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Navigating Sustainable Health Solutions: Enhancing Health Awareness for the B40 Community through the Sihat+ Application

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ABSTRACT

With the ultimate objective of providing societal benefits to all citizens, the global digital healthcare environment has seen tremendous advancements in recent years. Giving citizens health literacy training, especially the B40 community, can enable them to take advantage of a variety of digital health resources especially with the use of an online mobile application, Sihat+. The Sihat+ application navigates sustainable health solutions and enhances the B40 community health awareness. This innovative application combines user-friendly features with a robust support system, creating a unique platform tailored to the needs of the B40 community. Key features of the Sihat+ include: The health solution application provides users with accurate and personalized health information tailored to their medical history and current conditions. It connects with various medical institutions, enabling users to book appointments, access health records, and receive updates on healthcare services. The app offers a vast database of health-related resources, including videos, articles, and research, helping users stay informed about medical advancements. Users can also interact with live medical experts for real-time consultations, second opinions, or emergency advice. Overall, it serves as a comprehensive platform that integrates health information, institutional access, and expert guidance to support users in managing their health. This extensive investigation has produced useful recommendations for improving the well-being of the B40 community in addition to adding to the body of knowledge regarding digital healthcare. Moreover, the Sihat+ app is useful & convenient, allowing patients to access medical information and services with ease and tech-savvy.

1. Introduction

Recent years have seen notable advancements in the global digital healthcare landscape, motivated by the primary objective of providing social benefits to all citizens. The Malaysian Health Transformation Initiative, spearheaded by the Ministry of Health, seeks to unify both the public and private healthcare sectors. The overarching goal is to establish a sustainable and adaptable healthcare system that delivers equitable, cost-effective, and easily accessible high-quality

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healthcare services via digital platforms. Having access to affordable healthcare and health education continues to be a significant challenge for Malaysia's B40 community, which comprises the lowest 40% of income earners. Due to lack of infrastructure, low health awareness, and budgetary constraints, this group frequently confronts major barriers to receiving quality healthcare services [1]. Limited access to preventive healthcare, postponed treatments, and a lack of ongoing health monitoring exacerbate these problems and lead to the nation's growing health disparities [2].

The pursuit of sustainable solutions to meet the unique requirements of marginalised communities is growing in tandem with international initiatives to establish more equal health systems. Technology integration is one of these alternatives, and it has shown itself to be a potent facilitator of more inexpensive and accessible healthcare [3]. The Sihat+ app is a unique digital platform in Malaysia that aims to raise health awareness, encourage preventative care, and give the B40 community access to vital health information. By providing information on how to access medical services, encouraging healthy habits, and assisting users in better managing their health, this app not only acts as a channel for delivering health-related content but also as a liaison between the B40 community and healthcare professionals.

Sihat+ wishes to democratise healthcare by utilising mobile technology to make services and information accessible to those who need them most. The sustainable development goals (SDGs) of the UN, especially those pertaining to universal health coverage and lowering inequality [4], and Malaysia's objective for a more inclusive healthcare system are both in line with the app's methodology. Sihat+ has the potential to enhance health outcomes in this vulnerable group by equipping individuals with knowledge and tools for improved health management. A significant research gap lies in understanding the long-term behavioral impacts of digital health applications, like Sihat+, on preventive healthcare adoption and health literacy among underserved populations, particularly in low-income communities like Malaysia's B40 group. While existing studies highlight the potential of mobile health applications to enhance health literacy and improve access to healthcare, there is limited research on whether these digital tools can sustain behavioral changes over time, such as routine health check-ups, chronic disease self-management, or consistent engagement in preventive health practices.

This article examines the Sihat+ application's role in meeting the health needs of the B40 community, highlighting its effects on improving health awareness, encouraging preventive care, and providing sustainable healthcare solutions. The discussion will also examine how this app utilises technology to address health inequities and support broader public health objectives in Malaysia. Moreover, this article provides details on authenticity, novelty, development of the application, potential collaborators and commercialization as well as detail of the features available on Sihat+ application. The Sihat+ platform marks a significant advancement in addressing the healthcare disparities and fostering long-term health sustainability for Malaysia's underserved populations in the context of the growing prominence of digital health.

