



Programme: MSc Public Health and Social Care in Practice

Module: Population Health and Digital Health Promotion

Module code: LCHS7007

Task 1: Blog 1 and 2

Task 2: Poster

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Task 1: Blogs

Blog 1- Impact of mHealth application for a digital health promotion intervention

Public health issues

In the view of Edemekong and Tenny (2022), public health problems can be depicted as health-related issues that have a direct effect on a large number of the community effectively. In this context, the fact can be stated that **high blood pressure (Hypertension)** is the one public health problem. According to Mills, Stefanescu and He (2020), in the year 2010, 31.1% of the global adult population (1.39) billion of the people had hypertension including the disease of heart risk, stroke, kidney diseases and others. It has been depicted by Mohammad and Bansod (2024), that hypertension as a non-communicable disease developed by 17.9 million effectively.

The way mHealth application in health promotion

In the view of Klaver *et al.* (2021), the chosen digital health technology for health promotion can be depicted as **a mHealth application** and it has a direct relation to mitigating public health issues. mHealth applications are mainly prevalent in smartphone and mobile applications helping in tackling high blood pressure effectively. Mobile Health (mHealth) apps have the effective in addressing high blood pressure as a public health problem by monitoring blood pressure, personalising health insight, and lifestyle guidance along with telehealth integration (Liu *et al.*, 2023). The target audiences of the current blog by consider health problems and along with the chosen digital health technology will target individuals in managing and regulating hypertension worldwide.

Statistical evidences

The aim of the blog can be stated as developing the concern on digital technology and its effectiveness in digital health promotion. In the view of Stewart (2019), it has been seen that in India 70% of the population in the country are using varied ranges of applications for the tackling of nutrition, and symptoms along with the varied ranges of the medication practices. In the view of Abernethy *et al.* (2022) in the year 2020, US health expenditure had grown to \$4.1 trillion and it has been projected to increase to over \$6 trillion annually by encompassing 20% of the gross domestic product by the year of 2028 in context to the mHealth application.

Impact of digital technology on health promotion

It has been stated by Vargo *et al.* (2020), that the chosen digital health technology for the promoting of health mHealth has an effective impact on health promotion in context to highlight the advantages and the disadvantages. The math application has both advantages along disadvantages. The advantages include accessibility and conveniences, personalised support and data tackling, which helps in the engagement of behavioural changes. On the contrary, the disadvantages or the shortfalls of the mHealth applications include data privacy concerns, user engagement issues, and limited medical accuracy. For example, it has been seen that **the American Heart Association (AHA)** has leveraged hypertension management applications featuring mHealth featuring varied ranges of mHealth strategies (Vargo *et al.*, 2020).

The way shortfall can be addressed

The math application is an integral part of healthcare promotion especially hypertension as the health disease can be mitigated in several ways. In the view of Alenoghena *et al.* (2022), using the mHealth applications in addressing the issues in the context mitigating of hypertension (High Blood Pressure) as a healthcare disease can be developed by improving the accessibility and the availability. It can enhance digital literacy and the awareness, featuring personalising gamification and others.

Blog 2- The impact of digital technology- a new design innovation

A public health problem

The fact can be stated by Clinic (2024) that the public health issue that has been depicted in the blog such as hypertension (High Blood Pressure) has affected the public health globally over 1.2 billion people worldwide. Hypertension in the current world has been posed as a concern as it has led to cardiovascular disease, kidney diseases and others.

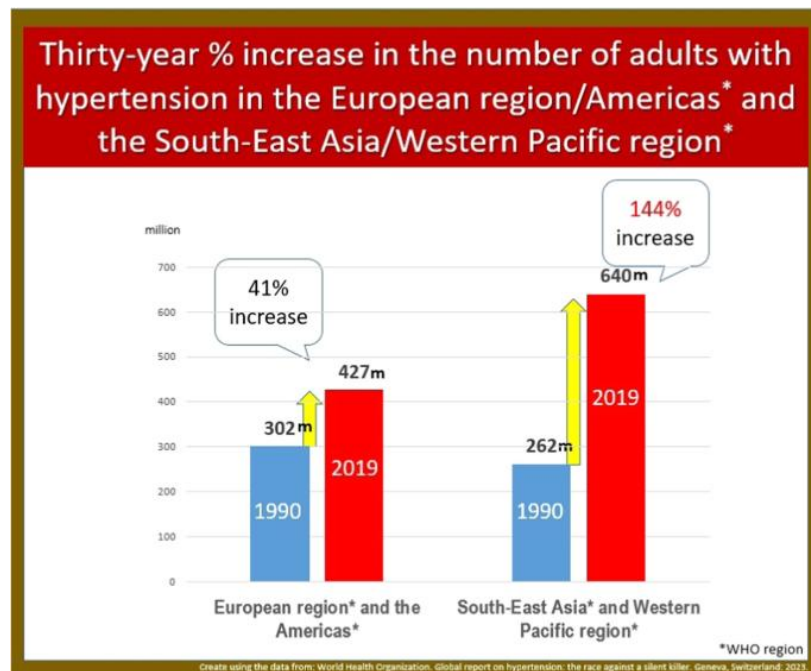


Figure 1: Increase of hypertension among adults

(Source: Kario *et al.*, 2024)

