

Original article

A survey to investigate attitudes and perceptions of Chinese medicine professionals in health information technology in Hong Kong

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Abstract

Introduction: Health information technology (HIT) has been used to assist health care professionals in managing clinical tasks and conducting research. In recent years, HIT has also been applied to traditional Chinese medicine (TCM). In order to identify appropriate approaches to facilitate HIT adoption in TCM, a survey study was conducted to investigate the views of practitioners towards computer use in TCM.

Methods: Questionnaires were administered from June to July 2013. Responses were collected from two groups (private practitioners and academics). Descriptive analyses were conducted.

Results: The response rate for the private practitioner group was 65.49%. Although only 31.76% of private practitioners had used computer programmes for TCM practice, 72.30% of respondents agreed that computer programmes should be used in the clinical setting. In contrast, HIT adoption was high (95.00%) in the academic group. All respondents in the academic group agreed that computer programmes should be used in the clinical setting and research.

Conclusions: Respondents from different TCM groups were generally supportive of the use of HIT in clinical practice. As views towards HIT use varied between the TCM groups, different approaches to HIT adoption is needed to suit the needs of TCM professionals in different settings.

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Introduction

Health information technology (HIT) such as the use of clinical management systems (CMSs), electronic prescribing (e-prescribing), and electronic health records (EHRs) have long been developed for health-related purposes in Western countries. The United States (US) Health Information Technology for

Economic and Clinical Health (HITECH) Act of 2009 offers incentives for HIT adoption [1,2]. The HITECH Act resulted in a significant increase in EHR adoption by physicians in the US [3]. HIT was also endorsed by the Australian government, which offered incentives for installing computers and clinical software in general practices [4]. In Hong Kong, all public hospitals and clinics have utilised CMS to establish an EHR database for patient management and prescribing of western medicines [5–7].

HIT supports healthcare providers in managing clinical tasks, including the scheduling of appointments, billing, and drug prescribing. EHRs enabled by CMSs, offer an efficient means to store patient information and medical history [8]. EHRs could facilitate medical decision making by providing up-to-date and

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unified health records. More importantly, studies have demonstrated that e-prescribing reduces the risk of medication error in Western medical practices [9–12]. In addition, the information stored in EHRs can also be utilised for medical research, as evidenced in several studies [13,14]. EHR is a rich resource for research such as epidemiological studies, medication safety, and pharmacovigilance studies [15–18].

In recent years, a number of CMSs has emerged for traditional Chinese medicine (TCM) practitioners' use in clinical practice. However, the implementation of CMS for TCM management in Hong Kong is still in its infancy. Despite the availability of CMSs for clinical management in Chinese medicine [19], many TCM practitioners still use the hand-written approach to manage day-to-day clinical practice and issuing hand-written prescriptions in Hong Kong. This could be due to concerns such as data security, confidentiality and alterations in workflow and practice [20,21]. Understanding TCM professionals' perceptions towards the use of CMS would provide essential information in facilitating widespread introduction of HIT in TCM.

Studies have been conducted on the attitudes of healthcare providers towards CMS [22–25] and e-prescribing [26,27] in Western medicine. However, studies with similar themes on TCM practitioners are scant [28,29]. There is a need to conduct a survey study to update our understanding of TCM professionals' views towards HIT. This study also compared the perceptions between private TCM practitioners and academic TCM practitioners to identify potential approaches to promote the adoption of HIT in TCM in different settings in Hong Kong. Attitudes and perceptions of Chinese medicine professionals towards the use of health information technology in Hong Kong were investigated in this study.

Methods

In Hong Kong, a person is eligible to register as a TCM practitioner on passing the Chinese Medicine Practitioners Licensing Examination (CMPL) or by transitional arrangement with the Chinese Medicine Council of Hong Kong (CMCHK) [30]. In the near future, only registered practitioners of CMCHK will be authorised to practice TCM in Hong Kong [31]. In this study, private TCM practitioners were defined as practitioners who worked in privately owned clinics or TCM pharmacies (i.e. those not working in organisations such as hospitals, academic institutes and industries). Academic TCM practitioners were those who practiced or were involved in research and teaching activities in an academic institution.

Questionnaire administration was conducted from June to July 2013. Both Chinese and English versions of the questionnaire were available. All respondents completed the questionnaires in Chinese. Free-text responses (in Chinese) were analysed by researchers who were native Chinese speakers. Each comment was categorised into a theme, and these were translated to English for publication purposes. Three investigators were involved in the translation process and consensus was reached to ensure minimal misinterpretation or inconsistencies.

Questionnaire design

The main items of the questionnaire were developed by: a biostatistician (WWQH) with input from pharmacists (EWYC, ICKW) and TCM practitioners (ZJZ, ZXL, ZXB). The questionnaire covered the following issues:

- Respondent and practice demographics
- Respondents' experiences and expectations of CMS
- Facilitators for the uptake of CMS
- Barriers to the uptake of CMS
- Sharing of clinical information

Questionnaires were in a check box format. Respondents could provide more than one answer for some questions. Three questions were scored on a five-point Likert-type scale to indicate the extent of respondents' agreement of these items: 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree) and 5 (strongly agree) [32]. Participants gave their reasons for/against the use of computers in practicing TCM in the free text format. There was opportunity to give additional comments using free text format for some items.

The pilot study

The objective of the pilot survey study was to test the feasibility and contents of the questionnaire. It was also used to determine the most suitable method of questionnaire distribution (face-to-face or postal questionnaire). The pilot questionnaires were mailed to twenty TCM practices selected from the CMCHK list. Respondents were asked to complete the questionnaire and return it to researchers using the enclosed return envelope. With the face-to-face method, ten TCM practitioners were visited in their private clinics. There were four returned completed questionnaires (20% response rate) with the postal questionnaire method; while five questionnaires were completed (50% response rate) using the face-to-face method. Compared to the postal questionnaire, the face-to-face method achieved a much higher response rate and was therefore selected as the mode of administration. Some respondents provided iterative feedback, so minor modifications were made to clarify the final questionnaire. Practitioners received a voucher (HK\$50/US\$7.5) for each completed questionnaire as compensation for their time.

Identification of participants from private clinical setting

Fig. 1 shows the participant identification workflow. A total of 6559 registered TCM practitioners were identified from the CMCHK list [31]. From this list, only registered TCM practitioners whose clinics were based on the ground floor were included to facilitate administration of the survey. Only practitioners from private clinics were invited to participate in our survey. A total of 1488 TCM practitioners were included. Based on the three main regions in Hong Kong, those practitioners were further divided into three subgroups: Hong Kong Island (HK), Kowloon (KL), and New Territories (NT). Our target

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