2. Literature Review

2.1 Healthcare Challenges in the B40 Community

Numerous studies have brought attention to the ongoing healthcare issues that Malaysia's B40 group faces. Despite the provision of public healthcare facilities, financial barriers continue to be one of the biggest challenges, since this population has high out-of-pocket medical costs as mentioned by Yunus *et al.,* [1]. A large part of this community is living in rural areas, where healthcare facilities frequently face resource limitations and accessibility challenges for example in reaching to the nearest healthcare provider [5]. The situation is worsened by insufficient health awareness,

especially regarding preventive care and early treatment of illnesses, resulting in delayed diagnosis and inferior health outcomes [6].

Health literacy is a critical determinant that empowers individuals to effectively navigate the healthcare system and make informed decisions regarding their health. Research indicates that health literacy levels among Malaysia's B40 population are predominantly low, especially in rural regions. As supported by Attalla *et al.,* [2], the deficiency in health knowledge restricts the community's capacity to participate in preventive strategies and manage chronic illnesses, resulting in increased disease prevalence and mortality rates. Consequently, it is essential to tackle both financial and educational obstacles to enhance health outcomes for this population.

2.2 Applications and Functions of Mobile Health

Mobile health applications have developed as a viable approach to address healthcare access disparities, especially in low- and middle-income nations. The increasing prevalence of smartphones and internet access, including in rural regions, has created an opportunity for the direct provision of health services and information to underserved populations. Multiple studies have shown that mHealth applications effectively enhance health outcomes, encompassing areas such as disease monitoring, health education, and telemedicine services.

Mobile health application initiatives in Southeast Asia have demonstrated potential in improving health awareness, especially in regions with inadequate healthcare infrastructure. A study on mHealth applications in rural Indonesia demonstrated that mobile platforms notably enhanced users' health knowledge and fostered greater engagement with healthcare services. In Bangladesh, mHealth programs aimed at maternal health have been shown to decrease maternal mortality by enabling timely access to healthcare information and services. The findings indicate that mobile health applications may significantly empower underserved communities in managing their health.

The success of the initiatives is contingent upon various factors, such as user engagement, cultural sensitivity, and usability. Numerous researchers emphasised that mobile health applications should be tailored to the specific requirements of the target population, accounting for factors such as language, literacy levels, and access to technology. A research study highlighted the necessity of localising health applications in Malaysia to tackle the specific health challenges encountered by the B40 community, including non-communicable diseases and maternal health issues.

3. Innovation Research Objective

The objective is to assess the effectiveness and impact of the Sihat+ mobile application in enhancing health literacy, promoting preventive healthcare practices, and improving access to healthcare services within the B40 community in Malaysia. This study will evaluate the impact of personalised digital health solutions, including customised health information, immediate expert consultations, and smooth integration with medical institutions, on user engagement, healthcare-seeking behaviour, and overall health outcomes. The study will investigate the app's contribution to sustainable healthcare by enabling individuals to manage their health independently, decreasing dependence on conventional healthcare resources, and enhancing equitable access to medical services.

This research objective evaluates the practical utility and convenience of the Sihat+ app for the B40 community, as well as its contribution to addressing healthcare inequities, enhancing self-care through health literacy, and supporting Malaysia’s efforts to build a more sustainable and inclusive

healthcare ecosystem. This study aims to generate insights on optimising digital health tools for low-income populations to enhance health outcomes and mitigate systemic barriers to care.

4. Utilizing Digital Application for Sustainable Health

The Sihat+ digital health application aims to provide a comprehensive and sustainable solution for healthcare access, with a specific focus on underserved populations such as Malaysia's B40 community. Utilising digital technology, the Sihat+ application provides precise and customised health information based on each user's medical background, present health issues, and unique requirements. This tailored method allows individuals to obtain health recommendations and guidance pertinent to their unique situations, enhancing informed health choices and encouraging proactive management of chronic conditions.

The Sihat+ app is notable for its capacity to link users with diverse medical institutions. This digital platform enables users to book appointments with healthcare providers, access personal health records, and receive updates on healthcare services, including new treatment availability, changes in clinic hours, and public health advisories. This partnership with healthcare facilities lessens the administrative obstacles—such as travel restrictions, lengthy wait periods, and trouble accessing physical medical records—that frequently keep B40 people from getting urgent medical attention. The application enhances the efficiency and accessibility of healthcare processes, thereby streamlining management and decreasing dependence on overloaded healthcare facilities, which contributes to a more sustainable healthcare ecosystem.

