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Contents lists available at ScienceDirect

Research in Social and Administrative Pharmacy

journal homepage: www.elsevier.com/locate/rsap

Interactive virtual medication counselling in outpatient pharmacy: An accessible and safe patient counselling method during the COVID-19 pandemic

ARTICLE INFO

Keywords

Virtual
Distance counselling
User-computer interface
Outpatient
COVID-19

Letter to editor

As of June 08, 2021, there was a cumulative of 622,086 confirmed cases of coronavirus disease (COVID-19), causing 3460 deaths in Malaysia.¹ Multiple mitigation measures were taken by the Malaysia Ministry of Health to reduce the number of positive cases. Conventional face-to-face counselling has been conducted in close proximity and may take up to 20–30 minutes.² This may increase the risk of COVID-19 transmission. Therefore, virtual medication counselling services (VMCS) is a plausible alternative. In the United States, this was initiated as early as year 2000 to provide medication counselling to residents in rural area.³ VMCS saved more than USD 300,000, detected more than 600 medication-related problems over a 6–9 month period,⁴ and improved patients' accessibility to pharmaceutical care.^{5–7}

Within this context, the Malaysian Pharmaceutical Services Program has introduced the VMCS across pharmacy departments in the Ministry of Health.² Our hospital is the state largest tertiary referral hospital with a bed capacity of 990. The outpatient pharmacy served up to one thousand patients daily,⁸ of which, approximately 30 patients were prescribed medications which required extensive face-to-face counselling, such as insulin pen, inhaler, nasal spray, bowel preparation, patch, pessaries, anti-coagulants, anti-epileptics, and any other complicated drug regimen daily. Notably, our pharmacy department is one of the first in the country which set up the VMCS. Whilst pharmacist-led VMCS was well-established in other countries, this service was not extensively reported locally. We discussed the operation, advantages and limitation of the VMCS based on our experience in pandemic of COVID-19.

The VMCS was initiated by the outpatient pharmacy in June 2021. This service is made available to outpatients who were started on new medications and medical devices, non-compliant to their medications, unable to attend the counselling session physically, patients referred by healthcare professionals for experiencing adverse drug reactions, and their caregivers.

We developed a novel and interactive web-based application for VMCS registration to enhance patients' accessibility. Web-based applications⁹ are universally accessible by users with internet-enabled devices. This platform enables patients to register for VMCS, to get

appointment dates to access the virtual medication counselling, and to provide feedback upon completion of the counselling session. Prior to registering for VMCS, patients are asked to scan a Quick Response (QR) code at the outpatient pharmacy counter which links them to a tri-language consent page - English, Malay, Chinese.¹⁰ Consented patients will be directed to the interactive web-based application where they choose preferred time and date (working hour from Monday to Friday), web platform (Google Meet[®] or Zoom[®]) and language (English, Malay, Mandarin, Cantonese and Tamil). Pharmacists will check for completeness of registration upon receiving the VMCS request, and upload patients' prescriptions to the platform. Patients can check for confirmation of appointments and able to access to VMCS via a unique URL displayed on the platform (Fig. 1). Patients are called at least one day prior to the scheduled appointment date as a reminder.

The VMCS takes place at an individual room away from the main outpatient pharmacy to minimize voice interference. The equipment needed are computer, webcam with microphone and speaker. VMCS start with the verification of patient's name and identity card number. At the end of counselling session, patients' understanding will be reassessed and they are allowed to ask questions. Patients are required to attend physically to the health facility if they could not understand the pharmacist's advice. Patients who defaulted will be rescheduled for another VMCS or face-to-face counselling based on patients' preference. Patients' clinical details (diagnosis, past medical and medication history, therapeutic plan), interventions (assessment of adherence and technique, medications review) and recommendations given to the patients are documented in a separate hospital electronic medical records. Both web-based application and electronic medical records are secured under hospital server to protect the privacy of the patients. For patients who are unable to visit to collect medications from the outpatient pharmacy, conventional face-to-face counselling is given to the caregivers who collecting medications, and a virtual counselling will be scheduled to counsel the patient within 3 working days.

VMCS increases patients' accessibility to pharmacist counselling; particularly, it is beneficial to working adults and elderly who could not attend the session physically.¹¹ This may improve patients' understanding towards their medications, compliance and treatment

<https://doi.org/10.1016/j.sapharm.2021.07.002>

Received 30 June 2021; Accepted 1 July 2021

Available online 3 July 2021

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VIRTUAL MEDICATION COUNSELLING SERVICE

Registration Status Check

Name / IC No.
Testing ABC
123456789000

- 30-May Registration completed
[Click here to view consent form](#)
- 30-May Prescription uploaded
- 30-May Preferred Appointment
Time: 2:00 pm - 4:00 pm
- 30-May **SCHEDULED** Appointment
Time: **3:00 pm**
[Click here to join virtual medication counselling](#)
- 02-Jun Counselling completed
[Please click here to answer satisfaction survey](#)
- Patient satisfaction survey completed

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Fig. 1. Web layout of interactive web-based application for VMCS.

outcomes.¹² Meanwhile, VMCS offers more room for two-way communication as both the pharmacists and the patients were not compelled to rush the session compared to conventional unscheduled face-to-face counselling. With VMCS, pharmacists are flexible to triage the less urgent counselling session by suggesting patients to opt for virtual counselling and therefore reducing waiting time and crowdedness in the pharmacy.

Nevertheless, there are several points to consider ensuring the sustainability of VMCS. We required more time and labor capital for VMCS compared to the conventional face-to-face counselling, as it involved extra effort in setting up the video conference equipment, online consent and reminder of appointment dates. To ensure the quality of counselling, all pharmacists were required to undergo training before joining as a counsellor. Meanwhile, patients who are not equipped with electronic devices and technology, especially those who are disadvantaged financially, may not benefit from this service. Furthermore, it is more challenging to build rapport and detect non-verbal signs from the patients through virtual counselling, which may affect the willingness of the patients to open up themselves during the counselling session.¹¹ The counselling sessions might be deliberately recorded by the patients and distributed to third parties without permission.

Implementation of VMCS is at its early stage in this country. There are several barriers to overcome before it can be fully expanded to a larger scale, if not replacing the conventional counselling method. While we did not discuss other important issues such as clinical governance, technology readiness and cybersecurity in this paper, they should be duly addressed before proceeding further.¹³ At present, the VMCS could

be used for targeted group of patients who could not attend the physical counselling session. Offering extra options to patients may increase their satisfaction and more crucially, patient treatment outcomes. We conclude that the VMCS is a safe and valuable service for patients during the COVID-19 pandemic, serving as a viable complement to existing face-to-face counselling and should be sustained herewith after.

Source of funding

The authors did not receive any external funding for this work.

Declaration of competing interest

The authors declare no conflict of interest.

Acknowledgement

We would like to thank the Director General of Health Malaysia for his permission to publish this article. We would like to thank Madam Normi bt Kamaruzaman, the Head of Pharmacy Department and Madam Shamini a/p Rama, the Head of Ambulatory Pharmacy, Hospital Raja Permaisuri Bainun for reviewing the content of this article. We would like to thank Madam Azlyna bt Zainudin and Mr Mohamad Faridzul bin Ismail from Information Technology Department, Hospital Raja Permaisuri Bainun for their assistance in setting up the VMCS.

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