Challenges and mHealth app support needs of patients with haematological cancers in self-managing oral systemic anticancer therapy: A qualitative study exploring stakeholders' perspectives

Lena Mahalingam[1], Tan Bee Kim[1], Ping Chong Bee[2], Chee Hooi Teoh[3], Renukha Sellappans[1], Lei Wee Hum[4], Diana Leh Ching Ng[2], Azlan Hussin[5], Sen Mui Tan[6], Li-Chia Chen[7]

[1]School of Pharmacy, Faculty of Health and Medicine Science, Taylor's University, 47500, Subang Jaya, Selangor, Malaysia, [2]Department of Medicine, University of Malaya, Faculty of Medicine, 50603, Kuala Lumpur, Malaysia, [3]School of Computer Science, Taylor's University, Faculty of Innovation and Technology, 47500, Subang Jaya, Selangor, Malaysia, [4]School of Medicine, Taylor's University, Faculty of Health and Medical Sciences, 47500, Subang Jaya, Selangor, Malaysia, [5]Department of Internal Medicine, Universiti Sains Malaysia, School of Medical Sciences, 16150, Kubang Kerian, Kelantan, Malaysia, [6]Department of Haematology, , Hospital Ampang, 68000, Ampang, Selangor, Malaysia, [7]Centre for Pharmacoepidemiology and Drug Safety, Division of Pharmacy and Optometry, School of Health Sciences, Faculty of Biology, University of Manchester, Faculty of Biology, Medicine and Health, Manchester, M13 9PT, United Kingdom

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ABSTRACT

Introduction: Inadequately managed side effects and suboptimal adherence to oral systemic anticancer therapy (SACT) are associated with treatment resistance and reduced survival outcomes in patients with haematological cancers (HCs). With cancer centres located in major cities, patients encounter long travel distances, which often impedes access to clinical services. Aims: This study aimed to explore the challenges with oral SACT and the support needs for remote self-management using mobile health (mHealth) application, from the perspectives of patients, caregivers, and healthcare professionals in Malaysia. **Materials and Methods:** We conducted 30 semi-structured interviews involving 20 patients with HCs and 10 caregivers, as well as four focus group discussions with 14 haematologists and eight pharmacists, from August 2024 to April 2025. Participants were purposively sampled from four hospitals in Malaysia to ensure demographic diversity. The topic guide was developed based on the oral SACT self-management framework by Mason et al. and the Technology Acceptance Model (TAM). All interviews were audio-recorded, transcribed verbatim, and thematically analysed using a deductive approach by two independent researchers until data saturation. **Results:** Participants identified eleven challenges related to capability (poor health literacy, lack self-efficacy, difficulties with medication tracking, dietary concerns, religious influences), opportunity (non-adherence due to disrupted routine, complex and costly regimen, unreliable online resources), and motivation (emotional distress, limited clinical contact, denial of diagnosis) in patients' self-management of oral SACT, resonating with COM-B model. Guided by TAM, five mHealth design components perceived as beneficial include access to verified information, progress visualisation, peer/provider engagement, adherence tracking, and symptom triage tools. Four perceived ease-of-use features were straightforward, engaging content, digital literacy support with multilingual interfaces, data privacy, and reliable connectivity. **Conclusion:** This study offers critical insights into behavioural and contextual factors that will inform the design of mHealth interventions to effectively support self-management of oral SACT among patients with HCs in Malaysia.

Keywords: Haematological cancers, oral systemic anticancer therapy, self-management, qualitative study, mhealth