By providing users with access to a vast array of educational resources, including videos, articles, research papers, and professional advice on a variety of medical illnesses and health-related subjects, the Sihat+ app also serves as a comprehensive repository of health-related resources. These resources are regularly updated, ensuring users are informed about the latest medical advancements and best practices for health maintenance. The app presents a comprehensive array of information in an accessible format, enabling individuals to engage in preventive healthcare practices, including regular health screenings, nutritious diets, and physical activity, which are essential for mitigating the prevalence of non-communicable diseases (NCDs) within the B40 demographic.

The Sihat+ application features a notable innovation in its real-time interaction with medical experts. Individuals may seek guidance from live healthcare professionals regarding medical issues, second opinions, or urgent care needs. This feature is particularly beneficial in underserved communities where access to in-person consultations with medical specialists is restricted. The app enhances healthcare accessibility through remote consultations, reducing unnecessary hospital visits and contributing to the long-term sustainability of healthcare services. Additionally, the provision of virtual consultations through the app reduces the environmental impact linked to travel and resource consumption in conventional healthcare environments.

The Sihat+ app utilises digital technology to enable scalable healthcare delivery, which is essential for sustainability. The app's infrastructure is capable of supporting an increasing number of users, thereby minimising the necessity for substantial expansions in physical healthcare resources. The scalability of healthcare solutions is crucial for meeting the needs of low-income populations, such as the B40 community, which often faces limitations or strain in traditional healthcare infrastructure. Sihat+ mitigates the burden on hospitals and clinics, thereby enhancing the efficiency of healthcare systems and their capacity to serve larger populations. Additionally, the app's contribution to improving health literacy is essential for promoting sustainable health outcomes. The app equips users with essential knowledge and resources for self-management of health, promoting responsible health behaviours, decreasing the prevalence of preventable diseases, and enhancing the overall

well-being of the B40 community. The transition from reactive to proactive healthcare is essential for sustainable healthcare solutions, as it alleviates financial and operational burdens on public healthcare systems while enhancing the quality of life for underserved populations.

The Sihat+ digital health application utilises technology to provide personalised, accessible, and sustainable healthcare solutions. The app fills important healthcare gaps for the B40 community and helps create a more sustainable and equitable healthcare ecosystem by integrating medical institutions, offering real-time consultations, supplying educational materials, and encouraging preventive healthcare. This digital platform enables users to manage their health, access professional healthcare services, and remain informed about medical advancements, thereby enhancing health outcomes and strengthening the healthcare system.

5. Innovation Project Method

The development of the Sihat+ application is done with a user-centric approach with its focus to address the healthcare needs of Malaysia's B40 community. The innovation project method employs a combination of data collection, analysis, and community engagement to create an app that not only increases health literacy but also upgrades healthcare services.

The first process to build the app begins with recognising the key challenges encountered by the B40 community, including financial constraints, low health awareness and limited healthcare access, illustrating how digital health solutions can improve equitable access to essential services [7]. Engagement with various stakeholders such as healthcare providers, B40 community representatives, government bodies was a significant part in shaping the app's features and content as it provided the insights to understand community's needs, concerns and expectations.

A participatory design was adopted to allow potential users to provide feedback on usability and content relevance in the prototype testing of the app. This method helped to ensure the app's interface is accessible and user-friendly, even for users who are not tech-savvy. In addition, continuous data gathering via in-app surveys and usage analytics further supported iterative improvements on the app, enabling its evolution with the community's changing needs.

The Sihat+ application incorporates advanced mobile technology and AI algorithms to provide personalised health recommendations based on users' medical history and current health concerns, showing AI's capacity to support healthcare in resource-limited settings [8]. Collaborations with local healthcare providers allow instantaneous access to health services such as appointment scheduling and online medical consultations, particularly for the community in rural areas. This holistic method supports Malaysia's agenda to transform and better the public health service delivery.

6. B40 Community Impact and Sustainable Development Goals (SDGs)

The Sihat+ application is designed to significantly benefit the B40 community's health and well-being, as in line with the Sustainable Development Goals (SDGs), particularly SDG3: Good Health and Well-Being and SDG 10: Reduced Inequalities [9]. By providing affordable healthcare and improving health awareness, the app encourages preventive care and alleviates health disparities affecting this underserved group.

