Time to consider self-sampling for cervical cancer screening?

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Despite being a preventable disease, cervical cancer remains a public health problem; 1,422 cases and 637 deaths were reported in Canada in 2020.[1] Caused by human papillomavirus (HPV) infection, cervical cancer can be prevented through vaccination, screening, and treatment of precancerous lesions. Canada has committed to eliminating cervical cancer by endeavouring to vaccinate 90% of all girls before age 17 by 2025, implementing HPV primary screening of 90% of all screen-eligible women by 2030, and reaching 90% successful follow-up and treatment of abnormal screening results by 2030.[2] Such three-pronged strategy is essential because the HPV vaccine does not prevent all types of HPV that can cause cervical cancer; about 10% of cervical cancers are caused by types not covered by the vaccine.[3] Hence, screening and treatment remain an important supplementary preventive measure. In its cervical cancer elimination plan, Canada has committed to replace the traditional Pap cytology method by the more accurate and efficient molecular HPV test. Using the latter in provincial and territorial screening programs will permit fewer lifetime screens while providing greater safety than using cytology.[2,4,5] Importantly, while cytology can only be performed by a trained health care provider, HPV-based tests can be collected either by a health care worker or the patient (referred to as HPV self-sampling). The Canadian Agency for Drugs and Technologies in Health concluded that physician-collected and self-sampled HPV tests have similar diagnostic accuracy.[6]

HPV self-sampling has several implementation advantages in terms of addressing screening barriers for women, i.e., reluctance to be seen by a male healthcare provider and limited access to primary care services. It is greatly accepted by women, especially among immigrants and those in racialized minorities.[7,8] The main corollary to these advantages is that self-sampling can increase screening coverage by permitting programs to reach women who otherwise would not attend screening.[9] Current cervical cancer screening coverage in Canada is 73% in women aged 18-69 years.[10] HPV self-sampling has the potential to raise this rate to the 90% level required for cervical cancer elimination. Most importantly, however, it will permit more equitable access to health by reaching vulnerable population groups, such as Aboriginal women, immigrants, women living in rural or low-income areas, ethnic minority groups, as well as women living with HIV and those with

disability.[11-13] Self-sampling is also an attractive approach to assist screening in low-income countries, which lack the infrastructure but bear the greatest burden of cervical cancer morbidity and mortality.

An at-home HPV sampling kit that comes with easy-to-understand instructions can bring convenience to women even though the sample must later be delivered to a community agent or dropped or mailed to a health care facility. It will avoid the costs associated with taking time off work, transportation, and childcare and clinic fees. These incentives increase women's engagement and empower them.[7] HPV self-sampling can also be advantageous to overcome the impact of the COVID-19 pandemic on cervical cancer screening. In 2020, during the first 6 months of the pandemic, there was a two-thirds reduction in screening participation among Canadian women, relative to 2019.[14] This was due mainly to women's fear to attend health care facilities where patients with COVID-19 are being treated, and the prioritization of COVID-19 treatment over other health services.

In summary, HPV self-sampling can simplify and increase coverage of screening programs among non-attendees, particularly in remote areas where women have higher cervical cancer incidence and mortality. Using self-samples eliminates the need for a clinic visit and examination by a male healthcare provider, a key deterrent in screening attendance.[8] The ravaging impact of the COVID-19 pandemic on cervical cancer screening worldwide makes self-sampling an attractive strategy by eliminating the need for a hospital visit, which permits resumption of screening services to the levels needed for effective prevention of cervical cancer. The future of cervical cancer screening could thus be in self-collected sampling, especially as molecular HPV testing is rapidly becoming the new paradigm replacing the 70-year-old Pap test for cervical cancer screening in most high-income countries, soon to include Canada.

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