

Scaling up community-based cervical cancer screening in Cameroon employing a single visit approach

Damien Grohar, Geneva, Switzerland; Pierre Vassilakos, Geneva, Switzerland; Khadidja Benkortbi, Geneva, Switzerland; Evelyn Tincho, Dschang, Cameroon; Bruno Kenfack, Dschang, Cameroon and Patrick Petignat, Geneva, Switzerland

Cervical cancer caused by persistent human papillomavirus (HPV) infection is still a major public health concern in sub-Saharan Africa. In Cameroon it represents the second most common cancer in women and the leading cause of cancer-related deaths. As in many other parts of sub-Saharan Africa, facilities for the prevention and treatment of this cancer are still very limited in this country.

Launched in September 2018 in partnership with the Cameroon Ministry of Public Health, the Dschang District Hospital and University Hospitals of Geneva, we designed a 5-year community-based cervical cancer screening program in West Cameroon¹ (Figure 1). Historically, since 1980, a partnership has existed between the University of Geneva and the Cameroonian Ministry of Health with the aim of developing knowledge and promoting its exchange. In the domain of cervical cancer prevention, the partnership was established in 1999 and has led to the development of a highly productive research platform for medical students and young doctors.²⁻⁵

Our screening program, based on the WHO recommendation, entitled the '3T-Approach' (Test, Triage and Treat), is done in a single visit (Figure 2). Briefly, after counselling, a point-of-care rapid HPV self-test is performed followed by visual triage for

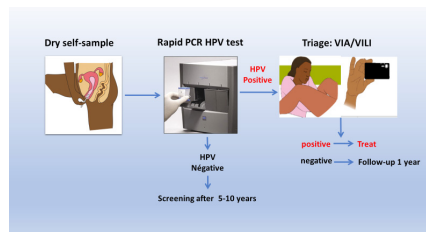


Figure 2 '3T-Approach' strategy procedure – 1 day visit. Self-sampling with a dry swab is followed by rapid human papillomavirus (HPV) testing (Xpert™ HPV). HPV-negative women are reassured and advised to do the next screening 5 years later. HPV-positive women will undergo visual inspection with acetic acid and visual inspection with iodine (VIA/VILI) and treatment (if indicated) or follow-up. Smartphone digital photographs (cervicograms) are obtained for quality control. Source: Vassilakos et al, *Rev Med Suisse* (March 2019).

HPV-positive women and treatment with thermal ablation if needed (Figure 3). Smartphone digital photographs after visual inspection with acetic acid (VIA) and visual inspection with Lugol's iodine (VILI) (D-VIA/VILI) are also obtained for quality control as well as cytology, biopsies, and endocervical brushing for program evaluation (Figure 4). We decided to organize and sustain our



Figure 1 District Hospital of Dschang, Cameroon.



Figure 3 District Hospital of Dschang: women receive counselling service (community education, counselling on sexual health and cervical cancer screening) before testing.

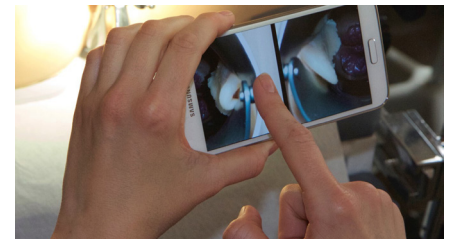


Figure 4 Smartphone digital images acquisition after VIA (D-VIA) and VILI (D-VILI) procedures. This allows to slide between pictures on the Smartphone for diagnosis. It is a simple and reproducible procedure that facilitates the identification of lesion.

program in a well-defined geographical area of West Cameroon (Dschang Health District) before expanding to cover the region. In this brief contribution we report our 18-month experiences and achievements in an ongoing community-based cervical cancer screening program.

