

Programme: MSc Public Health and Social Care inPractice

Module: Population Health and Digital Health Promotion

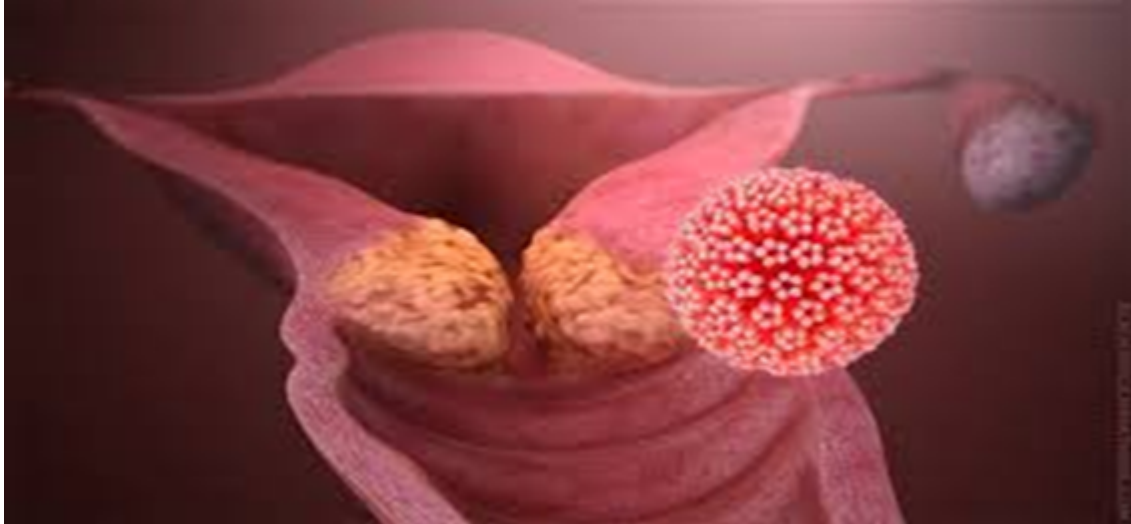
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Blog-1:

CERVICAL CANCER AND mHEALTH APP:



Introduction:

Public Health Problem: Access to screening and treatment for cervical cancer is restricted in low- and middle-income nations, where the disease is still a major global health concern.

With an expected 604,000 new cases and 342,000 deaths in 2020, cervical cancer is the 4th most frequent malignancy among women globally, according to the World Health Organisation (WHO,2020)

Digital Technology in Health Promotion:

Mobile health (mHealth) applications are one of the digital technologies that is advancing cervical cancer health promotion. These applications offer a way to distribute instructional materials, schedule screening sessions in advance, and even give users access to self-evaluation resources for early identification. (Asamoah,A.,et.al,2024)

Through utilizing the smart phone, mHealth has good reach towards women.



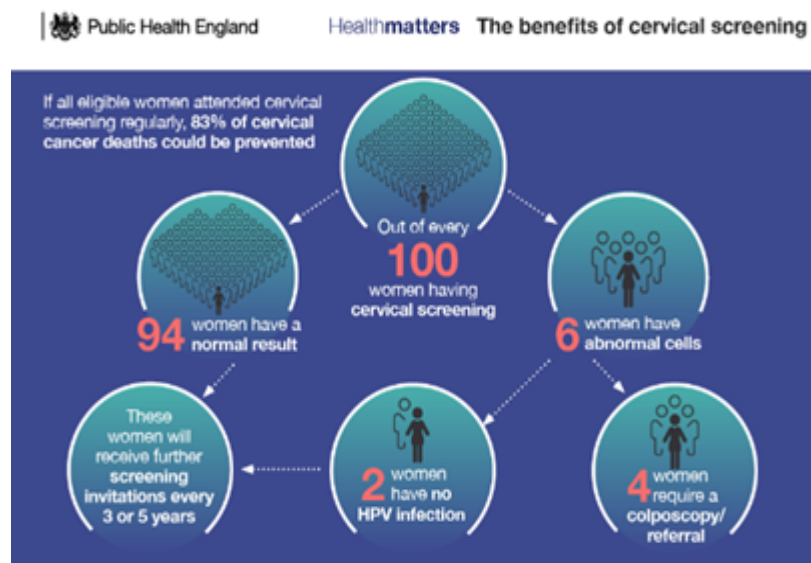
mHealth treatments offer the ability to reach women in underserved or distant locations where traditional healthcare infrastructure is weak, by taking

advantage of the widespread use of cellphones.(Bandoh,D.,et.al,2024)

