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Challenges in conducting virtual follow-up to chronic illness patients during the COVID-19 pandemic

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I. INTRODUCTION

Telemedicine is defined as delivering healthcare services across distances using telecommunication technology (Waseh & Dicker, 2019). It helps ensure continuity of care for vulnerable patients to address the unique demands on our health system, especially in times of crisis, such as the COVID-19 pandemic, via virtual follow-up. It is also helpful in engaging medical students in training and patient care (Aron et al., 2020).

During the pandemic, virtual follow-up (VF) home visits were introduced in the integrated family medicine curriculum for Year 4 students. The family medicine curriculum for Year 4 students highlights the significance of comprehending chronic illnesses within the broader framework of the patient's family and environment via the Follow-up Study of Patients with Chronic Illnesses programme, traditionally conducted through in-person patient visits. This study investigated the challenges faced while conducting virtual follow-up (VF) patient visits amidst the COVID-19 pandemic.

II. METHODS

A cross-sectional study was conducted via online survey questionnaires upon completing the family medicine posting. The online feedback questionnaires were used to explore the challenges of virtual follow-up (VF) via open-ended questionnaires. All participants were duly informed about the study and obtained their consent. The ethical approval was obtained from the Scientific Ethical Review Committee of the University Tunku Abdul Rahman.

III. RESULTS

In this study, among 49 students from year 4 MBBS, 47 year-four medical students participated in the research, and all the students were aged between 20-24. The students were grouped into 18 groups for VF home visits, each containing 2-3 students. A total of 18 chronic illness patients were virtually followed during the COVID-19 pandemic. The challenges and benefits faced by the students during virtual patient follow-up visits were explored via the open-ended questions and shown in Table 1.

Challenges
I. Challenges related to follow-up consultation. "Patient refused to have clerked, and we had to clerk family members instead." "Difficult to obtain updates on the patient's condition." "Not really interactive, more like a Q&A session." "Difficult to express concern for the patient over video conferencing too." "Cannot observe patient hard to assess patient current condition, hard to assess patient current condition." "Unable to assess patient's full motor function through video call as we could not perform physical examination." "Difficult to access the physical environment." "Cannot know the patient's living condition."
II. Challenges in making appointments with the patients. "Patient didn't pick up the phone; Patient was not very responsive." "We could not contact her sometimes." "Patient no reply to my text, the patient refuses to have a virtual call, and it is hard to conduct the visit." "The patient kept postponing the virtual visit, and it was difficult to arrange a time with the patient."
III. Challenges related to technical problems. "The unclear or low video call quality during the virtual follow-up" "We can listen to the patients clearly, but the image or the video was not that clear." "Blur voice call" "Patient is unable to use video calls such as WhatsApp calls." "Difficulty arranging a virtual visit with the elderly patient as he is unfamiliar with the gadgets." "Difficulty in video calling patient as she doesn't know how to use WhatsApp video or other social platforms." "Patient does not have access to a smartphone."
Benefits
I. The benefit of a virtual follow-up visit "It's a new experience". "Convenient" "Time is more flexible." "No need to travel, less travelling and saving cost" "Virtual home visit has reduced risk of transmission."
II. The benefit of a follow-up visit to a patient with chronic illness. "Teamwork makes working easier and enjoyable." "Teamwork helped us plan and conduct virtual home visits before the deadline." "I learnt the importance of home visits." "Patient is a better teacher than the textbook". "Delightful, enjoyed learning other people's culture." "Learnt interacting with the patient, sharing information with the patient." "Learnt about real-life follow-up with patients who are not compliant with medical treatment."

Table 1. The Challenges and Benefits When Conducting Virtual Follow-up Home Visits

IV. DISCUSSION

Although the experiences of VF visits are challenging, medical students found the experiences valuable. The students found the importance of VF for chronic illness, which made them aware of the challenges and benefits of telemedicine. The challenges were similar to the studies from literature, such as technological difficulties, lack of familiarity with telehealth platforms, lack of access to internet or devices and sufficient internet connection speed, especially with patients with low socioeconomic status, which hinder effective communication and assessment. Moreover, patients with physical, cognitive, and language disabilities may find it hard to use the technology. Another challenge was the inability to perform an in-person clinical examination, and the students found less confidence in evaluating patient conditions through a screen, which impacted the quality of care delivered (Cheng et al., 2022; Pathipati et al., 2016).

To overcome these challenges, it is essential to provide comprehensive training focused on telehealth skills to familiarise students with virtual platforms and their functionalities. Additionally, implementing a mentorship programme or clinical attachment with telehealth practitioners guiding medical students during VF visits can foster confidence and communication skills. Encouraging regular feedback sessions will allow students to improve their techniques and address specific concerns in real-time.

As medical education shifts toward integrating telehealth, understanding the challenges students encounter is essential in preparing the next generation of healthcare professionals. The study identified a range of challenges, including technological barriers, such as unfamiliarity with telemedicine platforms, as well as issues related to patient engagement and communication. Medical students reported difficulties building rapport

with patients, which is essential for effective follow-up, and expressed concerns regarding their ability to conduct comprehensive assessments virtually.

By documenting these challenges, this study contributes to the existing literature by highlighting medical students' specific hurdles in the VF context. While experiencing the challenges, the VF visits allowed students exposed to various acute and chronic patient cases to learn about a holistic approach to managing chronic illness, work with teamwork, and have the opportunity to communicate with the patient and their family members. (Cheng et al., 2022; Iancu et al., 2020).

The findings inform educators and curriculum developers of the need for enhanced training programmes focusing on telehealth competencies. Physical follow-up visits have resumed following the pandemic, and a hybrid approach has been embraced to nurture telemedicine concepts and overcome challenges. It recommended medical institutions integrate telemedicine into curricula, ensuring today's students are prepared for the evolving landscape of medical practice.

V. CONCLUSION

In conclusion, challenges exist in conducting virtual follow-up visits for chronic illness patients, targeting educational strategies to mitigate these difficulties. By equipping medical students with the necessary skills and support, healthcare institutions can enhance the effectiveness of virtual follow-ups, ultimately improving patient care and outcomes in a digital healthcare environment.

Notes on Contributors

Dr Kye is the corresponding author for this paper. She designed the study, analysed the data, and prepared the manuscript, working with the co-author.

Dr Amit and Dr Hnin contributed substantially to the final manuscript's design, editing and preparation.

Ethical Approval

The research study was approved by Universiti Tunku Abdul Rahman Scientific and Ethical Review Committee on 20th April 2021 (Approval number: UTAR/SERC/92/2021).

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Declaration of Interest

The authors declare no conflicts of interest, including financial, consultant, institutional or other relationships.

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