CERVICAL CANCER SCREENING PROGRAM (3T-APPROACH)

Setting

The program started in the city of Dschang and surrounding villages in September 2018. We estimated that about 10 000 women in this zone aged 30–49 years were eligible for a cervical cancer screening test. Screening coverage is regularly monitored for communication and intervention planning with community health workers in order to enhance participation of women in the program (Figure 5). Social educators trained to provide information about cervical cancer and its screening play a major role. They provide information in villages, churches, markets, and women's associations and encourage women to participate. They educate people on positive health-seeking behaviors, about the importance of HPV infection and timely screening

12 months after a baseline diagnosis of cervical intra-epithelial neoplasia (CIN) 2 or CIN 3. Overtreatment was defined as treatment of women who either had no lesion or had CIN 1 lesions on baseline cervical biopsies and endocervical curettage and cytology was negative for a high grade squamous intra-epithelial lesion.

Cost analysis of the program

Cost analysis of the 5-year program will include staff time and salaries, clinical and laboratory supplies, laboratory and treatment equipment, start-up costs, training, and community mobilization costs. This also includes the cost for treatment of patients with invasive cancer diagnosed after screening. Additionally, we will analyze costs per woman and per pre-cancer and cancer diagnosed through a 5-year period modeling.

CONCLUSION

Considering the local specificities and available resources, we believe after 18 months of implementation and experience in Dschang that the program can be expanded to the region at large. Key pillars for the success of the program include providing adequate training and educational tools as well as developing a culture of quality

among the healthcare workers. Future reports on clinical outcomes and cost analysis will contribute to optimizing a strategic plan for cervical cancer prevention in low- and middle-income countries.

Correspondence to Professor Patrick Petignat, Department of Gynaecology and Obstetrics, University Hospitals of Geneva, 1205 Genève, Switzerland; patrick.petignat@hcuge.ch

Acknowledgements The authors would like to thank Chloé Frund, Jessica Sormani, Jovanny Fougue, Alexia Chatillon, Christine Balli, Hélène Gaitsch, Karolin Tatrai, Rosa Catarino, Fritz Baumann, Beat Stoll, Atem Bethel Ajong.

Contributors All the authors made contributions to the design and participated in drafting and revising the manuscript. All authors gave final approval of the submitted version.

Funding This research is supported by the University Hospitals of Geneva (Commission des Affaires Humanitaires (CAH)), Solidarité Internationale Genève, ESTHER Switzerland Partnership Project Grant (17G1), District Hospital of Dschang. The authors have not declared a specific grant for this research from commercial sectors.

Competing interests None declared.

Patient consent for publication Not required.

Provenance and peer review Commissioned; internally peer reviewed.

© IGCS and ESGO 2020. No commercial re-use. See rights and permissions. Published by BMJ.



To cite Grohar D, Vassilakos P, Benkortbi K, *et al.* *Int J Gynecol Cancer* 2020;**30**:1455–1457.

Accepted 27 March 2020
Published Online First 4 May 2020

Int J Gynecol Cancer 2020;**30**:1455–1457.
doi:10.1136/ijgc-2020-001422

REFERENCES

- 1 Vassilakos P, Tebeu P-M, Halle-Ekane GE, *et al.* Fritz Baumann et Patrick Petignat. Vingt années de lutte contre le cancer du col utérin en Afrique subsaharienne - collaboration médicale entre Genève et Yaoundé. *Revue Médicale Suisse* 2019;15:601–5.
- 2 Untiet S, Vassilakos P, McCarey C, *et al.* HPV self-sampling as primary screening test in sub-Saharan Africa: implication for a triaging strategy. *Int J Cancer* 2014;135:1911–7.
- 3 Fokom-Domguez J, Combescurie C, Fokom-Defo V, *et al.* Performance of alternative strategies for primary cervical cancer screening in sub-Saharan Africa: systematic review and meta-analysis of diagnostic test accuracy studies. *BMJ* 2015;351.
- 4 Catarino R, Petignat P, Dongui G, *et al.* Cervical cancer screening in developing countries at a crossroad: emerging technologies and policy choices. *World J Clin Oncol* 2015;6:281–90.
- 5 Tebeu P-M, Fokom-Domguez J, Crofts V, *et al.* Effectiveness of a two-stage strategy with HPV testing followed by visual inspection with acetic acid for cervical cancer screening in a low-income setting. *Int J Cancer* 2015;136:E743–50.