How to use m HEALTH app please click the below link:

<https://www.youtube.com/watch?v=xkJ13oEAITc>

Advantages:



Research on the impact of mHealth interventions in raising cervical cancer awareness and screening uptake has yielded encouraging results.

For instance, mobile phone interventions dramatically raised cervical cancer screening rates in underprivileged communities.(Tran

et.al,2022). Mobile health intervention was both feasible and acceptable for enhancing attitudes and knowledge for the prevention of cervical cancer (Arrossi et. Al, 2015)

Disadvantages:

Although mHealth therapies have a lot of promise,there are drawbacks and restrictions. The "digital divide," in which some populations would not have access to cellphones or the internet, is a major worry since it would restrict

the reach of these treatments. To guarantee these apps' efficacy and security, problems like data security, privacy, and the calibre of the information they offer must also be properly handled.(Vashist, K., & Schneider, M.,2019).

Potential solution for the app:



To bridge the digital divide, efforts must be made to give marginalized communities access to smartphones and the internet.

Governments, non-governmental organizations, and tech businesses working together can also aid in the development of customized mHealth solutions that are user-friendly, accessible, and sensitive to cultural differences.

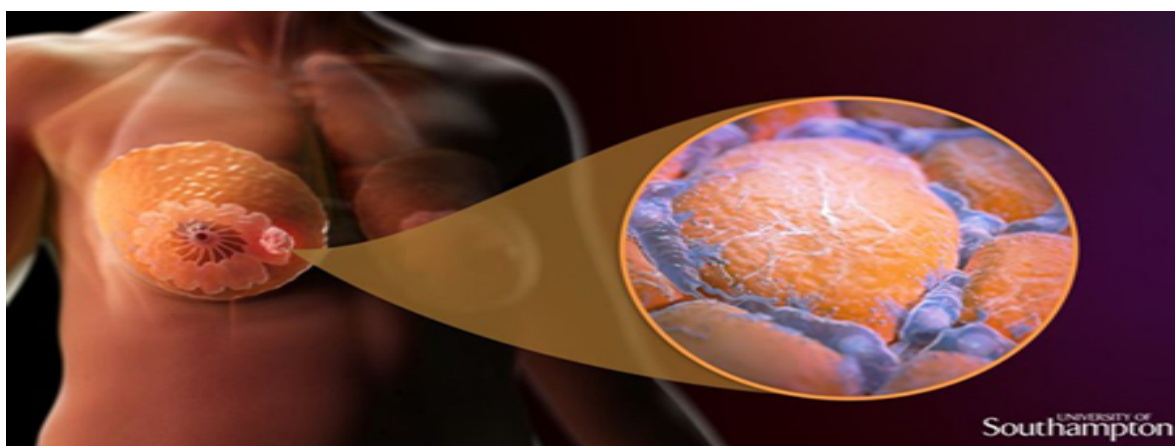
Assessment and monitoring are necessary to determine the effectiveness and modify these therapies in response to input from patients and medical professionals.

Conclusion:

To sum up, digital technologies, especially mHealth applications, have a lot of potential to help address the cervical cancer public health issue. But in order to make the most of them, concerns about data security, privacy, and accessibility must be addressed while maintaining the accuracy and applicability of the information offered.