Consistent with SDG 3, which centers on promoting the well-being for all people, the app emphasises health literacy and preventive care. As a mobile app, Sihat+ aids in reducing the occurrence of non-communicable diseases (NCDs), which unevenly affect the B40 community due to factors like limited access to healthcare, inadequate health education and socioeconomic challenges, demonstrating mobile technology's critical role in promoting healthcare for under-resourced

communities [10]. Through Sihat+ real-time access to medical information and consultation, the users are empowered to make informed decisions, thus improving their general health outcomes. Research has found that mobile health apps tremendously increased users' engagement in health-related activities, leading to improved health management practices in marginalised communities as mentioned by Ullah *et al.,* [3].

The Sihat+ application also aims to provide equitable access to healthcare resources, in accordance with SDG 10, which seeks to reduce inequalities. By offering healthcare services and resources through mobile technology, everyone has equal access to medical care and information, despite geographical or financial limitations. This approach is consistent with research indicating that mobile health solutions are able to profoundly decrease inequalities in healthcare access faced by low-income populations [11]. Furthermore, by providing low-cost or free services, the app minimises financial burdens, thus supporting the B40 community in attaining better health outcomes.

Moreover, for Sihat+ to thrive over the long term, securing stable funding is vital. Public-private partnerships, involving telecommunications companies, health organizations, and government entities, could provide financial support. These partnerships can help subsidize data costs for users and fund necessary technological updates. Additionally, a sustainable revenue model could include partnerships with healthcare brands or selective, health-related advertising, provided these do not compromise the app's core mission of accessibility and affordability for the B40 community. Long-term investment through government grants or health innovation funds could also bolster the application's financial resilience.

7. Stage of Implementation Level

The Sihat+ application is currently in the early stage of implementation. The process begins with a pilot test in selected regions of Malaysia. During this initial stage, the app was assessed among a sample of diverse B40 community members, healthcare providers and public health officials to observe its functionality, flexibility and overall effectiveness.

Following the pilot test, the app will gradually be launched nationwide to increase its user base and forge additional partnerships with various healthcare providers, non-governmental organizations (NGOs) and local governments, following frameworks for scaling digital health for sustainability [12]. To improve the app's visibility and effectiveness, a comprehensive marketing strategy is opted including multi-phase marketing strategy, community workshops, digital campaigns and collaboration with local influencers. Simultaneously, the development team continues to refine the app following the feedback received from users to effectively meet their needs and ensure its relevance in a changing environment.

Outcome of the pilot study indicate that the application is easy to navigate and use. With simple words use, it can cater the lower income community to better use of Sihat+ application.

"I have trust in the application as it is easy to understand the feature, from the simple words used", Sihat+ pilot study participant (1).

"B40 community might have trouble assessing to the application due to several factors such as internet connection and struggle to adopt the application, however I believe it can be address well with proper training to us. I personally like the feature of the application especially the 24 hours on-call services to health provider", Sihat+ pilot study participant (2).

Further collaborations with mobile service providers and the Ministry of Health are pivotal steps to assure the app's accessibility, particularly in rural areas where people may have limited or no internet access. These partnerships seek to provide data-free access for users to utilise the app without incurring data charges. This stage is important to determine the app's long-term feasibility and sustainability within the healthcare system of Malaysia.

8. Uses and Applications

There are several uses and applications of the Sihat+ app, which mainly focused on health education, service accessibility and patient management. The key features include:

i. Health Education and Awareness: The app offers all-inclusive health resources, including articles, videos and infographics. These materials are specifically designed to address the health issues primarily related to and encountered by the B40 community, in easily understandable format to encourage users to make informed medical decisions.
ii. Preventive Healthcare Practices: This feature provides users with reminders for routine health check-ups, health screenings and vaccinations as preventive healthcare practices, thus reducing the risk of NCDs. Customised health tips based on user input further enhance preventive care behaviours as supported by Lopez *et al.,* [4].
iii. Telemedicine and Online Consultations: Through the telemedicine feature, Sihat+ facilitates live access to medical consultations. Users may consult with healthcare professionals for advice on managing chronic conditions or for urgent medical concerns, which will be beneficial especially for those living in remote areas as supported by Attalla *et al.,* [2].
iv. Health Monitoring Tools: This feature is vital for managing chronic diseases. It allows both users and healthcare providers to monitor health trends over time, including their vital health data, such as blood pressure, glucose level and BMI.
v. Appointment Scheduling and Health Records Access**:** The app allows users to book medical appointments, receive reminders and access their personal health logs. This feature minimises administrative burdens and ensures continuous care, especially for individuals who frequently miss appointments due to logistical challenges.
vi. Community Support Features**:** A peer-to-peer support is available on Sihat+ for users to share their health journeys, seek advice and connect with others experiencing similar health issues. This feature helps to create a sense of community and provides emotional support to maintain long-term good health.