In the same way, the fact can be depicted that, hypertension is a largely preventable disease and it has the effectiveness in managing through the modification of the lifestyle along with regular monitoring. It has been increased by 144% in the year of 2019 in Southeast Asia (Kario *et al.*, 2024).

New digital technology design for health promotion

The modified version of the new digital health technology can be designed as the named **“Hyper-Intelligence”** for the tackling of hypertension management in a smart way incorporating real-time monitoring, AI-driven lifestyle coaching along with a personalised monitoring system integration (Yao *et al.*, 2021). The main modified tactics in the application have been designed by the integration of biofeedback mechanism, habit reinforcing along with

predictive analytics. This application will integrate AI-driven dietary & Nutrition Coaching for the analysis of sodium along with potassium intake in a proper way by suggesting to the patients real-time food swapping based on the intake proportion of sodium in the body (Yao *et al.*, 2021).

The way of designing digital technology

In context to the Hyper-Intelligence application, the fact can be stated that the digitally designed technology of mHealth applications by integrating AI-powered monitoring systems can effectively increase digital health promotion tactics (Shah, 2021). According to Precedence Research (2024), the global mHealth apps market size has been seen as USD 43.13 billion in 2025.

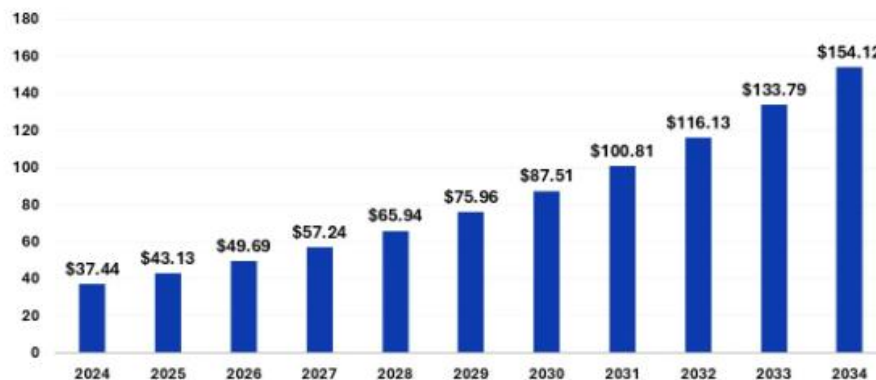


Figure 2: mHealth app market size

(Source: Precedence Research, 2024)

According to Precedence Research (2024), the fact has been seen that the market size of the mHealth app is expected to reach \$154.12 billion within the year 2034. However, the healthcare promotion of the designed technology will empower knowledge and self-management and it will promote a healthy lifestyle featuring a personalised diet and plan for exercise.

Advantages and disadvantages of selected digital health technology

The advantages of the Hyper-Intelligence application will include the effectiveness of personalised education by connecting with the interactive chatbots, visuals and others effectively (Shah, 2021). The advantages can be depicted, as the improvement of the personalised health reminder system, which will help in reducing the complications of hypertension. On the contrary, the disadvantages or the shortfalls of the designed and modified

digital health technology will include the effectiveness of the cost reduction, digital devices issues and others (Jiang, Ming and You, 2019).

The way shortfall can be addressed

In the view of Jiang, Ming and You (2019), the shortfall of the issues can be addressed by featuring the voice controller navigation as the targeted audiences in the whole world, especially adults or older people may lack the technical skills. The featuring of the adaptive gamification and the featuring of the hybrid system can improve the trusting in the AI prediction effectively.

Task 2: Poster

Application of health promotion principles and values as well as behavioural change theories

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1 Background

Public health problem

According to the World Health Organization (2023), there are varied ranges of public health problems leading to global public health issues, and these have affected 1.28 billion people in the world. However, the scale of the public health issues lies in preventing or reducing the burden of the disease for the ultimate improvement of the population's health outcomes effectively. The intervention is necessary as it can increase early detection, awareness and it can improve healthcare access, and improve medication adherence (Gourmay, 2020). The study aims to target the worldwide people who are concerned about public health issues and healthcare promotions.

