Mobile health apps on behaviour change communication in Imo State: problems and prospects

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MOBILE HEALTH APPS ON BEHAVIOUR CHANGE COMMUNICATION IN IMO STATE: PROBLEMS AND PROSPECTS.

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ABSTRACT

In recent years, there has been a substantial shift to the use of mobile health apps in behaviour change communication tactics. This study digs into the various dynamics of mobile health applications and their revolutionary potential for communicating behaviour change. Drawing on a thorough examination of current research and theoretical frameworks, this article elucidates the process by which mobile health applications affect people's health habits. Furthermore, the study investigates the complex relationship between technical improvements, user engagement, and behaviour change theories in the context of mobile health treatments. This article also examines the problems and potential of using mobile health applications in behaviour change communication projects, such as accessibility, usability, privacy, and effectiveness. This article provides a comprehensive framework for understanding the impact of mobile health apps on behaviour change communication, combining theoretical insights with practical implications. The key results show that mobile health applications play an important role in encouraging behaviour change by offering tailored, accessible, and interactive treatments. The study however, recommends that while technical improvements continue to improve the functionality and usability of these applications, issues such as user engagement, data privacy, and access inequities must be addressed. Also, further study is required to determine the long-term efficacy and cost-efficiency of mobile health treatments in promoting long-term behavior change.

Keywords: Behavior change, communication, mobile healthapps, problems, prospects.

Introduction

Mobile health applications, also known as mobile health apps, have emerged as transformative tools in healthcare delivery, providing unprecedented opportunities to promote wellness, monitor health indicators, and facilitate behavior change among individuals worldwide (Ghahramani & Yousefi, 2020). As smartphones become more prevalent and technology advances, the popularity of mobile health applications has risen, radically altering the face of healthcare delivery and patient empowerment.

Mobile health apps are a wide range of software programs aimed to address many areas of healthcare, including fitness monitoring, chronic illness management, mental health assistance, and medication adherence (Ventola, 2014). These applications harness the capabilities of smartphones and wearable devices to give users with personalised health-related information, services, and tools at their fingertips. With hundreds of health applications accessible across several platforms, users now have unparalleled access to a diverse variety of services targeted at encouraging better lives and treating chronic illnesses (Krebs & Duncan, 2015).

According to Ventola (2014), mobile health applications are classified into four categories depending on their principal function: wellness and fitness apps, medical reference apps, illness management apps, and remote monitoring apps. Each sort of software serves a distinct function, meeting a variety of user demands and preferences.

With the increasing availability of such applications, there is still an urgent need to evaluate their usefulness, usability, and impact, especially in the context of Imo State. Despite their promise to transform health-related behaviour change activities, mobile health applications continue to face substantial hurdles in their uptake, deployment, and integration with Imo State's healthcare system. The purpose of this study is to investigate the problems faced as well as the potential for using mobile health applications to facilitate behavior change communication in Imo State, therefore adding to the larger debate on mobile health technology adoption in resource-constrained contexts.

The Importance of Behaviour Change Communication (BCC)

Behaviour change communication (BCC) is critical in achieving improved health outcomes because, it influences people's attitudes, beliefs, and health-related actions. Effective BCC initiatives strive to encourage people to adopt and sustain better behaviours, such as regular physical exercise, medication adherence, and healthy eating patterns (World Health Organization, 2020). By targeting important factors of behaviour change such as knowledge, attitudes, self-efficacy, and social norms, BCC interventions have the potential to promote long-term health outcomes and lessen the burden of avoidable illnesses (Storey et al., 2018).

Understanding Behavioural Change Communication (BCC)

Behaviour Change Communication (BCC) is an essential component of public health initiatives aiming at encouraging beneficial health practices and illness prevention. It includes a number of tactics for informing, educating, and motivating people and communities to embrace healthy lives and behaviours (Wakefield et al., 2010). In public health, behaviour change refers to the alteration of habits that increase health risks or the adoption of activities that improve health and well-being (WHO, 2021).

Kincaid (2000) defines behaviour change communication as the provision of information, targeted messages, and persuasive strategies to affect health-related attitudes, beliefs, and behaviours. The major goal of BCC is to enable people and communities to make informed health choices and to assist them in adopting and sustaining beneficial health behaviours (Rogers, 2003). BCC programs often target particular behaviours, such as smoking cessation, physical activity promotion, healthy eating, contraceptive usage, and medication adherence (Noar et al., 2007).