9. Authenticity, Novelty, and Potential Collaborators

Sihat+ represents a pioneering approach to democratising healthcare access in Malaysia by utilising mobile technology to deliver critical health services and information to underserved populations—particularly the B40 community. Aligned with the Sustainable Development Goals (SDGs) of the United Nations, which emphasize universal health coverage and reducing inequality as supported by Lopez *et al.,* [4], Sihat+ also supports Malaysia's objective of fostering a more inclusive healthcare system. By empowering individuals with knowledge and tools for proactive health management, Sihat+ has the potential to significantly enhance health outcomes within this vulnerable demographic while contributing to broader public health advancements.

The authenticity of Sihat+ is embedded in its community-centered design, developed through collaboration with local healthcare professionals, community representatives from the B40

demographic, and public health advocates. This ensures that Sihat+ is specifically attuned to the socio-economic and cultural nuances that impact health behavior in this group, making health management practical and relevant. The novelty of Sihat+ lies in its innovative digital approach to bridging healthcare disparities. The platform integrates user-friendly features like preventive care alerts, customised health recommendations, and visual aids designed to enhance accessibility. By including options such as simplified navigation and multiple language settings, Sihat+ accommodates users with varying levels of digital literacy. Through these accessible features, Sihat+ encourages a preventive health mindset that reduces reliance on reactive care and promotes long-term wellness.

To amplify its reach and impact, Sihat+ has significant potential for collaboration with key stakeholders in Malaysia and the region. Partnerships with specific Malaysian and regional entities can further empower Sihat+ to address health inequities effectively, Collaborating with the Ministry of Health (MOH) would enhance Sihat+'s credibility and potentially integrate it into Malaysia's public health system. MOH's endorsement and support could facilitate outreach efforts and increase adoption among B40 community members. Incorporating Sihat+ with Malaysia's MySejahtera platform would streamline access to health services by building on the familiarity and trust users have with the app. MySejahtera's established user base provides an effective gateway for Sihat+ to expand its reach, leveraging MySejahtera's data and infrastructure to support health monitoring, preventive care reminders, and vaccine updates. Non-Governmental Organizations (NGOs): Partnering with NGOs such as Mercy Malaysia and the Malaysian AIDS Council would broaden Sihat+'s impact through established community networks and outreach programs that serve marginalised populations. These partnerships could help provide health resources and facilitate community-driven education and awareness campaigns [13].

Collaborations with health associations like the Malaysian Medical Association (MMA) or the Malaysian Public Health Physicians' Association (MPHPA) [14] would bring medical expertise and advocacy support to Sihat+. These associations could provide valuable input on health content and guidelines, ensuring Sihat+ aligns with local standards of care and public health priorities. Regionally, partnerships with the Singapore Medical Association (SMA) could foster cross-border collaborations, offering insights into successful health initiatives and technology integration strategies that may benefit the B40 community [15]. Through these collaborations, Sihat+ exemplifies a holistic and inclusive model for health equity, drawing on a network of dedicated partners to advance public health in Malaysia. This collaborative potential enhances the application's ability to deliver meaningful, sustainable healthcare solutions while setting a benchmark for digital health initiatives that prioritise accessibility, inclusivity, and preventive care.

10. Development and Commercial Potential

The Sihat+ application is a purpose-driven digital health platform developed to address healthcare disparities within Malaysia's B40 community. Focusing on accessibility and user-centered design, Sihat+ delivers localised health content, preventive care reminders, and multi-language support, ensuring its features are practical and relevant to users with varying digital literacy levels. By empowering individuals with tools and knowledge for proactive health management, Sihat+ aligns with Malaysia's public health priorities and the United Nations Sustainable Development Goals (SDGs) for universal health coverage and reduced inequality [16].