Examples of public health interventions

According to the World Health Organisation (2024), public health interventions can be depicted as organised efforts or policies that have been aimed at the improvement of the health of the population through the prevention of diseases, promotional health behaviour and others. The digital technology intervention includes mHealth applications and AI-driven solutions (McCool et al., 2021). The non-digital intervention includes community-based blood pressure screening and education.

- Digital health intervention
- Hyper-Intelligence application

Hypertension-the high blood pressure

In the view of Overdijk et al. (2018), the previously described digital health intervention includes the use of the mHealth application along with the designed app Hyper-Intelligence application. It has enabled the regulation of Hypertension-the high blood pressure (Hare, Chokshi and Adusumalli, 2021).



2 Health promotion values and principles

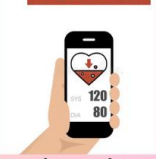
Values and principles

In the view of Koelen and Den (2023), the health promotion approach can be stated as an effective approach that goes beyond the values, and principles, and it encompasses a wide range of social and emotional interventions. The values and principles of health promotion can be stated as empowerment, equity, participation along sustainability (Enticott, Johnson and Teede, 2021). On the contrary, the principles of health promotion include health as a human right (Leimanis and Palkova, 2021).

The way digital health technology intervention will be aligned with health promotion

- Empowerment and Equity
- Health insights

The mHealth application for tackling high blood pressure mentioned in task 1 will be effectively aligned with the values and principles of health promotion (Wienert, Jahnel and Maaß, 2021). The health app will develop empowerment and equity by featuring personalised health insights by tackling blood pressure as well as diet patterns (Krishnamurti et al., 2022).

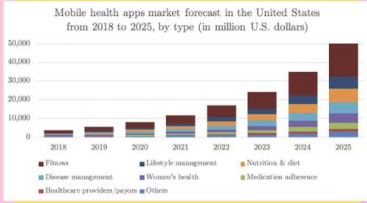


3 Behavioural change theory

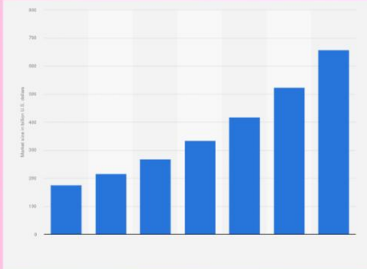
The Health Belief Model

The fact has been depicted in Statista Research Department (2022) that in the year of 2019 the global digital market health has been projected to reach \$175 billion developing 25% from 2019 to 2025. In context to The Health Belief Model (HBM), the behavioural change theory, there is the connection of digital technology in leveraging health promotion by examining the health-related behaviour of individuals through the perception of the risks, benefits and behaviour. There are varied ranges of the key components of selected theory that include perceived susceptibility, Perceived Severity benefits and behaviour (Daragmeh, Sâgi and Zeman, 2021). The first stage of the model is connected to digital technology through the assessment of the AI-driven risks for the effective promotion of digital health. On the contrary, the perceived barrier is an integral part of the theory that can help the mHealth app in addressing the common barrier by offering gamification and personalised features for promoting health (Alayef and Easton-Carr, 2024).

Mobile health apps market forecast in the United States from 2018 to 2025, by type (in million U.S. dollars)



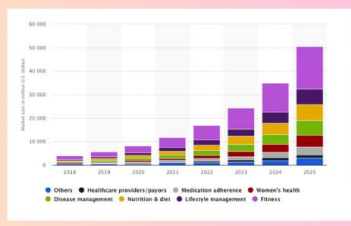
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4 Expected outcome

- Hypertension management
- AI-driven telehealth in the mHealth application

In the context of the Rural Health Information Hub (2024), the Health Belief Model (HBM) has the effectiveness in assessing whether effective health behaviour is more or less likely based on perception. The expected outcome of using the theory to deliver digital health interventions includes increased awareness and risk perception, higher adherence to hypertension management and others. In the view of Daragmeh, Sâgi and Zeman (2021), there is scope for continuous self-improvement and AI-driven telehealth in the mHealth application will enable timely interventions to address the high range of blood pressure in context to hypertension effectively.



5 Conclusion

It has been seen from the above evaluation that digital mHealth applications the effectiveness in addressing serious health concerns. The digital technology intervention has a massive effect on policies, education and research as the government can incorporate AI-driven personalised solutions mHealth app for hypertension prevention and treatment programs. The implication on that education prevents hypertension by featuring personalised care. The implication of the digital intervention on the research includes the advancement of AI-driven hypertension research.



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