Blog-2:

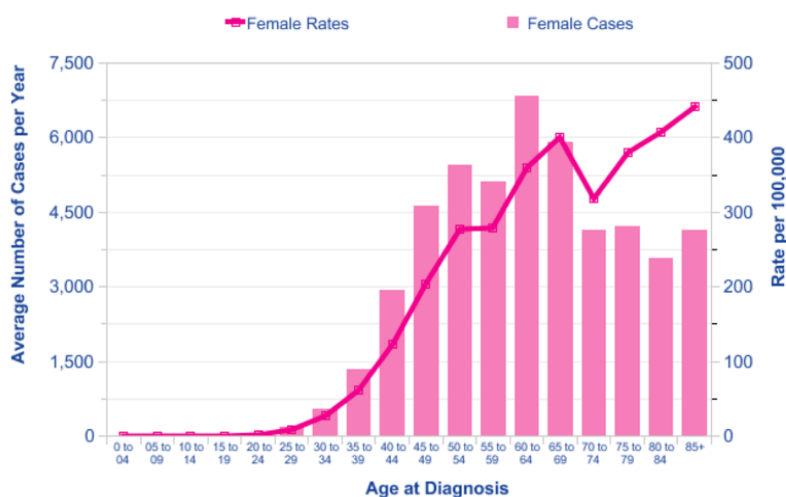
BREAST CHECK APP: HOW IT HELPS IN BREASTCANCER SCREENING AND PREVENTION



Introduction:

Statistics showing the incidence and social effect of breast cancer make it a serious public health problem in the UK. With almost 55,200 new cases diagnosed annually, breast cancer is the most frequent cancer among women in the UK. (Cancer Research UK, 2023)

Furthermore, among women in the UK, breast cancer ranks as the second most common cause of cancer-related fatalities. These figures highlight how urgently this disease needs to be addressed with efficient interventions and public awareness efforts. (Cancer Research-UK, 2022)



A cutting-edge mobile health (mHealth) application is the digital tool created for breast cancer health promotion in the UK. "BreastCheck UK," an application, is intended to offer all-encompassing assistance for the

prevention, early detection, and treatment of breast cancer.

Proposed Digital Technology:

BreastCheck UK will be used in the UK to combat breast cancer in a number of ways:

Educational Resources: Tailored to the UK population, the app will include evidence-based information on symptoms, risk factors, and screening regimens related to breast cancer.

Self-Assessment Tools: By entering their personal medical information, users can determine their unique risk factors for breast cancer and get tailored screening and preventive advice.



Appointment Reminders: In order to encourage early detection, the app will send users reminders to remind them to book and show up for clinical breast exams and mammograms.

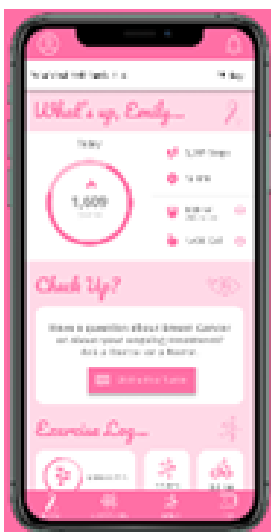
Community Support: BreastCheck UK will include a support group where users can get in touch with other people who have been impacted by breast cancer, exchange stories, and offer consolation. (Garcia, L., & Nguyen, H., 2021)

Benefits:

Enhanced Knowledge:

By providing information on breast cancer risk factors, symptoms, and screening recommendations, BreastCheck UK encourages consumers to take preventative and early detection measures.

Better Access: By removing obstacles to healthcare access, the app makes information and resources readily available to a broad spectrum of people, especially those living in rural or underserved locations.



Personalization: By providing tailored advice based on each person's unique risk characteristics, BreastCheck UK increases the applicability and efficacy of health promotion initiatives.

Empowerment: The app fosters a sense of empowerment and autonomy in users by giving them the resources to evaluate their own risk and take charge of their health.(Johnson, K., & Smith, B.,2020).

Click the below link for breast screening information:

<https://youtu.be/FRTY6G0vlgs?si=eWafFGb7gjrRP-Pu>

Shortfalls:

Digital Divide: Some groups of people, especially older folks or those from lower-income backgrounds, may be left out if they do not have access to cellphones or internet connectivity.(Lee,H., & Kim,H.,2020).

Reliability: The app's information may not always be accurate or reliable, which could cause users to become confused or receive false information.