Important Components of Effective BCC Strategies

To maximum effectiveness, effective BCC programmes often include a number of critical components. These components include:

Audience segmentation: Audience segmentation is the process of tailoring communications and interventions to the target audience's distinct demographic, cultural, and psychographic traits in order to increase relevance and effectiveness (Kreuter & Skinner, 2000).

Theory-Based Approaches: The creation and implementation of BCC treatments are guided by proven behavioural theories such as the Health Belief Model, Social Cognitive Theory, and Transtheoretical Model (Glanz et al., 2008).

Using several communication channels and platforms, such as mass media, interpersonal contact, community mobilization, and digital technology, to reach out to varied audiences and reinforce critical themes (Storey et al., 2017).

Interactive and participatory methods entail engaging target groups in two-way communication, participatory decision-making, and skill-building activities to encourage active participation and ownership of behaviour change processes (LaFond & Brown, 2003).

Monitoring and Evaluation: Establishing strong monitoring and evaluation processes to measure the reach, efficacy, and impact of BCC interventions, as well as to guide continuous program refinement and development (Wakefield et al., 2010).

The Role of Technology in Improving BCC

In recent years, technology has emerged as an effective instrument for boosting BCC efforts. Mobile health applications (apps) are especially important in this respect, since they provide novel methods to distribute health information, assist behaviour modification, and enable self-monitoring and feedback (Free et al., 2013). Mobile applications may tailor treatments, provide timely reminders, measure progress, and link users to social support networks, increasing the efficacy and scalability of BCC programs (Krebs & Duncan, 2015).

Development and Popularity of Mobile Health Apps

Several reasons have contributed to the widespread use of mobile health applications, including developments in mobile technology, greater smartphone adoption, and rising consumer desire for easy and accessible healthcare solutions. According to Research2Guidance (2022), the number of health applications accessible on major app stores is rapidly expanding, with hundreds launched each year.

Furthermore, the COVID-19 epidemic has hastened the use of mobile health applications, as people look for new methods to obtain healthcare services and monitor their health remotely. Mobile health applications have grown in popularity among users of all ages and demographics due to their ease and flexibility.

Potential Effect on Healthcare Delivery and Behaviour Change

Mobile health applications have the potential to improve healthcare delivery by increasing access to services, boosting patient participation, and allowing for more tailored and proactive treatment. These applications enable users to take control of their health by offering tools and resources for monitoring their health condition, tracking progress toward health objectives, and making educated choices about their treatment.

Furthermore, mobile health applications play an important role in behaviour change communication by offering focused interventions aimed at encouraging healthy behaviours and assisting people in implementing and maintaining beneficial lifestyle changes. These applications assist users in breaking down obstacles to behaviour change and developing healthy habits by providing features such as goal setting, progress monitoring, tailored feedback, and social support.

Patel et al. (2015) found that mobile health treatments are successful in driving behaviour change across a variety of health domains, including physical activity, diet, smoking cessation, medication adherence, and chronic illness management. Mobile health applications have the ability to support long-term habit change and enhance population health outcomes by leveraging behaviour change theory concepts and implementing evidence-based tactics.

In conclusion, the emergence of mobile health applications reflects a paradigm shift in healthcare delivery and behaviour change communication. With their ubiquitous availability, user-friendly interfaces, and numerous features, these applications show promise for enabling people to take charge of their health and well-being, resulting in better health outcomes and lower healthcare costs.

Introduction to Uses and Gratifications Theory (UGT)

The Uses and Gratifications Theory (UGT) is a communication theory that seeks to explain why and how individuals actively seek out and utilize media to meet their wants and desires (Katz, Blumler & Gurevitch, 1973). Unlike other media theories, which focus on the impact of media messages on audiences, UGT emphasizes the audience's active engagement in choosing and interpreting media information based on their motives and gratifications. According to UGT, people are not passive consumers of media messages, but rather active searchers who use media to meet particular needs such as knowledge, amusement, sociability, or personal identity reinforcement (Katz et al., 1973).

Applying Uses and Gratifications Theory to Mobile Health Apps

In recent years, mobile health applications have grown in popularity as tools for encouraging healthy behavior modification and offering health-related information and services. Understanding consumers' motives for utilizing mobile health applications, as well as the gratifications they obtain from them is required for applying UGT to them. According to research, people use mobile health applications for a variety of reasons, including health monitoring, self-management of chronic diseases, getting medical information, recording fitness activities, and receiving social support (Purcell et al., 2019).

