive for HPV types 11,16,18,31 in India is the most effective ways in closing the burden but probably will not be enough effective one because

- i. pathologists/cytopathologists will not be opting for it to work as it becomes too much burden for a pathologists to screen every day hundred slides of Pap cervical smears [from self experiences].
- ii. Technicians will not perform ISH and IHC as it takes DNA based technology and time consuming dedicated monoclonal antibody staining requires somewhat like 4-5hours time unless there is automated immuostainers are provided.
- iii. There will be cultural barrier for women to test PaP smear and biopsy.

iv. Enhancing accuracy, yields and efficient screening remain absent due to lack of adequate training amongst pathologists/cytopathologists (for liquid based cytology of cervical smears and vaginal smears as per Bethesda classification 2014.<sup>2</sup>

- v. HPV vaccine may cause some harm to some few people but balance between benefits and harms suggests vaccinations.

So this author considers that if MICS and LMICS can provide equalities access to rural women and poor or poorer women screening by PaP smear liquid based cytology with HPV testing more than once and screening of older women at least for once can expect greater disease burden reduction by effective treatment for those who are positive for Pap smear or HPV 11, 16 & 18 in west Bengal and in India.

## Acknowledgements

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## Conflict of interest

The author declares no conflict of interest.

## References

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