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LETTER TO THE EDITOR

Elimination of Cervical Cancer in Low-and Middle-Income Countries: Any Alternative to Pap Smear?

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Dear Editor,

Cervical cancer (CC) remains a disease of global public health importance, with an annual incidence of 604,000 and mortality of 342,000, with 85% and 90% of these cases and deaths, respectively, occurring in low-and middle-income countries (LMICs).^[1,2] Vaccination against high-risk human papilloma virus (hrHPV) remains elusive in most LMICs because of the high cost and non-availability of the vaccine. Even though the World Health Organisation (WHO) now recommends a single dose of the HPV vaccine, as against the previous two to three doses, many LMICs are yet to incorporate HPV vaccination into their national immunization programs. Nigeria and Bangladesh, both LMICs with high CC burden, only recently introduced the HPV vaccine into their routine immunization schedules.^[3] In both countries, females aged 9-14 years would be receiving the vaccine at no cost. The inaugural roll-out of the routine HPV vaccination in Nigeria targets to vaccinate 7.7 million girls by 2024 and over 16 million by 2025.^[4] Until HPV vaccination is well grounded in LMICs, screening and treatment of preinvasive cervical lesions remain the only feasible tool for the elimination of CC in these countries.

Whereas Pap smear has reduced the incidence and mortality from CC in developed countries by more than 70%, the same cannot be said for low-resource settings (LRS). This disparity is because LRS need more of the required human resources and infrastructure needed to deploy the Pap smear as a public health intervention. This made the WHO introduce the visual inspection aided with acetic acid (VIA) tied to a see-

and treat strategy in LRS.^[5] However, VIA is a poor test with high sensitivity and poor specificity, leading to overtreatment.^[5] More so, both Pap smear and VIA require a gynaecological examination, which is culturally unacceptable to many women in LRS, especially when the examiner is of a different gender. These women view the procedure as embarrassing and a violation of their privacy, while others avoid the test for fear of pain.^[6] Uptake of Pap smear therefore remains low in many LMICs, with coverage rates of between <10% -50%.^[7]

Screening during pregnancy has been advocated as a strategy for scaling up Pap smear uptake in LMICs. Pregnancy is considered an excellent time to screen for CC, as it offers a unique opportunity for vulnerable women to have contact with health care services and providers. A recently conducted cross sectional survey of 92 obstetricians across Africa, Europe, Asia, North America, South America and Oceania, conducted by the World Association of Trainees in Obstetrics and Gynaecology (WATOG), however revealed a low uptake/practice of Pap smear screening in pregnancy, worse in LMICs. Only 25% of the survey respondents reported that their hospitals routinely performed Pap smear for pregnant women. This included 33% of hospitals in high income countries and only 23% of hospitals in LMICs. A plausible explanation for our survey findings is not far-fetched. Even though pregnancy offers an excellent opportunity for CC screening, Pap smear is not routinely recommended/done in pregnancy as findings and interpretation of results may be misleading, and treatment of preinvasive disease in pregnancy is contraindicated. More so, many pregnant women may be reluctant to undergo a Pap smear for cultural and religious reasons, and the fear of vaginal bleeding and miscarriage following the procedure.

Given the challenges of widespread implementation of Pap smear in LMICs, screening for hrHPV appears to be a feasible and acceptable alternative to Pap smear. The added advantage of self-sampling, which has been shown to have a high concordance in sensitivity and specificity with provider collected samples further makes hrHPV testing a better test. ^[8,9] HrHPV test has a high specificity, though the sensitivity is average. This disparity is because the positive hrHPV test does not imply a precancer as the immune system can clear the virus, and CC only develops when there is persistent infection. When the hrHPV test is positive, there is need for another triage test. The ideal characteristics of a triage test for HPV-positive women for use in LRS would include excellent risk discrimination (high precancer risk in positives, low risk in negatives), low-cost, simplicity, and point-of-care use.^[9] Cost has been a limitation to hrHPV testing in LMICs, but with the recent development of low-cost point-of-care tests, many LMICs can feasibly utilize the test for population-wide screening.^[9] Since many at-risk women are in the reproductive age, the antenatal period is an excellent time to link women in LMICs to CC preventive services, as the only health care contact of many of them in their lifetime occurs during pregnancy.

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