Commercially, Sihat+ is well-positioned within the growing digital health sector and presents various market opportunities through public-private partnerships, telecommunications collaborations, and regional health associations. Integrating with national platforms such as MySejahtera and partnering with the Ministry of Health Malaysia (MOH) would expand the app's

reach and credibility, while collaboration with telecom providers could ensure data subsidies for the B40 community, driving adoption. Additionally, NGOs like Mercy Malaysia and health associations, such as the Malaysian Medical Association (MMA), can support community outreach and potentially provide grant funding, reinforcing Sihat+'s impact among underserved populations. Sihat+ also offers sustainable commercialisation prospects through careful partnerships with health-related brands, sponsorships, and selective advertising, ensuring that revenue generation remains aligned with its mission of affordability and accessibility for the B40 community. By balancing commercial growth with a strong social impact focus, Sihat+ exemplifies a sustainable digital health model that prioritises equitable healthcare access while meeting market demands, setting a precedent for socially responsible innovation in Malaysia's healthcare landscape [17].

11. Sihat+ Sustainable Health Application Solution : Product Descriptions

The Sihat+ Sustainable Health Application is an innovative digital health platform designed to enhance health awareness and accessibility for Malaysia's B40 community. By leveraging technology, Sihat+ empowers users to manage their health, improve health literacy, and promote preventive healthcare practices. Figure 1 shows flows of the mobile digital application product descriptions and pages such as application download and setup page, introduction page, user login, and profile creation. Figure 2, in contrast, illustrates features like live expert doctor consultation, comprehensive health education resources and monitoring, appointment scheduling and health record, and financial welfare include cost management features for users.

11.1 User-friendly Download and Setup

Sihat+ is available for download on both iOS and Android platforms. Users can easily find it in the App Store or Google Play Store, followed by a straightforward installation process. Upon launching the app, users are greeted with an engaging introduction page that highlights its key features and benefits.

11.2. Secure User Login and Profile Creation

Users can create an account or log in using email, social media, or mobile number verification. The profile creation process collects essential information, including age, gender, and medical history, enabling the app to provide tailored health recommendations and resources.

11.3. Live Expert Doctor Consultation

Sihat+ offers a unique feature for users to connect with healthcare professionals via live consultations. This includes:

i. Appointment Scheduling: Users can book consultation slots easily.
ii. Real-Time Chat and Video Calls: Both text and video options are available, ensuring flexibility and accessibility.
iii. Confidentiality: All interactions are secure and private.

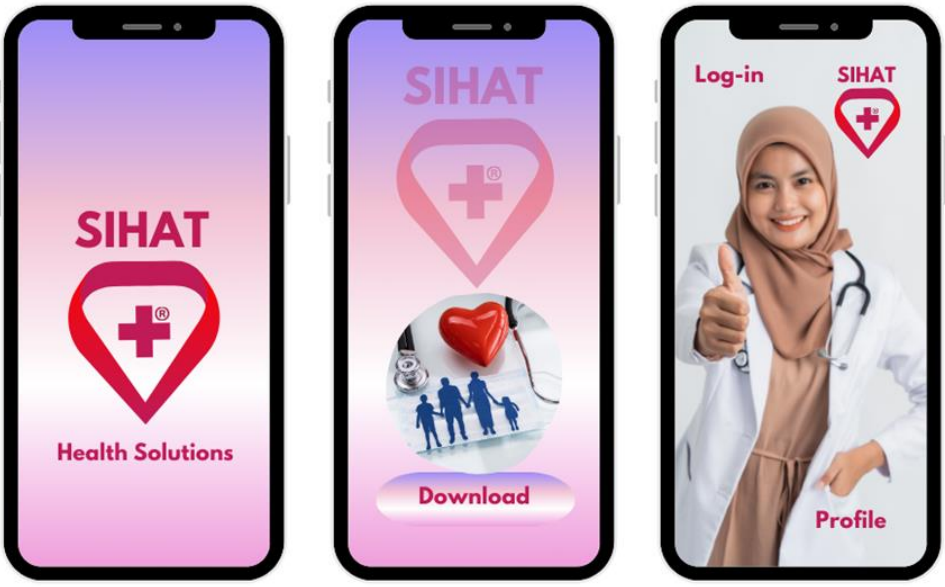

Fig. 1. Mobile mode features in the Sihat+ Health Solutions Application (mainpage, download,user)

11.4. Comprehensive Health Education Resources

The app serves as a health resource hub with a variety of educational materials, including articles, videos, and infographics. It provides customised health tips based on user profiles and notifies users about new content to keep them informed of the latest health advancements.