Privacy Issues: Gathering and retaining private health information via the app presents privacy and security issues that need for strong data protection protocols.(Jones, W., & Patel, K.,2018)

Restricted Reach: Although the app has been promoted, it is still difficult to reach underserved populations or people with poor health literacy.(Garcia, L., & Nguyen,H.,2021)

Addressing Shortfalls:

Digital Inclusion Initiatives: Working together with governmental and nonprofit institutions to give marginalised communities access to cellphones or the internet.

Quality Assurance: The accuracy and dependability of the information offered by the app can be improved by routine updates and content verification by medical specialists.

Data Encryption: To protect user privacy, enact robust data encryption mechanisms and make sure that data protection laws are followed.

Community Outreach: collaborating with healthcare providers and neighbourhood organisations to launch outreach and education initiatives aimed at underserved communities. (Smith, K., & Johnson, B. 2020)

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Poster:

Cervical Cancer and Digital Health intervention with mHEALTH app:



Cervical Cancer Health Promotion Intervention with mHEALTH App

BACKGROUND

Globally, cervical cancer is still a major public health concern, especially in impoverished areas with inadequate access to screening and education. Even though screening programmes are available in the UK, some demographic groups—such as marginalised women and those living in remote areas—face obstacles when trying to receive preventive treatments. With an expected 570,000 new cases and roughly 311,000 deaths in 2018, cervical cancer is the 4th most frequent malignancy among women globally, according to the World Health Organisation (WHO). 90% of cervical cancer deaths occur in low- and middle-income countries as a result of insufficient screening programmes and restricted access to medical care. These nations are disproportionately affected. (WHO,2018)

Illustrations of Interventions in Public Health :

Programmes for Pap Smear Screening: Conventional non-digital initiatives include structured screening programmes that promote routine Pap smear screenings for women. In order to deliver screening services, these programmes frequently require outreach initiatives, educational campaigns, and partnerships with healthcare practitioners.

HPV Vaccination Campaigns: One of the most important public health interventions is vaccination against the human papillomavirus (HPV), which is the main cause of cervical cancer. Adolescent HPV vaccination campaigns have been shown to be successful in lowering the incidence of cervical cancer in populations with high immunisation rates.

Telemedicine and Mobile Health: These digital initiatives offer remote access to healthcare services, including education and screening for cervical cancer, using telemedicine and mobile health applications. Through these platforms, people can access instructional materials, speak with medical specialists, and get reminders.

Cervical Cancer Intervention using Digital Health

Apps for digital screening for cervical cancer: A smartphone application that makes it easier to self-screen for cervical cancer using a portable colposcope is one instance of a digital health intervention for the disease. With the help of this gadget, which connects to a smartphone, ladies can take pictures of their cervix. The software then use artificial intelligence algorithms to analyse these photos in order to find any anomalies that might point to precancerous lesions or cervical cancer.(Smith, J., & Johnson, A.,2023)



Health Promotion Values and Principles:

The cervical cancer digital health technology intervention is consistent with the following health promotion values and principles:

Equity: By utilising smartphone-based technology to offer a quick and accessible screening option, the intervention seeks to alleviate discrepancies in access to cervical cancer screening. Through the removal of obstacles including geographical remoteness and inadequate healthcare infrastructure, the intervention facilitates fair and equal access to screening services.(Smith, J., & Johnson, A.,2022)

Empowerment: By allowing people to conduct self-screenings whenever it's convenient for them, the intervention gives people the power to actively participate in preventing cervical cancer. The intervention supports proactive screening behaviour and assists people in making health-related decisions by providing educational materials and individual risk assessments.(Brown,C.& Davis,W.,2022)

Participation: To guarantee the digital health technology intervention's applicability and efficacy, researchers, community organisations, and healthcare professionals work together during the intervention's creation and execution. The effectiveness of the intervention depends on the involvement of stakeholders, whose constant input and feedback promote adaptation and continuous improvement to suit the demands of varied populations.

Holistic Approach: By targeting a variety of factors that affect screening behaviour and outcomes, the intervention takes a holistic approach to cervical cancer prevention. The intervention supports holistic cervical cancer prevention efforts by offering educational materials, risk assessments, and follow-up suggestions in addition to screening services.