Mobile health applications provide users control over their health by delivering individualized information and services based on their unique requirements and preferences (Gibbons et al., 2014). Individuals may, for example, utilize fitness monitoring apps to monitor their physical activity levels and create personal development targets, increasing their feeling of autonomy and self-efficacy (Laranjo et al., 2015).

Investigating user motivations and gratifications

Research on user incentives and gratifications in mobile health applications has found several critical aspects that influence app adoption. These include the need for easy access to health information and services, the need for social support and encouragement from peers and healthcare professionals, and the pursuit of personal health goals and self-improvement (Middelweerd et al., 2018).

Furthermore, mobile health applications provide users with quick feedback and reinforcement, which may encourage long-term engagement with health practices (Fanning et al., 2018). For example, users may get real-time feedback on their progress toward attaining health objectives, such as weight reduction or smoking cessation, which may reward good behaviours and promote continuing adherence to healthy habits (Fanning et al., 2018).

To summarize, applying Uses and Gratifications Theory to mobile health applications provides useful insights into user motivations and gratifications, which may help to develop and execute more effective health treatments. By taking into account users' requirements and preferences, developers may design mobile health applications that better satisfy the different demands of their target population, resulting in better health results.

Investigating how mobile health applications support behaviour change

Mobile health applications have transformed behaviour change communication by offering tailored, accessible, and engaging platforms for people to monitor, track, and adjust their health-related habits. These applications encourage behaviour change via a variety of features such as reminders, goal-setting, progress monitoring, and instructional material (Obermayer et al., 2013). Apps like MyFitnessPal and Lose It!, for example, use calorie monitoring and meal recording capabilities to encourage improved eating habits and weight control (Lyzwinski, 2014). Apps such as Nike Training Club and Strava use gamification and social support aspects to improve exercise adherence and motivation (Coughlin et al., 2016). Mobile health applications allow users to take control of their health habits and achieve long-

term lifestyle changes by providing individualized feedback and support based on user input and data analysis (Fjeldsoe et al., 2015).

Case studies or successful implementation examples

The "SmokeFreeTXT" program created by the National Cancer Institute (NCI) in the United States is an excellent example of effective implementation. This application provides evidence-based smoking cessation assistance to users via text messages, including individualized encouragement, coping methods, and quitting recommendations (Abrams et al., 2014). A randomized controlled experiment found that individuals who received the SmokeFreeTXT intervention were more likely to stop smoking than those who got normal cessation assistance (Abrams et al., 2014). Similarly, Northwestern University researchers created the "CATCH" app, which aims to reduce alcohol use among college students by providing tailored feedback and self-monitoring tools. A pilot research found that users using the CATCH app had much lower alcohol intake and associated difficulties than controls (Huh et al., 2015). These examples demonstrate the efficacy of mobile health applications in driving behaviour change in a variety of groups and health contexts.

Issues and limitations

Despite their potential advantages, mobile health applications confront several problems and constraints that may hinder their usefulness in behaviour change communication. One important difficulty is the absence of evidence-based content and quality control standards across applications (Grindrod et al., 2018). Many applications lack scientific rigor and may provide false or misleading information, eroding user trust and participation (Grindrod et al., 2018). Furthermore, problems of privacy, security, and data sharing generate concerns regarding user confidentiality and data protection. Furthermore, discrepancies in mobile technology availability and adoption may increase health disparities by presenting disadvantaged communities with challenges such as poor internet connection, digital literacy, and smartphone ownership (Hargittai, 2018). To address these problems, academics, developers, policymakers, and healthcare practitioners must work together to ensure that mobile health applications are evidence-based, user-friendly, and equitable in terms of reach and effect.

Opportunities and Challenges

Mobile health applications provide significant prospects for future study and development, but they also raise ethical concerns and impediments to adoption and involvement that must be addressed.

Prospects for Further Research and Development

Mobile health applications provide an excellent opportunity for continuing study and development in behaviour change communication. One interesting area of investigation is the efficacy of individualized therapies offered via mobile applications. Tailoring information and treatments to user factors such as demographics, health state, and preferences should be investigated to maximize engagement and behaviour change effects (Glanz et al., 2008).