11.5. Preventive Healthcare and Monitoring Tools

Sihat+ encourages proactive health management through features such as:

i. Health Check-Up Reminders: Timely alerts for screenings and vaccinations.
ii. Health Monitoring Tools: Users can log vital health data, track trends, and manage chronic conditions effectively.

11.6. Appointment Scheduling and Health Records Access

The app streamlines administrative tasks by allowing users to:

i. Book Appointments: Easily schedule visits with healthcare providers.
ii. Access Personal Health Records: View and manage health information for better continuity of care.

11.7. Financial Welfare and Cost Management Features

Sihat+ includes components that focus on financial welfare, helping users navigate healthcare costs:

i. Cost Transparency: Users receive estimates for consultation fees and treatment costs, allowing for better financial planning.

ii. Access to Subsidised Services: The app provides information on low-cost or free healthcare services and programs tailored for the B40 community.
iii. Health Budgeting Tools: Users can track their healthcare expenditures and receive tips on managing health-related financial burdens effectively.

The Sihat+ Sustainable Health Application Solution represents a transformative approach to healthcare for Malaysia's B40 community. By integrating essential features that enhance health literacy, provide preventive care, facilitate access to healthcare services, and address financial welfare, Sihat+ is poised to make a significant impact on health outcomes and equity in this underserved population. Figure 2 shows mobile mode features in the Sihat+ health solutions application.

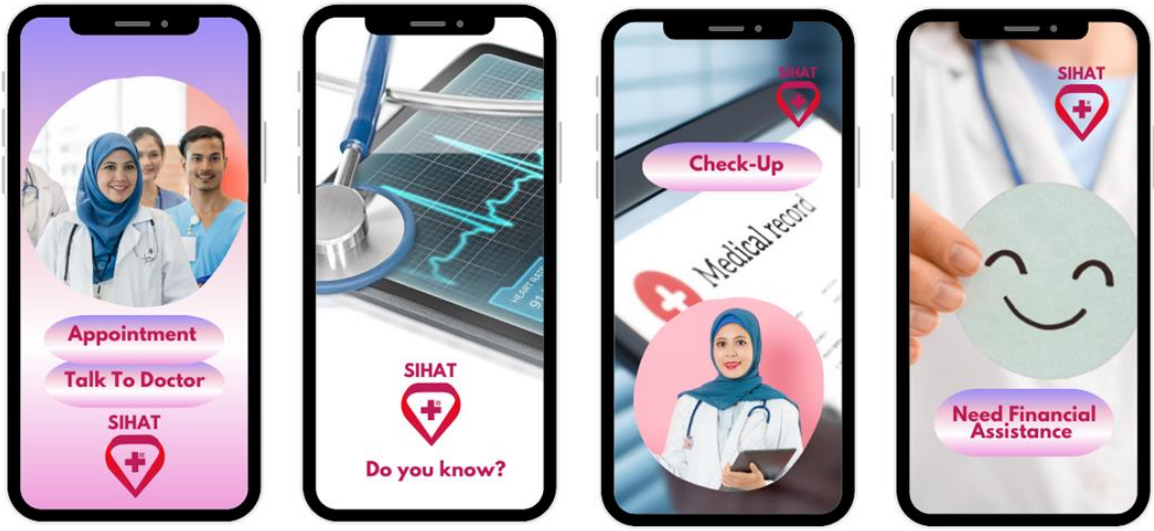

Fig. 2. Mobile mode features in the Sihat+ Health Solutions Application (live expert doctor consultation, comprehensive health education resources and monitoring, appointment scheduling and health record, and financial welfare cost management)

12. Discussions, Limitations, and Conclusions

This innovation underscores the significant role of the Sihat+ application in navigating sustainable health solutions for Malaysia's B40 community. With a focus on enhancing health literacy, promoting preventive healthcare practices, and improving access to essential healthcare services, the Sihat+ app emerges as a transformative tool designed to address the unique challenges faced by this underserved demographic.

The findings illustrate that Sihat+ effectively bridges the gap between the B40 community and the healthcare system. By leveraging digital technology, the application provides personalised health information tailored to individual users based on their medical history, current health conditions, and specific needs. This tailored approach not only empowers individuals to make informed health choices but also fosters a sense of ownership over their health management. Through features such as immediate access to expert consultations, appointment scheduling, and health monitoring tools, Sihat+ facilitates timely interventions that are crucial for managing chronic conditions and improving overall health outcomes.

