

UNIVERSITI TEKNOLOGI MARA

**TELEPHARMACY SERVICES:
MALAYSIAN PUBLIC AND
PHARMACIST PERCEPTION AND
READINESS**

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ABSTRACT

Telepharmacy is a method utilised by pharmacists using information and telecommunication technology in delivering pharmacy practice including pharmacy operation and patient care. It has emerged as a good solution with cost savings and provides wider coverage and has recently been introduced in Malaysia. However, there is a lack of studies in Malaysia on the provider and user perception and readiness. Three study phases involved: phase one used semi-structured interviews exploring the experience and perception of diabetic patients from Klinik Kesihatan Pasir Mas Kelantan about the home medication therapy review service by pharmacists and perception of the future virtual service; Phase two a scoping review to conduct a scoping review on the telepharmacy services provided by pharmacists globally and Phase three, a quantitative study using validated questionnaire assessing the perception and readiness of pharmacists and the public towards telepharmacy in Malaysia. Twenty interviews were successfully conducted and three themes were derived which are: medication management before and after, patients' perspectives on HMR-P and patients' willingness to obtain medication review service including subtheme willingness to use virtual medication review. In terms of acceptance of virtual medication review, some patients felt that this service would be a good program for them even though this virtual service has never been heard before. Another highlight was the concerns about the skill in using the information technology where they do not know how to use the technology. In phase two, a hundred fifty-seven articles were reviewed and the following information's were retrieved. There are several types of telepharmacy services explored in this review, each serving different purposes and addressing various aspects of pharmaceutical care. Telepharmacy services reviewed include medication therapy management and home blood monitoring, transitional care/ medication reconciliation, counselling, medication adherence, remote pharmacy, inter-healthcare professional consultation and follow-up service. Cardiovascular disease and telephone were two popular disease and device used in telepharmacy. In phase three, the survey instrument assessed the perception and readiness of public and pharmacists. Three hundred six pharmacists and three hundred eighty-seven public responded. The finding indicated that public was less positive regarding awareness, perception and willingness, while pharmacists are slightly more positive towards perception (53.6%). In terms of readiness, pharmacists are more ready towards implementation of telepharmacy with only 52.6%. For the sub-domain pharmacist were less positive regarding readiness towards personnel education and qualifications (59.2%), technology security and compliance (57.2%), regulatory and scope of practice (53.6%); and funding (72.5%). The sub-domain that that show higher readiness are attitudes and skills (80.7%) and challenges (57.5%). The finding shows that overall Malaysian pharmacist are ready but on the other hand less ready for public towards implementation of telepharmacy in Malaysia. In conclusion, while Malaysia's technological infrastructure and regulatory environment may support the implementation of telepharmac, several factors, including regulatory frameworks, public acceptance, training, and data security, would need to be carefully addressed to ensure readiness and success. As overall, Malaysian pharmacists are ready to adapt, while less ready for the public towards the implementation.

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CHAPTER ONE

INTRODUCTION

1.1 Research Background

e-Health is the use of modern electronic information and communication technology to deliver health care and their engagement is mediated by electronic means. The e-health term is generated in keeping with other terms such as e-business (electronic business) and e-commerce as people in business and marketing used the term e-health first and to bring the potential of electronic health by using information and communication technologies (ICTs) into the healthcare industry (Eysenbach, 2001).

According to Eysenbach, e-health is an emerging topic at the interface of medical informatics, public health, and commerce, referring to health services and information provided or enhanced through the internet and associated technologies. In the broader sense, e-health describes not only the attitude but also a state of mind, a style of thinking and a dedication to networked to enhance health care locally, regionally, and globally by leveraging information and communication technology (Eysenbach, 2001). e-Health readiness meanwhile is the preparedness of healthcare institutions or communities towards anticipated change brought about by ICT-related programs (Khoja et al., 2007). E-readiness is defined as the facility and capability to track value-creation opportunities made possible by the Internet (Durrani et al., 2012). The success or failure of the programs mainly depends on the acceptance and usage of the programs.

Telepharmacy, according to the American Society of Health-System Pharmacists (ASHP), was defined as “a method used in pharmacy practice in which a pharmacist utilizes telecommunications technology to oversee aspects of pharmacy operation or provide patient care services (Alexander et al., 2017). The telepharmacy services may include drug review and monitoring, dispensing, medication therapy management (MTM), patient assessment, patient counselling, clinical consultation, outcome assessment, decision support and drug information (Alexander et al., 2017). Telepharmacy is an area in which information and communication technology and pharmacy practice overlap and is believed to impact the delivery of pharmaceutical care