Prevention: The intervention highlights the significance of prevention as the cornerstone of cervical cancer control by encouraging self-screening and routine screenings. (Brown, C. & Davis, W. 2022)

Behaviour Change Theory

Self-Efficacy: Self-Compassion Theory (SCT) emphasises the role that self-efficacy—the conviction that one can carry out an action—plays in impacting behaviour change. By offering users encouragement, constructive criticism, and step-by-step instruction during the self-screening process, the digital intervention can improve users' sense of self-efficacy. The confidence and sense of accomplishment that users get can also be increased by features like achievement badges and progress trackers.

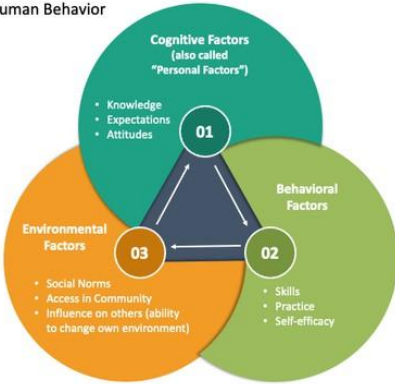
Social Reinforcement: According to SCT, social interactions and feedback serve to reinforce behaviour. Social reinforcement techniques that involve sharing test findings with friends and family, getting online community support virtually, or getting positive feedback and support from medical professionals can all be incorporated into the digital intervention. These social rewards have the power to sustain behaviour change over time and raise users' motivation to follow the screening schedule.

Environmental Factors: SCT recognises that social norms and resource accessibility, for example, have an impact on behaviour. By enabling access to screening services via mobile technology, the digital intervention can eliminate environmental barriers to cervical cancer screening, irrespective of geographic location or healthcare infrastructure. Additionally, through the use of instructional materials, peer endorsements, and community involvement programmes, the intervention can establish social norms that support screening behaviour.

Behavioural Modelling: SCT places a strong emphasis on how behaviour is shaped by behavioural modelling. Testimonials and success stories from people who have successfully completed self-screening and gotten prompt treatment for cervical abnormalities can be incorporated into the digital intervention. These stories might act as role models and encourage others to practise screening.(Brown, R., & Williams, C.2022)

SOCIAL COGNITIVE THEORY

Determines Human Behavior



Expected Outcome

It is anticipated that using the Social Cognitive Theory (SCT) to the delivery of a digital health intervention for cervical cancer will result in multiple benefits:

Elevated Screening Rates: The intervention is anticipated to result in elevated rates of cervical cancer screening by tackling elements like self-efficacy, observational learning, and social reinforcement. Regular screening is more common among those who have seen others engaging in the behaviour, feel competent in performing self-screenings, and receive encouragement and support from people in their social circle.

Enhanced Self-Efficacy: Self-efficacy is a key component of behaviour change, according to SCT. Users that complete self-screenings successfully are given the instruments, materials, and assistance they require through the digital intervention. As users become more accustomed to the self-screening procedure and get encouraging comments about their work, their ability to increase screening

Behaviour Maintenance: According to SCT, people are more likely to maintain a changed behaviour when they continue to be reinforced and see good results. By giving users social reinforcement, follow-up recommendations, and reminders to promote sustained involvement in cervical cancer screening over time, the digital intervention can help with behaviour maintenance.

Decreased Disparities in Access to Screening: The digital intervention has the potential to lessen disparities in access to screening services by addressing environmental barriers to cervical cancer screening, such as geographic distance and inadequate healthcare infrastructure. (Gupta, A., & Gupta, S.2021).



Conclusion

The implementation of a digital technology intervention for cervical cancer screening has significant implications for policies, education, and research in the field:

Policies:

1. Regulatory Frameworks
2. Reimbursement Policies:
3. Telemedicine Regulations:
4. Education:
5. Health Literacy Programs
6. Training for Healthcare Providers
7. Community Outreach:
8. Research:
9. Validation Studies
10. User Experience Research:(Brown, C. & Davis, W. (2022)

Health Equity ResearchTo summarise, the introduction of digital technology into cervical cancer screening has far-reaching consequences for research, education, and policies. To guarantee the safe, efficient, and fair utilisation of digital health resources in cervical cancer prevention and control initiatives, cooperation between various stakeholders is necessary.

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