SAKSHI - Smartphone Augmented Cervical Selfie: An Innovative Tool for Low-Resource Settings for the Prevention of Cervical Cancer

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Cervical cancer is the leading cause of death among women due to cancer in the developing world. India contributes to 25% of these cancers. In low-resource settings, visual inspection with the naked eye after the application of acetic acid (VIA) is recommended. However, the accuracy of this test is limited by the skill of the health worker performing it. In our innovation SAKSHI, we implemented a smartphone-based telemedicine system that captured augmented images of the cervix and shared these images and relevant clinical data using the Kobocollect app with professional experts. Our device was tested by a collection of cervical images both by colposcopy and cervical selfie in 25 women. We tested the technical feasibility and compared images regarding clarity, brightness, and magnification. Also further, we aim to create a database of these images that can be used in AI identification. ?It was noted that the images procured on the smartphone were of excellent diagnostic quality. Upon being marked on a score of 5 the images taken on the colposcope were scored to be of excellent quality at 5/5, however, SAKSHI was not far behind at 4/5. Assessment by SAKSHI was adequate in all 25 patients. The present protocol ensures quality workflow with remote supervision in rural settings utilising the resources already available at the ground level. It offers portability and minimal maintenance and cost. ?

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