

**GLOBAL QUEST TO ERADICATE CERVICAL CANCER;  
CRITICALLY ANALYSISNG THE ROLE OF THE OCI  
FOUNDATION’S “CERVIBREAST PHONE APPLICATION”  
FOR USE IN DEVELOPING COUNTRIES, AND SUGGESTING  
STRENGHTENING MEASURES**

BY

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Cervical and breast cancer are among the commonest cancers among women globally, with cervical cancer ranking fourth most common cancer among women and breast cancer rising above lung cancer to become the most common form of cancer worldwide (WHO, 2021).

Despite the availability of relatively easy screening and preventive measures for these diseases, they continue to rank high amongst the leading causes of female deaths. 90% of these deaths worldwide occurs in Low to Middle Income Countries (LMICs) (WHO, 2020). In most LMICs, there are various factors that promote the high morbidity and mortality rates of these cancers. There is the limited availability of screening facilities and vaccination programs, as well as the issue of restricted access to appropriate treatment in cases where a diagnosis has been made. Perhaps the most pressing of all these factors is the lack of knowledge and awareness about prevention of these diseases; and this is where the OCI Foundation's Cervibreast app makes its grand entrance.

Like David Blumenthal says, "information is the lifeblood of medicine, and health information technology is destined to be the circulatory system for that information"; this forms the basis for the Cervibreast application. The Cervibreast app, a mobile phone application targeted at the primary and secondary prevention of cervical and breast cancer, was released as a free app on Play Store and the Apple iOS Store in 2019 and 2020 respectively. It features a groundbreaking innovation that synchronizes monthly reminders for self-breast examination with a woman's monthly cycles; as well as 2 yearly reminders for a biennial Papanicolaou smear. It also has explanatory videos on the self-examination process. The app additionally contains information on preventive strategies for breast and cervical cancer, and as well as a location algorithm that searches out services or clinics around your location. The options for logging in via Facebook and Google are always advantageous to apps because few people do not like the process of a new

sign up and the burden of having to remember a new password; this ease of signing up is a major plus to the Cervibreast app.

Mobile devices remain a cheap and effective way of improving healthcare delivery in developing countries and health applications are generally advantageous because they are easily accessible at the user's convenience. Although in the hustle and bustle of trying to make ends meet, people in most developing countries do not have time to utilize other conventional means of health education, 90% of the population have mobile phones and 50% have access to the internet (DataReportal, 2021). This means that over 104 million people technically have access to this application. Hence, the Cervibreast app is definitely a step in the right direction. According to WHO (2020), preventive interventions should be targeted at different stages in a person's life to be more effective. Primary prevention which includes HPV vaccination, and health education on various topics should be targeted at preteens and teenagers; secondary prevention which includes regular screening and quick treatment at women greater than 30 years; and tertiary prevention which includes treatment of invasive cancer and palliative care to affected women of all ages. The age group for primary and secondary prevention (preteens to the fifth decade) is also the age group most likely to own a phone with internet access, which makes the use of the Cervibreast app a viable solution to the lack of awareness on preventive measures against cervical and breast cancer.

Despite the various benefits of the use of technology in health, there are still substantial obstacles to its use in developing countries. These obstacles can be summed up in four C'S: connectivity, cost, capacity and culture (Bukachi, 2007). Most people in Nigeria have experienced the issue of poor connectivity; apps and other internet-access tech stall and 'hook' until we give up and move on. Apart from this, over 50% of the population do not have internet access at all, and so would

not be able to utilize this app. As for cost, even without the problem of a rapidly decreasing value in our currency, data prices are still high. The average 1 gig of data costs \$0.5, which is just enough for about 12 hours of internet browsing. 83.9% of Nigerians live below \$2 per day (Orokpo & Mutong, 2018); would they be willing to consistently spend an amount –which technically translates to about 25% of their daily income –, on data? The issues of capacity and culture are especially important when considering older age groups. Older people tend to rely more on other traditional means of getting information and may be skeptical about getting seemingly delicate information from a phone application. And even though the apps interface is made intentionally simple, would they still be able to keep up with the inner workings of the app? Other possible barriers to usage of this app are technology gap, literacy and language barriers. A typical market woman, who knows just enough English to make sales in a day would probably find it difficult to utilize the Cervibreast app. Sadly, it can be argued that this woman is in more need of the health information within the app, than her working class counterpart who would most likely be more exposed to this information than her.

Despite all the seemingly dampening obstacles, the Cervibreast app still has a lot of potential in the LMIC space. A version of the app that doesn't need an internet connection can be looked into. This version can contain the basic preventive facts and a simple image showing how to perform a self-breast examination. Even better, this information can be translated into the common local languages, to promote usage amongst non-English speaking people. To further promote usage among the targeted age group, ads can be created to raise awareness. Ads on social media was the most common means of new brand discovery in the last one year according to DataReportal (2021); hence sponsored ads on common social media platforms like Twitter, Instagram or YouTube can be taken advantaged of.

In a world where technology has not only come to stay, but has also permeated every industry in the world, the OCI Cervibreast app is not just valuable but it is a necessity. From the preteen/teenager who has never heard of cervical or breast cancer, to the woman who does not have access to available health information about prevention of cervical and breast cancer, to the working woman too busy to go to a health facility to get information about these diseases, the Cervibreast mobile app has the potential to be a life-saving intervention as it makes this information easily accessible and understandable. Preventive health was the third most common health outcome in a study that examined the use of technology in medicine (Kruse et al., 2019), hence, the projected outcome for the app is a very feasible one. This mobile app has the capacity to greatly improve early detection of cervical and breast cancers and thus drastically reduce morbidity/mortality.

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