Moreover, the application’s emphasis on health education and awareness plays a pivotal role in enhancing health literacy among users. By offering a comprehensive repository of health-related

resources—including articles, videos, and infographics—Sihat+ equips individuals with the knowledge necessary to engage in preventive healthcare practices. This is particularly vital in combating the prevalence of non-communicable diseases (NCDs), which disproportionately affect the B40 community due to factors such as limited healthcare access, socioeconomic challenges, and inadequate health education. The promotion of preventive care behaviors, such as regular health screenings and healthy lifestyle choices, is essential for reducing the long-term burden of disease within this population.

The alignment of Sihat+ with the Sustainable Development Goals (SDGs), specifically SDG 3 (Good Health and Well-Being) and SDG 10 (Reduced Inequalities), as it is further highlights its relevance in addressing health inequities in Malaysia [18]. By providing affordable and accessible healthcare solutions, the app contributes to the achievement of these global health objectives. The real-time access to medical information and consultation available through Sihat+ empowers users to make informed decisions regarding their health, thus improving their overall health outcomes and promoting a culture of proactive health management [19]. Research indicates that mobile health applications significantly enhance user engagement in health-related activities, reinforcing the findings of this study regarding the positive impact of Sihat+ on health-seeking behaviors.

Despite these promising outcomes, the implementation of Sihat+ faces several challenges that warrant careful consideration. The initial pilot testing phase has provided valuable insights into the functionality, flexibility, and overall effectiveness of the app among a diverse sample of B40 community members. However, sustaining user engagement and adoption remains a critical hurdle. Future strategies should focus on comprehensive marketing efforts that include community workshops, digital campaigns, and collaboration with local influencers to raise awareness and increase user adoption. Additionally, continuous refinement of the app, guided by user feedback, will be essential to ensure its relevance and effectiveness in meeting the evolving needs of the community.

Furthermore, the collaborative potential of Sihat+ is crucial for amplifying its impact on health equity. By forming partnerships with key stakeholders—including the Ministry of Health (MOH), non-governmental organizations (NGOs), and local health associations—Sihat+ can enhance its credibility and expand its reach within the B40 community. Collaborating with established platforms like Malaysia's MySejahtera can streamline access to health services and build on the trust and familiarity users have with existing health applications. Such collaborations can facilitate outreach efforts and support health monitoring, preventive care reminders, and vaccination updates, ultimately fostering a more integrated approach to healthcare delivery.

The development and commercialisation prospects of the Sihat+ application also highlight its potential for long-term sustainability. As the digital health sector continues to grow, Sihat+ is well-positioned to explore various market opportunities through public-private partnerships and collaborations with telecommunications companies. By ensuring that data subsidies are available for the B40 community, Sihat+ can drive adoption and facilitate greater access to health resources. Moreover, partnerships with health-related brands and selective advertising can provide sustainable revenue generation while maintaining the app’s mission of affordability and accessibility.

While the Sihat+ application presents a promising approach to enhancing healthcare accessibility and health literacy for Malaysia’s B40 community, several limitations warrant attention to fully realize its potential impact. Despite increasing smartphone penetration, not all members of the B40 community may have the digital literacy or familiarity with mobile applications required to utilize Sihat+ effectively. Users with limited technical skills may struggle to navigate the app’s features, which could reduce adoption rates and restrict access to health resources among the most underserved individuals [20]. Additional support and training may be necessary to bridge this gap,

especially for older adults or those with lower education levels. Although Sihat+ aims to provide an accessible platform, continuous internet access remains a challenge in some remote or rural areas, limiting the app's functionality for users in these locations. While data subsidies could alleviate this issue, the lack of consistent internet connectivity could still hinder regular use of the app's real-time features, such as virtual consultations and health monitoring tools.

In conclusion, the Sihat+ application represents a significant advancement in achieving health equity for the B40 community in Malaysia [21]. By harnessing the power of digital health solutions, Sihat+ not only addresses immediate healthcare needs but also contributes to the long-term sustainability of the healthcare system. The successful integration of personalised health information, preventive care strategies, and community engagement within the application creates a comprehensive model for empowering individuals and improving health outcomes [22]. As Malaysia moves toward a more inclusive and responsive healthcare landscape, continued investment in innovative digital health solutions like Sihat+ will be instrumental in ensuring that all Malaysians, regardless of their socioeconomic status, can access the healthcare services they need for a healthier future.

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