Furthermore, exploring the integration of new technologies such as artificial intelligence and machine learning into mobile health applications may improve their ability to provide individualized feedback and suggestions. These innovations have the potential to transform the delivery and monitoring of behaviour modification programs, opening the path for more effective and long-term effects (Abdolkhani et al., 2021).

Furthermore, longitudinal studies that investigate the long-term effect of mobile health applications on behaviour modification are critical. Understanding the long-term consequences of these treatments may shed light on their efficacy and influence long-term behaviour maintenance efforts (Riley et al., 2011).

Ethical Concerns in Using Mobile Health Apps for Behavior Change

Despite the potential advantages, using mobile health applications for behaviour change communication involves ethical concerns that must be properly addressed. The key issue is privacy and data security. Mobile health applications often capture sensitive personal information, such as health data and behavioural patterns, raising worries about security breaches and unauthorized access (BietzBloss et al., 2016). Researchers and developers must emphasize strong data encryption and user consent procedures to defend users' privacy rights.

Furthermore, equality and inclusion in app design and execution are critical. Access to mobile health applications and digital literacy varies by demographic, resulting in inequities in healthcare access and outcomes (Viswanath et al., 2021). Researchers and developers should endeavor to create applications that are user-friendly, culturally sensitive, and accessible to a wide range of audiences, including those with poor digital literacy or technical capabilities.

Also, the ethical implications of persuasive design strategies employed in mobile health applications must be carefully considered. Gamification and social reinforcement strategies may increase user engagement, but they may also exploit psychological weaknesses or influence behaviour (Bietzet al, 2016). It is critical to establish a balance between promoting motivation and autonomy while avoiding compulsion or excessive influence.

Removing Barriers to Adoption and Engagement

Adoption and engagement barriers continue to be key difficulties for optimizing the effect of mobile health applications on behaviour change communication. One typical impediment is user engagement and retention. Many people download health applications but rapidly abandon them owing to a lack of perceived relevance, usability difficulties, or conflicting priorities (Bauer et al., 2015). Addressing these issues requires continual user input, iterative app design, and individualized features based on individual requirements and preferences.

Furthermore, worries regarding app credibility and reliability might impede adoption, especially in the context of health-related treatments (Kumar et al., 2019). Building trust requires open communication about app features, data privacy policies, and evidence-based content. Collaboration with healthcare experts, as well as endorsements from recognized organizations, may help boost app legitimacy and user trust.

Socioeconomic issues such as smartphone cost and availability, as well as adequate internet connection, might hinder app usage, especially among underprivileged communities (Viswanath,et al., 2021). To overcome these constraints, researchers and developers should look at novel solutions such as collaborations with community groups, subsidies for low-income users, or offline functionality choices to provide more access and diversity.

In conclusion, although mobile health applications provide exciting prospects for behavior change communication, they also pose complicated problems that must be carefully considered. Researchers and developers may maximize the potential of mobile health applications to promote positive behaviour change and enhance public health outcomes by adopting a multidisciplinary strategy that stresses ethical principles, user-centered design, and inclusion.

Conclusion and Recommendation

In conclusion, this paper examined the problems and prospects of mobile health applications on behaviour change communication (BCC) in Imo State. Using the Uses and Gratifications Theory (UGT), we investigated how these applications may empower people to adopt better habits and lifestyles.

The key results show that mobile health applications play an important role in encouraging behaviour change by offering tailored, accessible, and interactive treatments. These applications employ elements including goal-setting, progress monitoring, feedback systems, and social support networks to engage users and encourage long-term habit change.

The implications for practice and policy are many. Healthcare practitioners may use mobile health applications to supplement conventional BCC therapies, reaching a larger population and providing targeted interventions at scale. Policymakers may help integrate mobile health technology into healthcare systems, providing equal access while adhering to privacy and security requirements.

Looking forward, the future of mobile health applications in behaviour change communication is bright, however complicated. While technical improvements continue to improve the functionality and usability of these applications, issues such as user engagement, data privacy, and access inequities must be addressed. Furthermore, further study is required to determine the long-term efficacy and cost-efficiency of mobile health treatments in promoting long-term behaviour change.

To summarise, mobile health applications are a transformational force in behaviour change communication, providing unparalleled opportunities to empower people, enhance health outcomes, and promote public health goals. By using these technologies wisely and ethically, we can pave the road for a healthier, more connected future.

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