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DEVELOPMENT AND VALIDATION OF A COMPLIANCE, KNOWLEDGE, ATTITUDE, AND SELF-EFFICACY QUESTIONNAIRE ON CONTINUING PROFESSIONAL DEVELOPMENT (CPD-COMPLY QUESTIONNAIRE) AMONG REGISTERED MEDICAL PRACTITIONERS IN MALAYSIA

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ABSTRACT

Background: Continuing professional development (CPD) is an essential, self-driven learning process aimed at equipping medical professionals with the competencies necessary for safe and effective practice. This study aims to develop, validate and measure the reliability of CPD-Comply Questionnaire (CCQ) among registered medical practitioners (RMPs) in Malaysia.

Methodology: The study was conducted in two phases namely the development phase, the validation and reliability phase. The questionnaire was developed in English by a team of experts, through an extensive literature review followed by a comprehensive validation process that included content validity and face validity**.** Content validity was assessed by seven experts using the item-content validity index (I-CVI), whereas face validity was evaluated by ten medical practitioners via the item-face validity index (I-FVI). The data analysis was conducted using the R software in the R Studio environment. and SPSS Version 29. The knowledge domain was analysed using the two-parameter logistic item response theory (2-PL IRT) model, implemented through the ltm package in R. For the attitude and self-efficacy domains, construct validity was assessed using exploratory factor analysis (EFA). Reliability was evaluated through measures of internal consistency, calculated using the Kuder-Richardson (KR) formula for knowledge domain and Cronbach's alpha for attitude and self-efficacy domains.

Results: The questionnaire development process produced a questionnaire with three sections: knowledge, attitudes, and self-efficacy. The CCQ scale development showed excellent content and face validation index. The IRT analysis of the knowledge domain indicated that all items fell within acceptable ranges for difficulty and discrimination. Based on EFA, the factor analysis identified two factors comprising a total of eight items in the attitude domain and three factors with 14 items in the self-efficacy domain, all with satisfactory factor loadings (> 0.3). The reliability analysis showed a Kuder-Richardson 20 (KR-20) coefficient of 0.66 for the knowledge domain, indicating good internal consistency. The Cronbach's alpha for reliability of the attitude and self-efficacy domain all showed acceptable values of > 0.7 (0.79 and 0.84).

Conclusion: The CCQ is a valid and reliable questionnaire to measure compliance among RMPs.

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CHAPTER ONE

INTRODUCTION

Continuing professional development (CPD) is a self-driven, learning process that equips medical professionals with essential competencies across clinical, managerial, ethical, social, and personal skills (1, 2). CPD includes formal and informal learning beyond traditional settings, allowing practitioners to engage in self-directed, practice-based education tailored to their needs (3). In today's evolving healthcare landscape, CPD is crucial for meeting societal expectations, adapting to complex healthcare environments, and remaining updated with advancements in medical knowledge, technology and practices (1). Globally, CPD is utilised for career advancement, certification, and license renewal for healthcare professional (4). Worldwide, the prevalence of CPD non-compliance ranges from 16.3% to 80% (5, 6).

In Malaysia, the Malaysian Medical Act 1971 (Amended 2017), Section 28(b), mandates that fully registered medical practitioners (RMPs) provide evidence of sufficient continuing CPD points accumulation for annual practising certificate (APC) renewal. Since 2017, the Malaysian Medical Council (MMC) has required RMPs to accumulate a minimum of 20 CPD points per CPD-year cycle (7). However, the MMC CPD Committee (2022) reported that from July 2021 to June 2022, 951 (1.6%) RMPs failed to meet CPD requirements (8). Although the prevalence of non-compliance is relatively low, it raises serious concerns as CPD is a prerequisite for the renewal of the APC. Failure to comply could lead to suspension of practice, eroding public trust and professional credibility among patients, peers, and employers.

Currently, there is no locally published questionnaire specifically addressing CPD compliance, knowledge, attitude, and self-efficacy among RMPs in Malaysia. Although a study on CPD was conducted in 1990 (9), it predates the significant digital advancements that now influence CPD accessibility. Updated research is essential to assess non-compliance and its contributing factors. While there are other studies overseas that have used questionnaires to assess CPD perceptions and barriers, no published comprehensive instruments are available. Therefore, this study aims to develop, validate, and establish the reliability of a questionnaire CPD-Comply Questionnaire (CCQ), a questionnaire that is specifically designed to measure